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UNIVERSITY OF MIAMI

A private, independent, international university
An equal opportunity/affirmative action employer

An announcement with information on administration, organization, admission and graduation requirements, and the courses of instruction in:

UNDERGRADUATE and GRADUATE STUDIES, 2013-2014

It is the policy of the University of Miami that no person within the jurisdiction thereof shall, on the basis of race, religion, color, sex, age, disability, sexual orientation, veterans status, or national origin, be excluded from, participation in, be denied the benefits of, or be subjected to discrimination or harassment (including sexual harassment) under any program or activity of the University. The University does not intend by this commitment to require compliance with this policy by governmental or external organizations that associate with but are not controlled by the University, except as required by law. The Executive Director of Equality Administration is responsible for coordinating the University’s effort to implement the nondiscrimination policy and Affirmative Action Programs for employees and students. The Executive Director may be contacted at the following address or telephone number: Equality Administration Office - Gables One Tower, Suite 100R; 1320 S. Dixie Highway, Coral Gables, FL 33146; 305-284-3064.

The University of Miami is authorized under Federal law to enroll non-immigrant alien students.

The University reserves the right to change any provision or requirement, including, but not limited to fees and tuition, at any time without notice. Degrees, courses, programs, activities, and like academic or non-academic offerings of the University may also be changed from time to time without notice. The University further reserves the right to require a student to withdraw at any time under University policies, as may be promulgated from time to time. Further, admission of a student to the University of Miami for any semester does not imply that such student will be enrolled in any succeeding academic semesters. It also reserves the right to impose sanctions on any student whose conduct is unsatisfactory. Any admission on the basis of false statements or documents is void when the misconduct is discovered, and the student is not entitled to any credit for work which the student may have done at the University prior to any discipline that may be taken as a result of such misconduct. When a student is dismissed or suspended from the University for cause, there will be no refund of tuition or fees paid. If a dismissed student has paid only a part of his tuition and fees, the balance due the University will be considered a receivable and will be collected.

There will be no refund of tuition, fees, charges or any other payments made to the University in the event the operation of the University is suspended at any time as a result of any act of God, strike, riot, disruption, or for any other reason beyond the control of the University.

The University of Miami is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award bachelor’s, master’s, specialist, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of the University of Miami.
THE UNIVERSITY OF MIAMI MISSION STATEMENT

The University of Miami’s mission is to educate and nurture students, to create knowledge, and to provide service to our community and beyond. Committed to excellence and proud of the diversity of our University family, we strive to develop future leaders of our nation and the world.
ACADEMIC PROCEDURES AND INFORMATION - UNDERGRADUATE

While the University makes every effort to provide academic counseling to its students, its basic policy places the responsibility for planning an academic program upon the student.

The University of Miami relies on electronic means (email and CaneLink accounts) for correspondence with students. Students are required to maintain a working email address and are expected to update their personal biographical information annually via their CaneLink account. Students who fail to maintain a working email account may not receive critical university information.

Students are expected to familiarize themselves with the requirements of:
- the University,
- the schools in which they are enrolled, and
- their major department.

Requirements refer to those stated in the Bulletin at the time of admission to degree status, unless a student has not been continuously enrolled. In such cases, the Bulletin in effect at the time of re-admission is the one to be used. In such cases, the determination of the Bulletin in effect is made by the readmitting School or College.

Academic core requirements will not be waived for students under any circumstances.

The work of each student is under the supervision of an academic Dean and of the appropriate Scholarship Committee. A student who fails to maintain an adequate academic record may be dismissed from the University.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters. If a student whose record is unsatisfactory is for some reason permitted to continue in attendance, the appropriate scholarship committee or Dean may specify the standard that must be attained, and any other conditions to be met.

A student who graduates and plans to enter a graduate school or professional school at the University of Miami must apply for admission to the appropriate school of the University in accordance with application deadlines of respective schools.

Not all the regulations and procedures described below pertain to the Graduate School, the Law School, and the School of Medicine. The specific regulations of these schools are stated in their Bulletins.

STUDENT-RIGHT-TO-KNOW AND CAMPUS SECURITY ACT

The Student-Right-to-Know and Campus Security Act requires institutions to disclose information about graduation rates and crime statistics to current and prospective students. Students interested in obtaining this type of information should contact the Office of Admission, (305) 284-4323 or go to www.miami.edu/hea.
FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA) (BUCKLEY AMENDMENT)

The purpose of this policy is to assure that students have access to their educational records and to assure the privacy of students by restricting the disclosure of information from education records to those persons authorized under the Act.

The policy is provided to all students in the Student Life Handbook. Copies can also be printed from the website www.miami.edu/hea.

SECURITY OF STUDENT RECORDS

The Office of the Registrar is charged with the responsibility of maintaining the security and integrity of student records. Student records created before 1985 have been electronically scanned. Student records created after 1985 are housed on an electronic database.

In order to maintain confidentially, access to the student record system is limited to university personnel who have a legitimate need for this information. Each user is required to fill out an access form. A user name is created, and each user must also create a password that must be changed every 90 days. Periodic audits of records as well as reviews of who has access to the system are regularly scheduled to ensure a secure environment.

Students are assigned a UM ID number that is unique to them and they are encouraged to use it instead of their social security number. Students are required to provide their student ID or a photo ID when requesting academic record information from this office.

FERPA TRAINING

FERPA, the Family Educational Rights and Privacy Act, provides established guidelines for universities to ensure that students have access to their educational records as well as to ensure the privacy of said records by restricting the disclosure of information from educational records to those persons authorized under the Act. FERPA guidelines must be followed when dealing with the disclosure of student information.

All staff who use the student records system are required to complete a FERPA tutorial. Periodic reviews are required; failure to complete this tutorial will lock a user out of the system. The Registrar’s Office also offers FERPA information sessions to parents of new students each fall during new student orientation.

SERVICE INDICATOR (HOLD) ON STUDENT RECORDS

Schools and colleges, university administrative departments and other student related offices have the ability to put service indicators, also known as holds, on student records. These holds can be financial, academic or disciplinary in nature and may delay a student’s ability to register, to receive an official transcript or to receive a diploma. Holds on a student’s record normally require action on the part of the student, i.e., a payment, completion of paperwork, etc. Specific information on a hold and what is required to remove it can be obtained from the office/department that initiated the hold.
COURSE INFORMATION

ACADEMIC CREDIT

The University of Miami adopted the following Federal Definition of the Credit Hour at the Faculty Senate meeting on April 17, 2013 that appears in the Credit Hours policy statement of the Southern Association of Colleges and Schools Commission on Colleges (SACS), Federal Requirement 4.9:

FEDERAL DEFINITION OF THE CREDIT HOUR
For purposes of the application of this policy and in accord with federal regulations, a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or

2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

APPLICATION OF CREDIT HOUR POLICY

This credit hour policy applies to all undergraduate and graduate programs that award academic credit (i.e., any course that appears on an official transcript issued by the University) regardless of the delivery method including, but not limited to, self-paced, online, hybrid, lecture, seminar, and laboratory. Academic units are responsible for ensuring that credit hours are awarded only for work that meets the requirements outlined in this policy.

The expectation of contact time inside the classroom and student effort outside the classroom is the same in all formats of a course whether it be online, a hybrid of face-to-face contact with some content delivered electronically, or one delivered in lecture or seminar format. The University operates on the semester system and, for its measure of academic course work, uses academic credits (referred to as semester credits, semester hours, credit hours, hours, or credits).

Courses that have less structured classroom schedules, such as research seminars, independent studies, internships, practica, studio work, or any other academic work leading to the award of credit hours, at a minimum, should state clearly learning objectives and expected outcomes and workload expectations that meet the standards set forth above.

Two or three laboratory hours each week throughout a semester are considered the equivalent of one lecture hour in counting credits earned in an undergraduate laboratory or studio course. No grades or credits are given for audited courses.
CAMPUS PROCESSES – ACADEMIC CALENDAR

The University of Miami adheres to a reasonable approximation of the Carnegie unit for contact time. In addition, students are expected to spend two hours outside of class in preparation for every classroom hour. The Academic Calendar is the official record of academic instruction. The standard meeting times for three-credit courses are a 50-minute, Monday-Wednesday-Friday schedule or a 75-minute, Tuesday-Thursday schedule. The calendar is planned to ensure 69 class days (41 Monday-Wednesday-Friday meeting days and 28 Tuesday-Thursday meeting days) and at least five days for final examinations. The policy allows a mandatory examination period to be counted in the minutes of instruction, but does not count reading days. The University has a required two-and-a-half-hour final examination policy that adds 150 minutes of instruction, resulting in a minimum of 2,200 minutes of classroom instruction in a three-credit hour course for all undergraduate and graduate terms in the Academic Calendar. The calculation for summer sessions and other abbreviated terms follows this same standard which means longer class meeting times over the duration of the shortened term.

The University Registrar maintains the official Academic Calendar on its website: http://www.miami.edu/index.php/registrar/calendar/.

School of Business Administration
In the School of Business Administration, graduate programs include terms of varying length. The School follows federal and SACS guidelines for the credit hour. All graduate business programs have a minimum of 750 minutes of instructional contact time per credit hour, including the final examination. Students are expected to dedicate at least two hours of course-related work for each hour of instruction.

School of Law
The School of Law is accredited by the American Bar Association and follows federal and SACS guidelines for the credit hour. Ordinarily, full-time students must enroll for a minimum of 11 credits and a maximum of 16 credits (please consult the Student Handbook and Honor Code). For one credit hour, a student receives 700 minutes of instruction, exclusive of examination time. For a three-credit hour course, this equates to 2,100 minutes of classroom instruction. An additional 180 minutes of instruction is allotted for the final exam session in a three-credit course. The faculty expects students to spend at least two hours outside the classroom in preparation for each hour of instruction.

Miller School of Medicine
The Miller School of Medicine is accredited by the Liaison Committee on Medical Education (LCME). The School’s Department of Physical Therapy is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). The length of all educational programs is appropriate for each degree, based on national standards and accreditation criteria. The School follows federal and SACS guidelines for the credit hour. Completion of the M.D. program ordinarily takes four years. Although credit hours are not specified by the LCME, the medical education program leading to the M.D. must include at least 130 weeks of instruction. The
University of Miami’s curriculum consists of 161 weeks and may be referenced here: http://admissions.med.miami.edu/md-programs/general-md/curriculum

CAMPUS PROCESSES – CURRICULUM REVIEW
Each College or School within the University of Miami is charged with following the policy on credit hours in its review and approval of all undergraduate and graduate courses and for certifying that the expected student learning for the course meets the credit hour standard. The determination of credit hours is made when a new course or a revision to an existing course is proposed. The submitted syllabus is examined for contact time as well as for assignments and evaluation mechanisms.

The Office of the University Registrar requires training for class scheduling before granting access to any departmental staff approved by a department for scheduling classes.
CHANGE OR DROP OF COURSE

Course changes after the completion of registration must be approved by the student’s academic dean.

Dropping of any course for which the student has registered is official only when the appropriate approvals are obtained and the drop has been fully processed by the Office of the Registrar. Failure to attend classes or merely giving notice to instructors of one’s absence will not be considered as an official withdrawal and may result in failure in the course.

The last day to drop a course or make a change in credit-only option is noted on the Academic Calendar located on the Office of the Registrar’s website at www.miami.edu/registrar. Students enrolled in a course after the withdrawal date must receive a final grade in the course.

CLASS ATTENDANCE AND ABSENCES

Regular and punctual class attendance is vital for all students. Instructors will distribute course syllabi which include policies regarding class attendance and missed or late work. Any student may be dropped from a course or receive a lowered grade for unauthorized absences in excess of those permitted by the instructor. It is each student’s responsibility to know and understand the instructor’s policies. It is also the student’s responsibility to give the instructor notice one week prior to any anticipated absence and to contact the instructor within one week after any unanticipated absence.

All students are responsible for material covered during their absence. However, the instructor must allow each student who is absent for a University-approved reason either the opportunity to make up, or to be excused from, work missed, without any reduction in the student’s final course grade as a direct result of such absence.

Other than absences for a University-approved reason, the instructor determines whether or not an absence is for an acceptable reason and whether or not students shall have the opportunity to make up missed work. If the instructor does not recognize the reason as acceptable, the student may appeal to the chair of the department in which the course is offered.

The following constitute University-approved reasons for absences:

1. Participation in an activity approved by the Academic Deans Policy Council, such as musical and debate activity, R.O.T.C. function, or varsity athletic trip; participation in a special academic activity such as a field trip or other special event connected with academic coursework. Verification of a student’s participation shall be issued by the sponsor when authorized by the Office of the Executive Vice President and Provost.
2. Observance of a religious holy day as described in the Religious Holy Day Policy, below:
Religious Holy Day Policy

The University of Miami, although a secular institution, is determined to accommodate those students who wish to observe religious holy days. It seeks to reflect its awareness of and sensitivity to religious holy days whenever possible when scheduling University activities. The following provisions are meant to apply equitably to all religious groups and to provide opportunities to all to meet their religious obligations.

a. Except as specifically provided to the contrary, this policy is binding on all students in undergraduate programs. Schools offering graduate or professional programs, including undergraduate professional programs, are strongly encouraged to adhere to these policies to the maximum extent practicable.

b. Any student absent from class in observance of a religious holy day shall not be penalized in any way for an examination or assignment missed during the period of absence. Absence in observance of a religious holy day does not relieve students from responsibility for any part of the course work required during the period of absence. Students who are absent on days of examinations or class assignments shall be offered a reasonable opportunity to make up the work without penalty, if the student previously arranged to be absent. Nothing in this policy shall preclude faculty members from limiting the number of student absences to a reasonable number of absences for any reason. The faculty member has discretion to determine how the make-up obligation will be fulfilled. A faculty member who penalizes a student contrary to these provisions may have committed unprofessional conduct, and thus may be subject to a complaint to the Committee on Professional Conduct under the provisions of Section B4.9 of the Faculty Manual.

c. It is the student’s obligation to provide faculty members with notice of the dates they will be absent due to observance of religious holy days, preferably before the beginning of classes but no later than the end of the first three class days. For religious holy days that fall within the first three class days, students must provide faculty members with notice no later than two class days before the absence. Missing a class due to travel plans associated with a particular religious holy day does not constitute an excused absence. Absences due to observance of religious holy days that are not pre-arranged with the relevant faculty member within the first three class days may be considered unexcused, and the faculty member may therefore prevent the student from making up examinations or assignments missed during the period of absence.

d. Faculty members are encouraged to anticipate days when a substantial number of students will be absent for observance of religious holy days and should avoid scheduling examinations and assignment deadlines on those days. Faculty members are expected to reasonably assist students in obtaining class information the student missed during the period of absence in observance of a religious holy day. In that regard, faculty members are urged to allow taping or recording of the class session, with the reproduction limited to the student’s personal use, when a student misses a class due to observance of a religious holy day. To assist in identifying religious observance days, faculty members are encouraged to consult the illustrative list provided in the Interfaith Calendar (http://www.interfaithcalendar.org). Faculty members are urged to remind students of their obligation to inform faculty members within the first three class days of any anticipated absences due to observance of religious holy days and should include that information in the syllabus or course requirements document for that course.
COURSE-NUMBERING SYSTEM

The following course-numbering system is used:

Courses in the 100 series are primarily for freshmen.
Courses in the 200 series are primarily for sophomores.
Courses in the 300 series are primarily for juniors.
Courses in the 400 series are primarily for seniors.
Courses in the 500 series are open only to qualified undergraduates and graduate students.
Courses in the 600 and 700 series are open only to graduate students.

Courses in some departments, with the specific numbers 100, 200, 300, 400 are offered, in most instances, on an experimental or trial basis. When listed in CaneLink’s Course Offerings, a more descriptive title will normally be attached.

CREDIT FOR SERVICE EXPERIENCE

Veterans of the military services may make application for academic credit for schooling received while in the armed forces. Credit may be awarded for work that the American Council on Education Guide regards as college level. Students must have credits approved by their departmental chairperson.

Credit for military service and experience is usually in the elective area and may not take the place of subjects required for graduation. Such work is not assigned quality points and is not included in quality point computations.

CREDIT ONLY OPTION

The credit only option has been established to encourage students to explore academic areas outside their major and minor fields of concentration. Students may use this option with free electives and receive a CR (Credit Received) or NC (No Credit). These courses become part of a student’s record, but they do not count in the grade point average as computed by the University of Miami.

Eligibility

To be eligible to enroll for courses under the CR/NC option, a student must:

1. Hold the standing of Sophomore or above, and, if a transfer, must have completed one semester of residency at the University of Miami;
2. At the time of registration have a minimum cumulative grade point average of at least 3.00;
3. Elect the CR/NC option within two weeks following the last day of registration for Fall and Spring semesters. Election of CR/NC options for Summer Sessions must occur no later than the fifth class day following the last day of registration. No changes except withdrawals from the course are permitted after this time.
Regulations and Restrictions

1. Eligible students may take one course per semester for credit only, to a maximum of 9 credits.
2. Only free electives may be taken under this option. Free electives are defined as courses not taken to fulfill the requirements for the major, minor, or general education requirements (including prerequisite course work) of the University and the individual schools.
3. ENGLISH 105 and ENGLISH 106 cannot be taken for credit only.
4. Grading standards for the credit only option are the same as for students who register for the course under the regular grading system. Letter grades will be submitted by instructors to the Office of the Registrar. The Office of the Registrar will change all grades A through C (including "C−") to CR (Credit Received) for those enrolled under the CR/NC option.
5. A grade of NC (No Credit) will be recorded by the Office of the Registrar for all grades of D and F. The student will not receive credit hours or quality points for the grade of NC.
6. Should a student subsequently change his/her major, free electives taken for credit only prior to the declaration of this major may be counted toward fulfilling major, minor, or general education requirements at the discretion of the department chairman and the academic dean.

FINAL EXAMINATION POLICY

Final Examinations may not be given during a regularly-scheduled class period.

No examination shall be permitted during the reading period.

Final Examinations may be rescheduled only with the permission of the dean.

No student shall be required to take more than two final examinations in a twenty-four hour period. A student having three or more final examinations scheduled during a twenty-four hour period may request the instructor of the course most easily rescheduled (normally the course with the smallest enrollment) to reschedule the examination for that individual. The request shall be made no later than two weeks before the last class day.

A student who has a conflict between a final examination and a religious observation may request that the instructor reschedule that student's examination. The request shall be made no later than two weeks before the last class day.
For the resolution of any problem pertaining to the scheduling of final examinations, a student should consult with the following entities or persons in this order: the relevant instructor, the department chair, the Dean or designee. If the matter cannot be resolved at the school or college, the student should contact the Office of the Provost.

REGISTRATION

Registration dates are shown on the University Academic Calendar, and all students are expected to register on these days. If a student is permitted to register late, a fee is charged.

CANCELLATION OF COURSES

Students who select courses and fail to make payment and/or financial arrangements with the Office of Student Account Services (OSAS) prior to the payment deadline will have their course schedules canceled. Reinstatement of classes can only occur after payment arrangements have been made with the OSAS to cover all financial obligations including reinstatement fees. Reinstatement to cancelled classes will be on an “as available” basis after financial arrangements have been completed.

REPEAT RULES

A student may repeat a course, but the repetition will not eliminate the previous grade from the record. A course may be repeated only once unless written authorization is provided by the chair of the department in which the course is offered or, in the case of an undepartmentalized school, by the dean.

ILLEGAL REPEAT

A student may not repeat a course in which a grade of C or higher has been earned. This is considered an illegal repeat.

GENERAL REPEAT RULE

- If the initial grade is D+ or lower (or a C- in cases where an academic unit requires a C or higher), both the initial grade and the repeat grade are included in the computation of the student’s cumulative grade-point average (CGPA).

- If the initial grade is a D or D+ (or a C- in cases where an academic unit requires a C or higher) and the repeat grade is passing, the number of credits required for graduation will be increased by the number of credits repeated.

- Registrations that involve repeating a course in which a grade of C or higher (or C- in cases where an academic unit does not require a C or higher) has already been earned do not earn quality points or credit hours, nor count as credits attempted.

- Courses repeated after graduation will be posted to the transcript showing the grade received; however, the CGPA and credits earned will not be modified based on the grade received for the repeated course.
FRESHMAN REPEAT RULE

- A student may elect to repeat up to two courses that were taken at the University of Miami within that student’s first two semesters of college work and in which the student earned a grade of D (including D+) or F. Each repeated course must be taken at the University of Miami, must be the same course as the course initially taken, and must be completed within 12 months after the end of the semester (or summer session) in which the initial course was first taken.

- No course may be repeated more than once under this rule. A course repeated more than once under the University’s General Repeat Rule will not qualify under the Freshman Repeat Rule.

- Enrollment for a second time in a course constitutes a repeat of that course for the purposes of this rule, unless the student withdraws from the course on or before the University’s published Last Day to Drop a Course date.

- For each repeated course, only the second grade (whether higher, or lower, or the same as the first grade) will be used in the computation of the student’s CGPA. The initial course will not count as credits attempted or earned, although the initial course grade will remain on the student’s permanent record.

- Students who plan to apply to graduate and/or professional school should be aware that such institutions may recalculate the CGPA to include the initial grade earned before the repeat.

SCHEDULES

Fifteen or sixteen semester hours constitutes a normal schedule at the University. Academic deans and advisors will determine the appropriate credit load for their students. (A schedule of charges for credits is found in the Financial Payment Policies section of this Bulletin.) The schedule of any student whose outside interests cause unsatisfactory scholastic attainment may be reduced by the dean.

TEMPORARY/PERMANENT WITHDRAWAL FROM THE UNIVERSITY

In order to withdraw officially from the University, a student must notify the Office of the Registrar and complete the withdrawal process. Veterans and children of deceased or totally disabled veterans attending the University as students under the government’s educational benefit bills must also be cleared by the Veterans Affairs Certifying Official.

Varsity athletes or any athlete registered with the department of Athletics must obtain approval and be cleared by the Athletic department prior to any change in their registration status, including withdrawal from the university.

During the academic year, tuition will be refunded on a prorated basis depending on the date that is noted as the ‘Total Withdrawal Date’. Tuition will be refunded on a prorated basis through 60 percent of the semester.

Dropping courses in a summer session, thereby reducing a student credit-hour load to zero is not construed as a formal withdrawal from the University.
Title IV financial aid and tuition will be refunded on a pro rata daily basis through 60 percent of the semester. This date is determined based on the student notifying the Office of the Registrar of his/her intent to withdraw. If the student fails to notify the Office of the Registrar, federal guidelines for determining refunds will be followed. Please see the Refund Policy under the Financial Payment Policies section of this Bulletin.

MILITARY WITHDRAWAL

a. On the recommendation of the Dean of the school, students who withdraw after the 12th week of the semester because of official orders to active duty with the Armed Forces of the United States may either be awarded credit (CR) or an academic grade for any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).

b. Credit granted for courses under this policy should count toward graduation.

c. There should be no refund of tuition for courses for which credit has been awarded. Refunds for courses not awarded credit should be on the same basis as complete withdrawals for military service.

d. The above recommendations are procedures for determining the awarding of credit and do not release the student from the usual withdrawal procedures.

GENERAL EDUCATIONAL REQUIREMENTS

In April 2012, the University of Miami Faculty Senate adopted a new set of General Education Requirements (GERs). The new Cognate Program of General Education will be implemented in the 2013-2014 academic year (AY 2014). During the transition to the Cognate Program, some new students will have a choice of completing either GERs of 2012-2013 (AY 2013) or the new Cognate Program GERs (AY 2014). The possible options are described below.

PHILOSOPHY

The University of Miami’s General Education Requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. The General Education Requirements provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The General Education Requirements allow students to create an integrative map for their academic careers, providing a context for more focused studies.

As an institution of higher learning in an increasingly diverse and global community our goals are to produce graduates who have been exposed to a broad spectrum of educational opportunities and to prepare them for successful participation in the world. The University’s General Education Requirements consist of coursework taken both before and in addition to
students’ specialized study within their areas of concentration. The aims of the General Education Requirements are designed to ensure that graduates of the University will have acquired essential intellectual skills and exposure to a range of intellectual perspectives and academic disciplines. Whereas the requirements of majors specified by schools and colleges within the University emphasize depth of learning, the General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge.

I. Any student entering the University with fewer than 30 credits will fulfill the newly adopted Cognate Program of General Education (AY 2014 and forward).

GENERAL EDUCATION REQUIREMENTS (AY 2014 and forward)

AREAS OF PROFICIENCY

The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

- **English Composition**
  
  Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively. Students fulfill this requirement by satisfactorily completing ENG105 and ENG106, or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy this requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit for, ENG105.

  **Students will be able to:**
  
  - Gather information, synthesize data, compare various points of view, and present results in writing.
  - Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
  - Consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks.

- **Writing Across the Curriculum**

  In addition to ENG105 and ENG106, students must complete five courses designated as Writing across the Curriculum (W) courses. The purpose of these courses is to help students refine their writing so that they are able to communicate ideas clearly and effectively through the various styles of writing appropriate to their majors and minors. Writing courses require a substantial amount of writing and the preparation of papers corrected for diction, syntax, style, and content. Some courses fulfilling Areas of Knowledge requirements (described below) may simultaneously satisfy this requirement.

  **Students will be able to:**
  
  - Demonstrate ability to write persuasively, using argumentation tools and advocacy appropriate to subject, audience, and occasion.

- **Mathematics**

  In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical
applications. The mathematics requirement helps students learn to use quantitative methods to solve problems. The course requirements for mathematics emphasize the manipulation, interpretation, and application of quantitative data. Students fulfill this requirement by completing a mathematics course beyond MTH101 (excluding MTH107), completing MAS110, or completing an approved course in statistics. Exemption from the mathematics requirement or placement in prerequisite courses is based on any of the following tests: AP, IB, or a placement examination administered by the Department of Mathematics.

**Students will be able to:**
- Select quantitative tools appropriate for solving problems.
- Use quantitative tools appropriate for solving problems.
- Interpret quantitative data in an appropriate manner for solving problems.

**AREAS OF KNOWLEDGE**

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the areas of knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

Students fulfill the Areas of Knowledge requirement by completing three cognates, one from each of the three areas of the university curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics (STEM). A cognate is a group of at least three courses for at least nine credits, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate.¹ While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students’ transcripts.

The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge. (Some majors and minors, depending on the courses selected, can fulfill alternative Areas of Knowledge.) All approved cognates are visible in a cognate search engine (at [www.miami.edu/cognates](http://www.miami.edu/cognates)) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Inquiries about a cognate should be directed to the cognate’s RAU.

- **Arts & Humanities**
  Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

¹ The University’s cognate approval process ensures that all Arts & Humanities cognates require students to complete at least one course that goes beyond skill development, i.e., beyond the basic composition, oral communication, and introductory foreign language courses.
Students will be able to:
• Critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis.
• Understand the creation and performance of art.

The following departments and programs offer courses that are used in Arts & Humanities cognates: Africana Studies; American Studies; Architecture; Art & Art History; Cinema & Interactive Media; Classics; English; History; Judaic Studies; Latin American Studies; Modern Languages & Literatures; Music Theory – Composition; Musicology; Philosophy; Religious Studies; Strategic Communication; and Theatre Arts. Others will be added as cognates are approved. For the current listing of cognates, visit http://www.miami.edu/cognates.

• People & Society
People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Students will be able to:
• Analyze the organization of society.
• Analyze patterns of social change.

The following departments and programs offer courses that are used in People & Society cognates: Accounting; Aerospace Studies; Africana Studies; American Studies; Anthropology; Business Law; Classics; Communication Studies; Criminology; Economics; Ecosystem Science & Policy; Educational & Psychological Studies; Geography; History; International Studies; Journalism & Media Management; Judaic Studies; Kinesiology & Sport Sciences; Latin American Studies; Management; Marine Affairs; Marketing; Military Science; Modern Languages & Literatures; Music Media & Industry; Nursing; Philosophy; Political Science; Psychology; Religious Studies; Sociology; Strategic Communication; Teaching & Learning; Urban Studies; and Women’s & Gender Studies. Others will be added as cognates are approved. For the current listing of cognates, visit http://www.miami.edu/cognates.

• Science, Technology, Engineering & Mathematics (STEM)
Science, Technology, Engineering & Mathematics (STEM) cognates develop students’ abilities to think critically about mathematical, scientific, and technological issues, through an understanding of processes and methods of scientific inquiry involving experimentation, observation, and quantitative analysis. The cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Students will be able to:
• Understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems.
• Interpret quantitative data and draw useful conclusions.

The following departments and programs offer courses that are used in Science, Technology, Engineering & Mathematics cognates: Anthropology; Atmospheric Science; Biochemistry; Biology; Biomedical Engineering; Chemistry; Civil, Architectural & Environmental Engineering; Computer Information Systems; Computer Science; Economics; Ecosystem Science & Policy; Electrical & Computer Engineering; Engineering Science; Finance; Geography; Geological Sciences; Health Science; Industrial Engineering; Kinesiology & Sport Sciences; Management Science; Marine Science; Marketing;
Mathematics; Mechanical & Aerospace Engineering; Microbiology & Immunology; Neuroscience; Nursing; Physics; and Psychology. Others will be added as cognates are approved. For the current listing of cognates, visit [http://www.miami.edu/cognates](http://www.miami.edu/cognates).

The three cognates taken to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors) must have different RAUs. No more than two Areas of Knowledge may be fulfilled by cognates whose RAUs are in the same school or college, except for the College of Arts and Sciences. Majors and minors may cover more than one Area of Knowledge, but may be used to fulfill the cognate requirement in only one of those areas. A course may be used in only one cognate used to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors). Students may petition for individual course substitutions in cognates by application to the cognate’s RAU. Transfer courses, Advanced Placement, International Baccalaureate, CLEP, dual enrollment, etc., that are transferred in with specific UM course credit, can be used in cognates. Courses that transfer in with non-specific UM course credit can be used in cognates only by application to the cognate's Responsible Academic Unit (RAU).

II. Any student entering the University from high school with 30 or more credits may choose to fulfill the Cognate Program requirements listed above or may elect to satisfy the General Education Requirements of AY 2013, which are listed below.

*Please note: Students’ academic records will default to the Cognate Program. Students who choose to satisfy the General Education Requirements of AY 2013 instead must declare their intention to do so to their school or college.*

III. Any student transferring from another college/university with 30 or more credits will satisfy the General Education Requirements of AY 2013 (see below for details).
GENERAL EDUCATION REQUIREMENTS (AY 2013)

AREAS OF PROFICIENCY

Proficiency requirements are intended to ensure that students either already possess, or will develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

- **English Composition**
  Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. It is the University’s expectation that our students become adept at using the English language as an effective tool for communication. Effective writing skills are representative of the educated person because they are instruments to advance ideas efficiently and persuasively. During their first year of study, students fulfill this requirement by satisfactorily completing English 105 and English 106 or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the English 105/106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit in, ENG 105.

  Students will be able to:
  - Gather information, synthesize data, compare various points of view, and present the results in writing.
  - Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
  - Consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks.

- **Writing Across the Curriculum (W) 5 courses**
  In addition to English 105/106, students must complete five (5) courses designated as Writing Across the Curriculum (W) courses. The purpose of these courses is to help our students refine their writing abilities so that they are able to communicate their ideas clearly and effectively through the various styles of writing appropriate to the academic fields of their majors and minors. Courses designated as writing courses (“W” courses) require a substantial amount of writing and the preparation of papers that are corrected for diction, syntax, style, and content. Some courses satisfying this Writing Across the Curriculum requirement may simultaneously fulfill Areas of Knowledge requirements (described below).

  Students will be able to:
  - Demonstrate ability to write persuasively, using tools of argumentation and advocacy appropriate to subject, audience, and occasion.

- **Mathematics**
  In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods in order to solve problems. The course requirements for mathematics emphasize the manipulation, interpretation, and application of quantitative data. Students fulfill this requirement by satisfactorily completing a course in mathematics numbered above MTH 101 (excluding MTH 107), or MAS 110, or an approved course in statistics. Exemption from the
mathematics requirement or placement in prerequisite courses is based on any of the following tests: AP, IB, or an examination administered by the Department of Mathematics during Orientation.

Students will be able to:
• Select quantitative tools appropriate for the solution of problems.
• Use quantitative tools appropriate for the solution of problems.
• Interpret quantitative data in an appropriate manner for solving problems.

AREAS OF KNOWLEDGE

These requirements are designed to help students understand and appreciate the intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the areas of knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements students will explore the natural world, examine human development and behavior, and appreciate creative expression in the arts, literature, and philosophy. Courses satisfying these requirements are identified in the Bulletin under the Requirements for Graduation sections for each school or college.

1. Natural World (formerly Natural Sciences) - 6 credits
2. People and Society (formerly Social Sciences) - 6 credits
3. Arts and Humanities - 12 credits

Schools and colleges that do not have a language requirement may allow their students to satisfy the humanities requirement by taking a modern language course numbered 101-212 or Latin or Greek, so long as the language selected differs from the student’s native language, and if, when beginning with a 101-level course, they also take the 102-level course in the same language.

No more than six credit hours may be taken in any one department to satisfy the areas of knowledge requirement. There are pre-requisites for most courses above the 100-level.

The following general educational requirements are designed for general reference only. Please check with your advisor or the advising office in your school or college for specific requirements.

• Natural World (6 credits)
  The University believes a comprehensive curriculum maximizes our students’ capacity to understand the natural world through experimentation, observation, and quantitative analysis. Our purpose is to nurture our students’ curiosity regarding the natural world through the critical analysis of data as well as the evaluation of research.

Students can satisfy the course requirements by selecting courses in Biology, Chemistry, Ecosystems Science and Policy, Geological Sciences, Marine Science, Physics, and Physical Science, as well as Anthropology 203, Geography 120, and Freshman Seminars in the Natural Sciences (FNS 190-199).

Students will be able to:
• Demonstrate ability to use experiment and observation quantitatively in order to analyze the natural world, to draw conclusions about it, and to understand modern scientific theories.
People and Society (6 credits)
This area of knowledge aims to help students understand and critically evaluate the organization of society and the patterns of social change, both in the past and in the contemporary world.

Courses in the following areas may be used to fulfill this requirement: Africana Studies (AAS); American Studies (AMS); Anthropology (except APY 203); Economics (ECO); Education and Psychological Studies (EPS); Geography and Regional Studies (except GEG 120); International Studies (INS); Judaic Studies (JUS); Political Sciences (POL); Psychology (PSY); Sociology (SOC); Teaching and Learning (TAL); Women’s and Gender Studies (WGS), and the following courses: Broadcasting and Broadcast Journalism (CEM 102); Mass Media Communication in Society (COM 101); Communication Theory (COM 110); Interpersonal Communication (COS 112); Nonverbal Communication (COS 118); Political Communication (COS 336); Persuasion (COS 472); Freshman Seminars in the Social Sciences (FSS 190-199).

Students will be able to:
- Critically evaluate the organization of society both in the past and in the contemporary world.
- Critically evaluate patterns of social change, both in the past and in the contemporary world.

Arts and Humanities (12 credits)

The arts and humanities engage students in the study of some of the most enduring and influential works of art, imagination, and culture. Courses in this area help students learn to understand the deep insights and culturally formative works of philosophers, poets, novelists, artists, musicians, theologians, and playwrights. These courses will provide instruction and guidance to cultivate students’ abilities to interpret and critically evaluate the creative products of human expression.

Courses in the following areas may be used to fulfill this requirement: Architecture; Music; Art and Art History; Theatre Arts; Motion Pictures and Photography; English (200-level or above); Modern Languages and Literature (300-level or above); Philosophy; Religious Studies; and the following courses: Public Speaking (COS 211); World History of the Dance (DAN 250); Freshman Seminars in the Arts and Humanities (FFA, FLT, FPR 190-199)

Students will be able to:
- Apply appropriate vocabulary and concepts for the description and analysis of artistic, literary, historical and philosophical or religious works.
- Interpret the creative products of human expression.
- Critically evaluate the creative products of human expression.
ACADEMIC STANDING, PROBATION, AND DISMISSAL

At the end of each semester the University shall determine whether a student is in Good Academic Standing, on Academic Probation, or subject to Academic Dismissal. Some schools and colleges may have exceptions to the Good Academic Standing, Academic Warning, Academic Probation and Academic Dismissal policies listed below.

Good Academic Standing

To be in Good Academic Standing a student must not be on Academic Probation or subject to Academic Dismissal.

Academic Warning

A student whose semester grade-point average (SGPA) or cumulative grade-point average (CGPA) falls below 2.0 shall receive an Academic Warning. All students who receive an Academic Warning must meet with their academic advisor prior to the following semester. The advisor may require a reduced course load.

Freshmen who receive a mid-term grade of D or F in any course shall receive an Academic Warning and must meet with their academic advisor within two weeks of the distribution of mid-term Academic Warnings.

Academic Probation

Students other than first-semester freshmen whose UM cumulative grade-point average (CGPA) in University of Miami courses is below the following levels shall be placed on Academic Probation.

<table>
<thead>
<tr>
<th>Credits earned*</th>
<th>CGPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 33 credits</td>
<td>1.7</td>
</tr>
<tr>
<td>33-64 credits</td>
<td>1.8</td>
</tr>
<tr>
<td>65-96 credits</td>
<td>1.9</td>
</tr>
<tr>
<td>More than 96 credits</td>
<td>2.0</td>
</tr>
</tbody>
</table>

* Total credits earned including work taken elsewhere and accepted by the University of Miami.

First-semester freshmen who have a semester grade-point average below 1.3 shall be placed on Academic Probation. In addition, students who fail to make satisfactory progress toward meeting the degree requirements specified by their School or College may be put on Probation by the Academic Standards Committee of the School/College. Students on Academic Probation must meet with their academic advisor prior to the following semester and shall be restricted to a 13-credit load.
Academic Dismissal

A student who remains on probationary status after two consecutive semesters on Academic Probation shall be subject to Academic Dismissal. A student who has been on Academic Probation for one semester and has a CGPA below 1.0 shall also be subject to Academic Dismissal. The decision to dismiss shall be made by the Academic Standards Committee of the School or College in which the student is enrolled. If a decision is made not to dismiss, the student shall be on Academic Probation.

APPEALS AND READMISSION

Students who wish to appeal their Academic probation or dismissal for academic reasons, must do so in writing to the School or College Academic Standards Committee within thirty days of the notice of dismissal. Those who have been dismissed for academic reasons shall not be considered for readmission to any school or college at the University until at least two regular semesters have elapsed since their dismissal.
Faculty Senate Student Affairs Committee Standard Academic Appeals Process

The Faculty Senate Student Affairs Committee (FSSAC) has responsibility for undergraduate student academic appeals. The FSSAC includes faculty representatives from all undergraduate schools as well as three non-voting ex officio representatives: a graduate and undergraduate student representative and the University ombudsperson. The FSSAC reviews undergraduate student academic appeals that have not been resolved at the department, school, or college levels. As noted in section II below, the FSSAC hears cases only after they have gone through the departmental and college process. The processes are the same for grade and non-grade appeals except as noted below.

I. Time Constraints

Appeals must be filed within a year of the occurrence of the academic action resulting in the appeal and prior to the completion of all degree requirements or withdrawal from the University. Exceptions to this deadline may be permitted by the FSSAC for good cause.

Each level of appeal should aim to review the appeal and arrive at judgment within a two month period from the date the appeal reaches them. The entire process should be completed within one year.

II. Order of Appeal

A student appeal regarding a faculty or administrative academic action must be addressed to the following entities or persons in this order:

A. The faculty member or administrator responsible for the course, program, or activity.

B. The department/program chair/director or administrative superior of the faculty member or administrator.

C. The Dean or designee of the school or college offering the course, program or activity.

D. If the school, college or administrative unit has a committee constituted to hear student appeals, that committee must be consulted before proceeding to the next level.

E. The ombudsperson. The student is to provide the materials listed in Section III below to the ombudsperson who will review the merits of the appeal, and attempt to resolve the matter. The ombudsperson, as part of his/her review should give the student a preliminary assessment as to whether the matter, as presented by the student at that time, is reviewable by the FSSAC.

If the matter is the appeal of a final grade, and only after all the other steps are taken, the ombudsperson may refer the matter to the Provost who will decide whether or not to refer the appeal to the FSSAC.

For a non-grade-appeal, the student has the final authority to decide whether to take the appeal to FSSAC. If s/he chooses to do so, the ombudsperson shall forward the appeal and the accompanying documentation to the FSSAC via the Faculty Senate Office.
F. The Provost may request that the FSSAC review an appeal. If, but only if, s/he does so, the FSSAC shall have jurisdiction to review a grade-related appeal.

1. As part of the request, the Provost shall forward to the FSSAC, via the Faculty Senate office, the materials submitted by the student as indicated in Section III, below.

2. The FSSAC will review the student's written appeal (see section III below), confer with the appropriate faculty, administrators, and others as it deems necessary in making its recommendation to the Provost. The FSSAC may request an interview with the student, additional information or access to records, interviews with relevant faculty or administrators, or additional information or access to records kept by faculty or administrators.

3. The FSSAC will communicate its findings and recommendations to the Provost. Copies shall be provided to the Faculty Senate.

G. The final decision with respect to the grade-related appeal will be made by the Provost and communicated to the student in writing. Copies shall be provided to the Faculty Senate Office and to the Chair of the FSSAC.

H. For non-grade-related academic appeals:

1. The FSSAC shall act upon those appeals and report its findings and decision to the Provost. Copies shall be provided to the Faculty Senate.

2. The Provost shall communicate the decision of the FSSAC to the student in writing. Copies shall be provided to the Faculty Senate.

III. Materials for an Appeal

When bringing an appeal, the student must state in writing issues s/he wishes to have considered. The appeal must include:

A. An appeal letter clearly stating the conditions as seen by the student, and offering reasons for granting the appeal.

B. The appeal letter must indicate if the student wishes to make a personal appearance and, if so, the reasons why the appearance is necessary.

C. Documents of support (e.g., examinations, term papers, syllabi, or medical documentation of illness) that the student wishes to have examined.

D. All written decisions made at earlier levels of the appeal by individual faculty/administrators, departments/programs/administrative units, college or school committees, and deans which are available to the student or in the student’s possession.
IV. Other Notes and Special Conditions

A. If the appeal is based on or related to a charge made by the student of discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, age, or handicap, a representative of the appropriate University office will be contacted and, as appropriate, consulted in the appeal process.

B. If the appeal is based on or related to a disability:

1. The ADA Coordinating Committee shall serve in an advisory capacity.

2. The student is to include in the materials provided, the appropriate forms from the Office of Disability Services documenting:
   a. An evaluation of the disability
   b. Recommendations related to the disability

3. The FSSAC does not consider appeals based upon the grant, denial or modification of an accommodation by the Office of Disability Services. Instead, any such appeal is as prescribed by the Office of Disability Services Grievance Procedure only.
THE GRADING SYSTEM

The following symbols are used:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent attainment</td>
</tr>
<tr>
<td>B</td>
<td>Good attainment</td>
</tr>
<tr>
<td>C</td>
<td>Fair attainment</td>
</tr>
<tr>
<td>D</td>
<td>Poor attainment (earns credit but may not fulfill requirement for a major)</td>
</tr>
<tr>
<td>F</td>
<td>Failure (effective Fall 1995)</td>
</tr>
<tr>
<td>W</td>
<td>Course dropped on or before the last day for withdrawing from classes as published in the official calendar of the University. Credit can be earned only by successful repetition of the course.</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete work in passing status with the instructor’s permission to complete the course. An “I” will be assigned only if the instructor is satisfied that there are reasonable non-academic grounds for the student’s incomplete work. ** An “I” is not intended to be assigned in order to permit a student to repeat a course without registration or to permit a student to do additional work in order to improve upon grades earned during the semester. The student who receives an “I” must complete the course with a passing grade within the time frame specified by the professor of the course but not longer than the end of one calendar year, or prior to graduation, whichever occurs first. An Academic Dean may approve an extension initiated by the course instructor. An “I” not completed prior to the student’s graduation shall be changed to an “IE” or “IF” by action of the student’s Academic Dean.*</td>
</tr>
<tr>
<td>IP</td>
<td>Denotes in progress grade assigned upon satisfactory completion of the first-semester of a two-semester sequence, with the final grade for both courses to be submitted at the end of the second semester of the sequence. Please note that all “IP”s must be converted to a letter grade or “IF” at graduation. “IP” will also be converted to “IF” upon any departure from the University for a period in excess of one year.*****</td>
</tr>
<tr>
<td>IF</td>
<td>Symbol indicating that an “I” grade was not appropriately completed.**** The symbol “IF” is equivalent to an “F” when computing a student's average.</td>
</tr>
<tr>
<td>CR</td>
<td>Grade signifying that credit only is awarded based on a “C” average or better.</td>
</tr>
<tr>
<td>NC</td>
<td>Grade signifying that no credit is awarded based on a course average below a grade of “C”.</td>
</tr>
<tr>
<td>NG</td>
<td>Symbol assigned by the Office of the Registrar indicating that the instructor has not reported the student’s grade. For a student to receive credit for the course, the instructor must report a passing grade prior to the student’s graduation, or by the end of one regular academic semester, whichever comes first. An Academic Dean may approve an extension initiated by the course instructor. An “NG” not replaced by a passing grade, or by a “W”, prior to the student’s graduation shall be changed to an “F” by action of the student’s Academic Dean.***</td>
</tr>
</tbody>
</table>
GRADE POINT AVERAGE

The grade point average is used to determine:

- class rank
- graduation and honor eligibility
- good standing, probation, and dismissal status
- scholarship eligibility

Your official grade point average is based only on the work you have completed at the University of Miami. The only exception to this policy is for determining whether a student qualifies for honors or has met the minimum grade point requirement at the time of graduation. For graduation purposes, cumulative grade point average is defined as either the average of all grades earned at the University of Miami or the combined average of all graded work taken at the University of Miami and elsewhere whether or not the transfer work is accepted toward a degree at the University of Miami, whichever is lower.

Quality points per credit are awarded as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.00</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.70</td>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.70</td>
</tr>
<tr>
<td>D+</td>
<td>1.30</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>E (Prior to Fall 1995)</td>
<td>0.00</td>
</tr>
<tr>
<td>IE**</td>
<td>0.00</td>
</tr>
<tr>
<td>F (Effective Fall 1995)</td>
<td>0.00</td>
</tr>
<tr>
<td>IF</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Courses marked with an “IE” or “IF” count as credit attempted but are not counted in credits earned and do not carry quality points.*** Credits marked CR are counted as credits earned but are not counted in credits attempted and do not carry quality points. Courses marked with the symbols I, IP, W, NC, and NG do not carry credits attempted, credits earned, or quality points.

The grade point average is determined by dividing the total quality points earned by the total credits attempted.

Military service credit, some foreign university credit, correspondence course credit, credit by examination, etc., are not awarded quality points and do not enter the computation of the grade point average.

* Faculty Senate legislation #2000-24(B)
**Faculty Senate legislation #83032(B)
***Faculty Senate legislation #85001(B)
****Faculty Senate legislation #85005(B) and #97001(B)
*****Faculty Senate legislation #2001-29(B)
HONOR CODE

The Honor Code, initiated at the request of the Undergraduate Student Body Government, ratified by student referendum, approved by the Faculty Senate, by the President of the University, and administered by students, protects the academic integrity of the University of Miami by encouraging consistent ethical behavior among its undergraduate students. The Code provides standards that prohibit all forms of scholastic dishonesty, including cheating, plagiarism, collusion, and falsification or misrepresentation of experimental data. The Code covers all written and oral examinations, term papers, creative works, assigned computer related work, and any other academic work done at the University by an undergraduate student.

All undergraduate students are responsible for reading, understanding, and upholding the Honor Code. Signed pledges are required for written work submitted for evaluation, but the absence of a signed pledge does not free a student from the ethical standards required by the Code. Procedures for dealing with infractions of the Code, including provisions for appeals, are printed in the text of the Honor Code. Copies may be obtained from the Office of the Dean of Students or from the office of the Undergraduate Student Body Government, or on-line at www.miami.edu/honor-council.

In keeping with the traditional prerogatives of university faculties, nothing in the Code infringes on the faculty’s assignment of grades undertaken in a class. Instructors are informed when students have been found guilty of infractions involving their classes. Courses in which students have been failed for academic dishonesty may neither be dropped nor repeated under the terms of the freshman repeat rule.

The Dean’s List

The Dean’s List is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained high scholastic achievement for the semester. To attain the Dean’s List, a student must, for the semester:

1. have registered for and have completed 12 or more graded credits (excluding the credits earned in courses taken for credit only);
2. have attained a quality point average of 3.50 or higher for the semester;
3. have no courses with pending grades (I or NG).

The Dean’s List will be announced by each college and school at the end of the semester. The Office of the Registrar will post this achievement to the student’s permanent record.

The Provost’s Honor Roll

The Provost’s Honor Roll is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained a high scholastic achievement for the semester. To attain the Provost’s Honor Roll, a student must, for the semester:

1. have registered for and have completed 12 or more graded credits (excluding the credits earned in courses taken for credit only);
2. have attained a quality point average of 3.75 or higher for the semester;
3. have no courses with pending grades (I or NG).
The Provost’s Honor Roll will be announced by the Provost’s Office. The Office of the Registrar will post the achievement to the student’s permanent record, and distribute the Provost’s Honor Roll Certificate.

**The President’s Honor Roll**

The President’s Honor Roll is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained the highest possible scholastic achievement for the semester. To attain the President’s Honor Roll a student must, for the semester:

1. have registered for and completed 12 or more graded credits (excluding credits earned in courses taken for credit only);
2. have attained a quality point average of 4.0 for the semester;
3. have no courses with pending grades (I or NG).

The President’s Honor Roll will be announced by the Office of the Registrar who will post the achievement to the student’s permanent record, and distribute the President’s Honor Roll Certificate.
GRADUATION

DIPLOMAS AND TRANSCRIPTS

No diplomas or official transcripts are released from the Office of the Registrar without the approval of the Office of Student Account Services.

Official transcripts are issued only upon receipt of a secure electronic request through the university’s online transcript system or a written and signed request from the student is received in the office. Payment for the transcripts is required before they will be sent.

Beginning in the Fall 2013 semester, unofficial transcripts will be available free of charge through CaneLink.

GRADUATION AND DEGREES

It is the responsibility of the student to be sure he/she makes satisfactory progress toward, and fulfills requirements for, the degree he/she seeks. He/she may obtain help in the office of his/her Academic Dean.

To receive a Bachelor’s degree from the University, the student must earn at least 120 semester hours of credit (more in some schools), with a C average (2.0) or better as well as a C average for all work done at the University of Miami.

Students must also meet all of the degree requirements of their respective schools and should not expect requirements in composition, mathematics, foreign languages, or other subject areas to be waived for any reason.

- Each student must complete the final 45 credits that are applied to his or her baccalaureate degree in residence at the University of Miami.
- In addition, each student must complete at least half of the credits specified for his or her major in residence at the University of Miami.
- Not more than 30 hours of correspondence work and extension work combined will be accepted toward a degree, and neither correspondence nor extension work may be credited as a part of the last 45 hours of the student’s program.
- Not more than 30 hours of credit based on military experience will be awarded toward the degree.
- Credits earned in a manner other than by course registration, i.e. proficiency examination, CLEP, placement tests, etc., may not be used to meet the final 45 credit hour residency requirement, however such credit by examination may be earned while the student is enrolled in the courses needed to meet the final 45 credit-hour residency requirement.

Dual Degree

- To obtain two different undergraduate degrees, a student must complete all the requirements for each degree.
- A second undergraduate degree on the same level requires a different major and a different minor.
- If the degrees are in two different schools, a student must meet the requirements with distinctly different majors and minors, wherever applicable, in each school.
• Students must obtain approval from the Office of the Senior Vice Provost and Dean of Undergraduate Education to pursue dual degrees in different schools.

As a general rule, college credits more than 12 years old are not recognized for degree purposes. Students in this category should consult their academic deans. A student must apply for graduation on CaneLink during the semester in which they expect to graduate.

A diploma must be issued in the name on the student’s academic record. Addition or omission of a middle name is acceptable. The addition of a middle name will be acceptable only as it appears on the student’s application for admission. If the middle name is not on the application or if the student wants another version, documented proof of a legal name change must be presented to the Office of the Registrar located in the University Center, Room 121.

The last date on which application may be made for each graduation period is published in the Academic Calendar. The academic deans are the only officers authorized to approve placing the student’s name on the candidate degree list.

**GRADUATION HONORS**

University Honors (*summa cum laude, magna cum laude* and *cum laude*) will be determined by a minimum GPA unique to the school or college from which the student is graduating.

The GPA required will change each academic year and will be based on the cumulative GPA of the previous year's graduating class.

Visit the Honors Program and Office of Academic Enhancement website at [www.miami.edu/honorsprogram](http://www.miami.edu/honorsprogram) for specific GPA requirements each academic year to determine eligibility for graduation with University Honors.

The top 5% of the graduating class will receive *summa cum laude* within each individual school or college; the next 10% will receive *magna cum laude*, and the next 10% *cum laude*.

Eligibility for University honors for each student is determined by the **lower** of two GPAs:

1. UM cumulative graduation GPA
2. Combination GPA (UM cumulative graduation GPA + Transfer GPA)

A student must meet the required GPA by the completion of the final semester within his/her school or college to be eligible to graduate with the honor.
STUDENT STATUS

ACADEMIC BANKRUPTCY

Students entering college sometimes perform at an unacceptable academic level. They either drop out or are dismissed. Some individuals with this experience re-evaluate their educational goals and desire to return to college. Their academic record, however, may present an insurmountable obstacle. In order to be considered for academic bankruptcy, a student’s combined college grade point average must be below 2.00 as calculated by the Office of Admission.

Undergraduate students in this category who want the opportunity for a fresh start at the University without this handicap may apply for admission or readmission with the request that their prior academic record be disregarded.

Application for Initial Admission to the University with Academic Bankruptcy

The applicant must apply to the Office of Admission and:

1. must have been admissible to the University as a senior in high school,
2. must have attended an accredited institution for at least one year and must not have attended any college or university for the preceding six months, and,
3. must not be admissible to the University based on his or her college-level work.

Application for Readmission to the University with Academic Bankruptcy

A University of Miami student who has dropped out or who has been dismissed may request Academic Bankruptcy on meeting these conditions:

1. The student must apply to the Office of the Registrar.
2. At least six months must have elapsed since the end of the semester in which the student was last in attendance at the University of Miami.
3. Detailed written evidence must be presented to the school in which reacceptance is sought, showing that the conditions or factors that caused the poor performance have changed sufficiently, so that there is a reasonable expectation of future satisfactory performance.

Conditions of Approval

1. If Academic Bankruptcy is approved, no course credits earned previously will be displayed on the transcript for credits attempted, credits earned, or quality points earned; however, all grades earned previously will remain on the transcript.
2. Readmission applicants with approval from the dean of the accepting school, may have Academic Bankruptcy apply only to those credits taken by the student when last in attendance at the University of Miami, so that credits earned at another institution subsequent to the date the student last attended the University are not affected.

Academic Bankruptcy can be granted only once for any student.
CERTIFICATION OF ENROLLMENT

Students who require certification of enrollment for insurance or education loan purposes may obtain an enrollment letter via their CaneLink account or by submitting a request in writing to the Office of the Registrar. Students will be certified as currently enrolled once they have met their financial obligations. If a student is delinquent in paying his/her tuition and fees statement balance and/or Monthly Payment Plan, the University will not process transcript and/or diploma requests. Course selection/modification will not be permitted for any previous, current or future semesters. The student is not considered enrolled during the term in question, which means that certification of enrollment cannot be provided for insurance, student loan deferment or repayment purposes. Non-payment also means the student is ineligible for financial assistance awarded for the term in question.

A late payment fee will be assessed on all delinquent accounts.

Students who require enrollment certification for scholarship purposes only, will be conditionally certified until financial obligations are met.

CLASSIFICATION OF STUDENTS

Students are classified in three ways:

a. by course load (full- or part-time);
   b. by objective (degree sought, non-degree, transient, audit, etc.);
   c. by year.

By Course Load

A student is a full-time student if he/she carries not less than the minimum normal load, 12 semester hours per semester in most schools, nine semester hours in the Graduate School (please refer to the Graduate section for exceptions). The minimum semester hour credit loads in a summer session will vary for each category, according to the length of the sessions. (A typical full-time class schedule for fall and spring semesters not requiring override approval from an advisor consists of 15 semester hours. In some cases, students are recommended to enroll in fewer than 15 credits.) Please refer to the university's full-time/half-time policy located at www.miami.edu/registrar. For spring semester, Intersession courses can be included when evaluating full-time status. It is important to note that tuition charges for Intersession courses typically are separate from and in addition to charges for the spring semester. Full-time status may vary from one college or school to another. Students should consult with the dean of his/her college or school for details.

By Objective

A degree student is one whose immediate educational objective consists wholly or principally of work normally credited to a University of Miami bachelor's or higher degree. To qualify for this status, a student must meet the standards for admission.

A non-degree student is one who is not pursuing a degree program. Such students are those who, although eligible for degree candidacy, have requested permission to take a limited or special selection of credit courses without regard to requirements for a degree. This classification includes high school graduates and students with previous college credit
a. who do not want degree status;
b. whose applications for degree status are incomplete;
c. who are taking work toward teacher certification;
d. who are workshop applicants;
e. who are visiting summer school students.

(Students under 21 years of age who have not completed high school will not be admitted to this status.) Non-degree students are sub-classified as transient, special, etc.

An undergraduate non-degree student may petition the Director of Admissions to have his/her status changed to that of degree student. Up to 30 credits earned in non-degree status may be applied towards a degree, but only to the extent approved by the appropriate academic dean. It is therefore important that the degree student identify himself/herself as such, early in his/her program.

UNDERGRADUATES TAKING GRADUATE COURSEWORK

*Undergraduates Taking Graduate Coursework.* University of Miami undergraduates within 30 credits of meeting the requirements for the Baccalaureate Degree may be considered for concurrent admission to graduate study in non-degree graduate status, and in this status may take and receive credit for graduate courses, while completing the requirement for the baccalaureate. The application may be found at: https://umshare.miami.edu/web/wda/grad/forms_/web/undergrad_take_grad_course.pdf.

Admission to Graduate Status requires:

1. Must have a minimum of 3.000 G.P.A.
2. The submission of an Undergraduates to Take a Graduate Course form (which can be obtained at the Graduate School) which will not require the application fee;
3. The written approval of the Chairman of the Department, the Dean of the Undergraduate School or College, and of the Graduate Dean *prior to registration* on the form.

Admission to Graduate status does not automatically admit the student, upon graduation, to status as an applicant for a graduate degree at the University of Miami.

The graduate credits earned may NOT be used to meet undergraduate graduation requirements or be used to meet the 120 credit hour requirements at the University of Miami.

No more than six (6) hours credit may be taken in one semester, and no more than a total of twelve (12) hours credit may be taken while in Graduate Status. Students may take no more than 13 credits of combined undergraduate and graduate courses per semester.

Students electing Graduate status must register and be processed centrally at the Office of the Registrar, Whitten University Center, Room 121.

*Transient Student*

A transient student is one who is enrolled at the University of Miami with the sole intention of using credits earned toward graduation elsewhere.
Audit Student

An audit student is one who enrolls as an observer or listener only. Auditing is allowed only when there is space available in the class. Audit status may be restricted by the Dean in the case of laboratory, studio or performance courses where audit status is not appropriate. Audit students receive no credit, do not prepare written assignments or take examinations, are not eligible for residence in campus residence halls, and do not receive student privileges except for the use of the library. No entries are made on the permanent academic record for audited courses.

Students wishing to change from audit status to credit status must obtain all necessary approvals within two weeks following the last day of registration for Fall and Spring semesters and no later than the fifth class day following the last day of registration for Summer Sessions. No changes except withdrawals from the course are permitted after this time.

Note: Fee for auditing a course is non-refundable. Please refer to financial information section of the bulletin.

By Year

A freshman is a degree student who has earned 0 to 29 credits.
A sophomore is a degree student who has earned 30 to 59 credits.
A junior is a degree student who has earned 60 to 89 credits.
A senior is a degree student who has earned 90 credits or more.

ELIGIBILITY FOR UNIVERSITY EXTRACURRICULAR ACTIVITIES

Full participation in University-sanctioned extracurricular activities and organizations is open to all full-time students who are not on academic probation and who have been assessed the Student Activity Fee. Extracurricular activities include, but are not limited to the following: academic, athletic, dramatic, or musical organizations or teams; student organizations registered with the Committee on Student Organizations (COSO); fraternities and sororities; student publications; program boards; and University committees.

Students on probation may participate in any activity required as partial fulfillment of their degree program; may attend meetings of organizations; and may play intramural sports. They may not otherwise compete, perform, or hold a leadership position. At the beginning of each fall semester, the activity’s faculty or staff advisor or appropriate committee chairperson shall determine with the Office of the Provost the eligibility of each participating student. Some activities apply stricter standards, and may monitor academic progress and review eligibility during the academic year. Students should consult with the individual activity for specific requirements.
READMISSION

Undergraduate students who have not attended the University for at least one semester should request readmission through the Office of the Registrar no later than two weeks before the beginning of classes, in the semester they wish to re-enroll. Readmission to the University is contingent upon approval of the Dean of the school/college the student is applying to and clearance from the Office of Student Account Services.

International students who seek readmission must receive clearance from International Admission and submit a bank letter to receive an I-20 from International Student and Scholar Services.

Students who have attended another college or university since they were last enrolled at the University of Miami, will be required to provide a transcript of their work. Failure to disclose all prior institutions attended may result in disciplinary action.

A student who is placed on the bachelor's degree candidate list for a given semester will not receive registration materials for any subsequent semester until the student applies for readmission or admission to a new program. A candidate may wish to continue his/her studies in one of the following situations:

1. If the student fails to graduate and further registration is needed, they must delete their application for graduation in CaneLink and within twenty-four hours, registration for subsequent semesters or sessions should be available. Students should contact the Office of the Registrar if they experience problems.
2. If the student graduates and wishes to pursue a second bachelor's degree, the student must apply for readmission, stating his/her new degree objective.
3. If the student graduates and wishes to take additional course work without a degree objective, the student must apply for unclassified status.

Proof of immunization must be provided to the Student Health Service before readmission to the University of Miami. Failure to do so may prevent you from registering for classes.

INACTIVE STATUS

Inactive status is for undergraduate, degree-seeking students who intend, and qualify, to re-enroll at the University of Miami after leaving the university for a designated period of time. Students interested in this option may obtain further information at www.miami.edu/registrar or by visiting the Office of the Registrar.

NON-UM PROGRAMS

Students who study through a non-UM program, domestic or study abroad, and would like to have those credits applied toward their UM degree, should apply for Non-UM Program status. Students may obtain the appropriate form and information through their Academic Dean and/or advisor.
STUDENT IDENTIFICATION NUMBERS

All students at the University of Miami will receive an identification number that is unique to them. This number supplements the social security number, which is also required by the university in order to provide information to the federal government and approved agencies. Access to social security numbers is limited to staff who have a legitimate need for that information.

TRANSFERS BETWEEN SCHOOLS AND COLLEGES

Undergraduate students who have compiled fewer than sixty (60) credits may transfer between schools and colleges provided that such students:

1. Demonstrate their academic admissibility to the new program (as defined by class rank and SAT scores) at the time of their original matriculation at the University;
2. Satisfy any special criteria required for admission by a particular program (e.g., auditions in the arts, portfolios in architecture, etc.); and
3. Obtain the approval of the Dean of the receiving school or college.

It is a general policy of the University that students admitted to degree seeking status may not transfer to an unclassified status.

Students who have compiled 60 or more credits with an average of 2.0 or higher and who have satisfied all of the above three conditions may be eligible to transfer between schools and colleges pending space availability and additional program requirements.
ADMISSION

The University of Miami is a member of the National Association for College Admission Counseling and subscribes to its Statement of Principles of Good Practice.

ADMISSION TO THE FRESHMAN CLASS

The Admission Committee reviews applications and bases admission decisions on the following factors:

- **The Secondary School Record.** The applicant must be in the process of completing graduation requirements at a regionally accredited secondary school or must be a graduate of an accredited secondary school. The applicant must have successfully completed a solid college preparatory program including English, Mathematics, natural sciences, social sciences and foreign language.

- **Standardized Tests.** Applicants attending schools in the United States must submit official SAT or ACT results. The results of these tests, together with the secondary school record, provide a better measure of the ability of a candidate to perform college level work successfully than can be obtained by either measure alone. Applicants graduating from a secondary school outside of the United States should not submit SAT or ACT results.

- **The Counselors Evaluation Form.** This form is to be completed by the applicant’s secondary school counselor and includes rank in class, test score information, and an evaluation of potential for academic success in the student’s area of interest.

- **The Essay.** Since each applicant is considered individually, the Essay provides the opportunity to present information that may assist the Admission Committee as it evaluates the application for admission.

See [admission procedures for freshmen](#).

Admission of transfer students

Transfer admission may be granted in most fields of study to students who have earned credit from other regionally accredited colleges or universities. Courses completed with passing grades of C or higher at other colleges and universities and acceptable for academic credit by the University of Miami, will be verified, and where appropriate, will be translated into University of Miami equivalents by the Office of Admission. However, the Dean of the College or School within the University from which the student plans to graduate determines which transferred courses may be counted toward meeting graduation requirements of that College or School.

**Transfer of credits to UM**

Work taken at other institutions will appear on the University of Miami transcript in separate entries as:

1. The total number of transferable credits attempted and quality points earned, regardless of grades, and
b. The total credits transferred, which shall be the total credits for which a grade of C or higher was earned.

Note: Only the transfer totals earned are added to the University of Miami totals. Total credits attempted and quality points earned elsewhere are not included in the University of Miami totals.

The University does not accept transfer credit for courses in which a grade of C- and below (or the equivalent grade) was earned. However, grades of C-, D, and F are used to calculate the transfer admission grade point average.

Credits are not transferred from institutions not accredited by the appropriate regional accrediting association. Limited exceptions may be made with the approval of the Dean in the College or School of the student's major. Credits transferred from institutions not in existence long enough to attain regional accreditation must be validated by the attainment of a C average or better in the first 12 credits of course work taken at the University of Miami.

The University does not have a coursework forgiveness policy. The grades of any repeated courses will be averaged.

A student may not repeat a course in which a grade of C or higher has been earned. This is considered an illegal repeat.

Upper division course requirements (300 level or above) at the University may not be satisfied with community college courses.

After being accepted and enrolling, a student must submit any final college transcripts with grades, AP, IB or CLEP examination scores for review by the end of the first semester of enrollment. Any documents listed above which are submitted after this time period will not be reviewed and credit will not be awarded.

**Required credits in residence at the University of Miami**

A student transferring credits from a 2-year community or junior college (this being the last school attended) must complete a minimum of **56 credits in residence** at the University of Miami to earn an undergraduate degree.

A student transferring credits from a 4-year college or university (this being the last school attended) must complete a minimum of **45 credits in residence** at the University of Miami to earn an undergraduate degree.

At least **half of the credits** required for the chosen Major or Minor must be completed at the University of Miami.

See [Admission procedures for transfer students](#)
ADMISSION OF UNDERGRADUATE INTERNATIONAL STUDENTS

ELIGIBILITY FOR ADMISSION

ADMISSION PROCEDURES FOR INTERNATIONAL STUDENTS

EDUCATIONAL DOCUMENTS

Diplomas, Certificates
Copies should be enclosed with the application. Students from countries following the British educational system must submit certified photocopies, or ask the examinations council to mail confidential results to the University of Miami. Reports of scores in school-leaving examinations (e.g., Baccalaureate) must also be submitted.

Transcripts, Statements of Marks
A transcript must contain the following information: subjects studied; marks (grades) awarded; length of class periods; number of periods per week for each subject; and grading scale with minimum passing mark. Year-by-year records of marks should be sent to the University of Miami directly from U.S. institutions. Certified records from foreign institutions may be submitted by applicants, but the University may sometimes insist that such transcripts be sent directly to the University of Miami from the issuing institutions. All secondary and tertiary transcripts must be submitted.

English Translations
Documents in a language other than English must be accompanied by certified English translations. Notarized translations will not be accepted. Translations supplement but do not replace original documents. Please remember to send both.

Syllabus of university study (description of each course or subject studied accompanied by certified English translations. Notarized translations will not be accepted).

A current (within the past six months) bank or government sponsorship letter guaranteeing payment for tuition and fees, books, room and board, medical insurance and personal expenses for one calendar year (two semesters and two summer sessions) is required.

EXAMINATIONS FOR INTERNATIONAL STUDENTS

All international students whose native language is not English, including those applying for transfer from U.S. institutions, are required to submit the results of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). The TOEFL code for the University of Miami is 5815.
The SAT score report is **not required and should not be submitted for admission consideration** from applicants who are attending schools outside the United States. Applicants should only submit an SAT score report if they qualify for merit scholarship consideration. The minimum combined score required for scholarship consideration is 1300 (**critical reading and math sections only**).

Please see the [TOEFL Score Requirements](#).

Conditional admission: Academically qualified applicants who are unable to take the TOEFL, or who have scored less than the required minimum, may be offered admission to undergraduate programs with the condition that they successfully complete level five of the University of Miami Intensive English Program or obtain a 550 TOEFL and higher. University of Miami TOEFL code number is 5815.

Institutional TOEFL scores are designed for academic placement use at the University of Miami. Those needing TOEFL for admission to the University of Miami or for use elsewhere should take the TOEFL iBT instead. Visit [www.ets.org/toefl/](http://www.ets.org/toefl/) for more information about the TOEFL iBT.

Please see the [IELTS Score Requirements](#).

IELTS is the International English Language Testing System. It measures ability to communicate in English across all four language skills – listening, reading, writing and speaking – for people who intend to study or work where English is the language of communication.


**PROGRAMS OF STUDY**

International students are eligible to apply for all programs offered at the University of Miami. It should be noted that medicine and law are studied at the graduate level in the United States, and it is therefore inappropriate for undergraduate international applicants to request these programs.

**FINANCIAL INFORMATION**

The University of Miami has no financial assistance for international students other than academic scholarships. International students must provide funds for all of their expenses during the entire period of study, including travel and vacations. Students who would not be able to cover their expenses are best advised not to apply for admission.
EARLY ADMISSION

A limited number of carefully selected students who are currently enrolled in high school and who have completed three years of study may be admitted to the University as freshmen. Early admission applicants typically have a very strong academic background and demonstrate a mature character.

Students who wish to apply under Early Admission must have the support of his/her parents, guidance counselor, and high school. Early applicants must also schedule an interview with the Director of Admission.

Early Admission applicants must submit official high school transcripts, SAT or ACT examination results, Counselor Evaluation Form and Essay as part of the admission process.

Early Admission applicants will be notified of an admission decision by June 1 or after receipt of grades from the final high school year completed.

Since every applicant must be appraised individually, no general qualifications can be listed. Students interested in early admission may send inquiries and requests for applications to the Office of Admission.

ADVANCED PLACEMENT AND/OR CREDIT GRANTED TOWARD GRADUATION

The University allows students to receive college credit toward graduation from the following programs: Advanced Placement, International Baccalaureate, Dual Enrollment, and College Level Examination Program. To have Advanced Placement, International Baccalaureate, or College Level Examination Program credits evaluated, the student must submit an official test result report to the Office of Admission. The University of Miami does not give credit for CLEP Foreign Language and General Examinations. Students taking Dual Enrollment courses (college courses taken while still in high school) must submit an official college transcript for review of potential transfer credit. Please refer to the transfer student section for requirements to transfer college coursework.

A student must submit AP, IB, Dual Enrollment transcripts or CLEP results no later than the end of the first semester of enrollment for review. Documents submitted after this time period will not be reviewed and credit will not be awarded.

The University will accept not more than 60 credits from these programs to count toward the 120 credits required for graduation.

SUBMITTING GED SCORES

An applicant may apply to the University upon completion of the GED in lieu of completing high school. When applying with the GED, the applicant must submit official high school transcripts up to the time of withdrawal, as well as the official GED score report and diploma.

Applicants submitting the GED must achieve the following scores to be considered for admission. These scores should be considered a guideline and do not guarantee admission to the applicant.
For exams taken in English:
Overall score of 2800
No subscore below 500

For exams taken in any language other than English:
Overall score of 3000
No subscore below 600

It is strongly suggested that applicants submitting the GED in any language other than English also submit a TOEFL score.

NON-DEGREE ENROLLMENT

ADULT STUDENT ACCESS PROGRAM (A.S.A.P.)
Students may take up to 30 credits in an undergraduate, non-degree seeking category, which may be applied to a degree program, after all application and degree-seeking requirements are met. In order to be enrolled in this category, students submit a one-page application and no other documents or transcripts; academic achievement is evaluated after 12 credits are earned. A 2.5 G.P.A. is required to continue in the program beyond 12 credits.

Students may take up to 6 credits maximum in a graduate, non-degree seeking category which may be applied to certain degree programs, after all application and degree seeking requirements are met. However, not all graduate departments participate in this program. In order to enroll in this category, students submit a one-page application and no other documents or transcripts, after securing the written permission of the participating graduate department and the Dean of the Graduate School. The application for enrollment may be found on the Web at www.miami.edu/asap.

For more information, contact: The Adult Student Access Program, Division of Continuing Studies, University of Miami, P.O. Box 248005, Coral Gables, FL 33124-1610, (305) 284-2727.
FINANCIAL ASSISTANCE

The Office of Financial Assistance Services administers federal, state, private and University financial assistance programs. Student employment, including the Miami Commitment Program, is managed by the Office of Student Employment.

FINANCIAL ASSISTANCE SERVICES

It is the purpose of the Office of Financial Assistance Services to provide needy and/or academically qualified students with financial aid in the form of scholarships, grants, loans and work programs to the extent that resources are available. In order to make the best use of limited funds, awards often consist of a combination of resources.

In addition, professional staff members are ready to help all students plan for the most efficient use of their financial resources for education.

Underlying the awarding of need-based financial assistance is the philosophy that the student and family have the primary responsibility for educational costs. Need-based financial assistance serves to supplement these primary resources.

- Students who require financial assistance in order to attend the University should apply for assistance each academic year.

- Candidates for admission should indicate their interest in financial assistance by checking the box provided for that purpose in the application for admission.

- The U.S. Department of Education’s Free Application for Federal Student Aid (FAFSA) on the Web is used to determine eligibility for assistance based on need. The FAFSA must be completed for each academic year.

- Entering freshmen should submit their FAFSA so that it is received by the federal processor by the February 1 preference date.

- Entering transfer and all graduate students should submit their regular or renewal FAFSA so that it is received by the federal processor by the March 1 preference date.

- Continuing undergraduate students should submit their regular or renewal FAFSA so that it is received by the federal processor by the February 1 preference date.

- Our office recommends the use of estimated financial information when completing the FAFSA on the Web in order to assure the February 1 preference date is met. Any estimated information must be updated by the applicant using FAFSA on the Web once final figures are available.

Financial aid applications are accepted throughout the year but it is important to note that the appropriate preference date for receipt of aid applications must be met. A new FAFSA on the Web must be submitted for EACH academic year.
Federal Aid Semester Review

- In compliance with federal financial aid regulations, the University of Miami requires satisfactory progress towards a degree as an eligibility requirement for federal financial assistance.

- This policy is applicable to all undergraduate, graduate and doctoral students receiving financial aid through federal aid sources, including the Federal Parent Loan for Undergraduate Students (PLUS).

- At the end of each semester, the Office of Financial Assistance Services reviews the academic progress of all University of Miami financial aid recipients.

- If it is determined that a student is not making satisfactory academic progress at the end of the semester, a notification is sent to the student. The student will be placed on financial aid warning for one semester. Aid will not be withdrawn for the subsequent term, but at the end of that term, the student’s academic record will be reviewed by OFAS and appropriate renewal or termination actions will be taken. Notification will be sent to the student detailing information on the appeal process.

- Federal academic progress policy is subject to change based on changes made by the U.S. Department of Education.

Credit Requirements for Federal Aid

- A student must have earned at least 75% of the total hours attempted during his/her overall academic career. Undergraduate and graduate level credits cannot be combined to meet the 75% standard; however, hours transferred into the University of Miami are used in the calculation. The percentage of earned hours is calculated by dividing earned hours by all attempted hours. Rounding does not apply.

(e.g.: Student completes 18 of 24 attempted hours. Percentage complete is 18/24=75%)

- Withdrawals, incompletes, audits, and Fs are attempted but not considered earned hours.

- Hours transferred in to the University of Miami will be counted as hours attempted and hours earned.

- Reinstatement of aid eligibility can be obtained by earning additional University approved credits, achieving the 75% completion standard, or appealing as outlined later in this section. The University reviews progress at the end of each semester. Aid eligibility will be restored upon determination that the progress requirements have been met.
Graduate students must be enrolled at least half-time in order to receive federal financial assistance. A minimum of 5 graduate hours constitutes at least half time enrollment at the graduate level. The only exception to this credit requirement is enrollment in any of the 700 level research courses. Students enrolled in any of these courses are considered full-time and are eligible for federal loans.

**UM Need-based Assistance Review**

- In compliance with federal financial aid regulations, the University of Miami requires satisfactory progress towards a degree as an eligibility requirement for financial assistance.

- This policy is applicable to all undergraduate students receiving financial aid through university sources.

- At the end of each semester, the Office of Financial Assistance Services reviews the academic progress of all University of Miami financial aid recipients.

- If it is determined that a student is not making satisfactory academic progress at the end of the semester, a written notification is sent to the student. The student will be placed on financial aid warning for one semester. Aid will not be withdrawn for the subsequent term, but at the end of that term, the student's academic record will be reviewed by OFAS and the appropriate renewal or termination actions will be taken. Notification will be sent to the student detailing information on the appeal process.

**Credit Requirements for UM Need-based Assistance**

- A student must have earned at least 75% of the total hours attempted during his/her overall academic career. Undergraduate and graduate level credits cannot be combined to meet the 75% standard; however, hours transferred into the University of Miami are used in the calculation. The percentage of earned hours is calculated by dividing earned hours by all attempted hours. Rounding does not apply. (e.g.: Student completes 18 of 24 attempted hours. Percentage complete is 18/24=75%).

- Withdrawals, incompletes, audits, and Fs are attempted but not considered earned hours.

- Hours transferred in to the University of Miami will be counted as hours attempted and hours earned.

- Reinstatement of aid eligibility can be obtained by earning additional University approved credits or appealing as outlined later in this section. The University reviews progress at the end of each semester. Aid eligibility will be restored upon determination that the progress requirements have been met.
Cumulative Grade Point Average Requirement for all Federal Aid and UM Need-based Assistance

Undergraduate Students
All undergraduate students must meet and maintain the University of Miami credit and cumulative grade point average (CGPA) requirements to maintain satisfactory academic progress. The criteria listed below must be met to receive federal and institutional financial assistance administered by the Office of Financial Assistance Services.

<table>
<thead>
<tr>
<th>Semester Hours Earned</th>
<th>Minimum Cumulative G.P.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 32</td>
<td>1.7</td>
</tr>
<tr>
<td>33 to 64</td>
<td>1.8</td>
</tr>
<tr>
<td>65 to 96</td>
<td>1.9</td>
</tr>
<tr>
<td>97 +</td>
<td>2.0</td>
</tr>
</tbody>
</table>

** - This does not include University of Miami scholarships and State of Florida financial aid. State of Florida financial aid and University of Miami academic scholarships have their own CGPA requirements.

Graduate and Doctoral Students
All University of Miami graduate and doctoral students must maintain a minimum 3.0 cumulative grade point average (CGPA). Graduate students who fail to meet the minimum credit or cumulative grade point average requirements have failed to meet the satisfactory academic progress standards established by the University. Those in violation of the satisfactory progress eligibility requirements will be notified in writing of their eligibility status and right of appeal.

Maximum Period of Eligibility for All Financial Assistance Awards

- Degree-seeking undergraduate students receiving federal aid must complete their degrees within 150% of the normal time for completion as determined by the school or college catalog under which the student was admitted. For example, if an academic program requires 120 credit hours, the student must complete the program within 180 total credit hours. Credits used in this calculation include those accepted for transfer and those attempted at the University of Miami.

- Pell Grant eligibility is limited to 12 full time semesters, or the equivalent (e.g.; two half time semesters equal one full time semester) www.studentaid.ed.gov/pell-limit.

- Students receiving University scholarships and need-based grants are limited to four years of eligibility (five years for five-year degrees).

- William L. Boyd, IV, Florida Resident Access Grant (BFRAG) and Florida Student Access Grant (FSAG) recipients are limited to nine semesters of eligibility.
• **Graduate students may receive** federally funded assistance for the time to completion limits set up by the Graduate School – six (6) years for those studying for the various master’s degrees and 8 years for those studying for doctoral degrees. Students pursuing dual master’s degrees will receive aid for a maximum of six (6) years. Students in a combined master’s degree/doctoral degree program are eligible for assistance for a maximum of eight (8) years.

• **Time to completion starts when a student** begins any program in the Graduate School, whether it be a master’s or doctoral program. All work must be completed within six years of the time of admission to graduate work, for those studying for the various master’s degrees; and within eight years for those studying for doctoral degrees. For those admitted directly into a Ph.D. program without a master’s degree in field, work must be completed within eight years. Individual programs may set a shorter time period.

• Graduate students who plan to enroll in a graduate degree program should keep in mind their aggregate loan limits. For more information, go to the National Student Loan Data System (NSLDS) at [www.nslds.ed.gov](http://www.nslds.ed.gov). This site displays information on loan amounts, outstanding balances, loan statuses and disbursements.
University Financial Assistance for Graduate Students

In order to receive a graduate assistantship, fellowship or tuition scholarship, a graduate student must:

- Be admitted unconditionally to a post-baccalaureate degree program;
- Be enrolled for full-time study; and
- Maintain a cumulative graduate grade point average of 3.0 or above.

For additional information, please visit the Graduate School Website at www.miami.edu/grad. For specific information, contact the Graduate Advisor of each program. For information regarding loan and work-study opportunities, visit the Office of Financial Assistance website at www.miami.edu/ofas.

Scholarship Review (Undergraduate only)

- The academic scholarship is available to undergraduates enrolled full time in a course of undergraduate study leading to the first bachelor’s degree.
- The academic scholarship is available automatically for the first two years for first-time freshmen.
- At the completion of the second year, the Office of Financial Assistance Services reviews the academic progress of all University of Miami financial aid recipients.

- Students granted a one semester conditional appeal for University of Miami academic scholarships by the Standards of Academic Progress Committee will be reviewed at the end of that semester.

- First-time freshmen are eligible for University of Miami academic scholarships for up to eight semesters; transfer students are eligible for up to four semesters. These scholarships are good for the fall and spring semesters only.

Credit and GPA Requirements for UM Scholarships

- Scholarship recipients must maintain a CGPA of at least 3.0 for all credits earned at the University of Miami to retain their scholarship.

- All full-time undergraduate students are required to register for and complete at least 24 (a minimum of 12 each semester) new credit hours at the University of Miami each academic year, defined as the fall and spring semesters.

- Reinstatement of academic scholarship eligibility can be obtained by earning additional University approved credits. The University reviews progress once a year at the end of the spring semester. A student who completes courses that meet the requirements prior to the spring semester review may request, in writing, a review of their progress in advance of the end of year review. Aid eligibility will be restored upon determination that the progress requirements have been met.

- Full-time undergraduate students who enroll for only one semester are required to register for and complete at least 12 new credit hours during that semester.
Withdrawals, incompletes, audits, and Fs are attempted but not considered earned hours.

Cumulative grade point average under 2.70 or failure to complete 48 credits at the end of the second year or 24 credits for the subsequent year: The scholarship is rescinded. Notification will be sent to the student detailing information on the appeal process.

Ronald Hammond scholarship recipients should refer to their contract for renewal criteria provided by the Office of Multicultural Student Affairs.

Guaranteed Scholarship

First-time freshmen awarded a University of Miami academic scholarship; automatically retain their scholarship after their first year of school. The student must maintain a minimum 3.0 CGPA and complete at least 24 University of Miami credit hours during their second academic year to guarantee their scholarship for the remaining two years of undergraduate studies.

First-year transfer students awarded a University of Miami academic scholarship is guaranteed their scholarship if they:

- have completed 24 credit hours during their first academic year,
- have maintained a minimum 3.0 CGPA, and
- have registered as a full-time student for their second year of eligibility.

Transfer students meeting these requirements will be guaranteed their scholarship for four semesters or until they graduate, whichever comes first.

Any University of Miami academic scholarship will be guaranteed for the remainder of an undergraduate student’s eligibility if they are not on probation at the end of their 4th semester (2nd semester for transfer students).

Automatic Probation and Probationary Scholarship Assistance

Sophomores that fail to meet the scholarship academic progress standards at the end of the academic year are placed on probation if the student’s cumulative grade point average is between 2.70 and 2.99 and completion of 48 credits at the end of the second year, or 24 credits for each subsequent year. The scholarship is guaranteed for one more academic year as a probationary award. The student’s progress is reviewed at the completion of the third year. The grade point average must be raised to 3.0 while completing 24 credits in order to receive the scholarship for the fourth year. A student that fails to meet the scholarship academic progress standards at the end of the year loses eligibility for the award. The student will receive notification of the loss of eligibility, and is provided information on the appeal process.
A new transfer student receiving a University of Miami academic scholarship that does not meet the scholarship academic progress requirements at the end of the 2nd semester may receive a one-year probationary award. A student that fails to meet the scholarship academic progress standards at the end of the 4th semester loses eligibility for the award, receives notification of the loss of eligibility, and is provided information on the appeal process.

A student may receive probationary scholarship assistance only once. Any student who has received a scholarship under probation must meet the standard of academic progress requirements for that scholarship assistance by the end of the probationary period in order to maintain his/her eligibility for that scholarship in the future.

**STATE OF FLORIDA AID**

The Florida Department of Education, Office of Student Financial Assistance, has its own standards of progress for state financial assistance.

- All Bright Futures Scholarship recipients (includes Florida Academic and Florida Medallion scholarships) are eligible for up to 132 credit hours; however, eligible students may only receive up to 45 hours of credit per academic year.

- 2009-2010 high school graduates and thereafter, may receive up to 100% of his/her program of study or 120 semesters hours (or the equivalent in quarter or clock hours) toward completion of his/her first baccalaureate degree, or for up to five years from high school graduation (if the student was initially funded within three years after high school graduation), whichever comes first.

- Florida Gold Seal Vocational Scholar recipients who graduate from high school in the 2009-2010 academic year and thereafter are eligible to receive funding for up to 100% of their program of study, up to 90 credit hours.

- State of Florida Aid academic progress policy is subject to change based on changes made by the Florida Department of Education.

A student must earn at least 24 credit hours (or the equivalent) if enrolled full time for the entire academic year. A student enrolled full time (12 or more semester hours or the equivalent) for only one term must earn at least 12 credit hours for that term. If a student is enrolled part time for any part of the academic year, the student must earn a prorated number of credit hours. (See below). Initial eligibility must be at least 6 credits.

<table>
<thead>
<tr>
<th>Student Funded (per term)</th>
<th>Required Earned Hours (per term)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 + credits (Full Time)</td>
<td>12</td>
</tr>
<tr>
<td>9-11 credits (Three-Quarter Time)</td>
<td>9</td>
</tr>
<tr>
<td>6-8 credits (Half Time)</td>
<td>6</td>
</tr>
</tbody>
</table>

A student that fails to meet the minimum institutional grade point average (3.0 for Florida Academic, 2.75 for Florida Medallion and Gold Seal) will no longer be eligible for his/her
Bright Futures award. Florida Academic recipients that fail to achieve a 3.0 institutional average, but achieve at least a 2.75 institutional average will renew at the lower Florida Medallion amount. Recipients that fail to meet the progress requirements receive notice including information on the appeal process.

- Award Reinstatement: an eligible student that did not receive scholarship funds for the last academic year (fall through spring), may request reinstatement of the award. The student must complete a Reinstatement/Restoration application available on the Florida Department of Education Office of Student Financial Assistance (OSFA) website at www.FloridaStudentFinancialAid.org.

- Award Restoration: a student that failed to achieve a minimum 2.75 institutional GPA and became ineligible for funding may apply for restoration in an academic year after which the 2.75 institutional GPA requirements was met. (The 2.75 institutional GPA must be met before the fall term for which the student is applying.) The student must complete a Reinstatement/Restoration application available on the Florida Department of Education Office of Student Financial Assistance (OSFA) website at www.FloridaStudentFinancialAid.org.

- For 2009-10 and later high school graduates, if a scholarship is not renewed because of an insufficient GPA during their first year of funding, the scholarship may be restored in an academic year after the minimum institutional GPA requirement is met. Students who do not meet the minimum earned hours requirement or who fail to meet the minimum institutional GPA requirement after their first year of funding will NOT be permitted a restoration opportunity. *State of Florida Aid academic progress policy is subject to change based on changes made by the Florida Department of Education.*

- Recipients of the William L. Boyd, IV, Florida Resident Access Grant (BFRAG) and Florida Student Assistance Grant (FSAG) must complete at least 24 credit hours each academic year with an institutional grade point average of at least 2.0. Classes taken in the previous summer may be included in calculating the completed hours (credit hours earned during summer of 2012 may be combined with the credit hours earned during the 2012-2013 academic year to meet the 24 credit hour requirement).

Students that do not meet the annual minimum 24 credit hours requirement for renewal, may not receive funding the following academic year. To be eligible for renewal in a subsequent year, the student must meet the general eligibility requirements for renewal and have maintained/earned an institutional GPA of 2.0.

Students enrolling for only one semester must complete at least 12 new credit hours while maintaining the required institutional GPA.
THE APPEAL PROCEDURE

Students that do not meet the academic progress requirements may submit a written appeal to request reinstatement of eligibility to receive aid. The student must complete the University of Miami’s Academic Progress Appeal Form. This petition requires the student to:

1. Submit a written explanation as to why he/she was unable to meet or maintain the academic progress requirements; and

2. Submit documentation that substantiates the student’s circumstances, such as a letter from a doctor or copies of medical bills if a student cites medical reasons for not meeting the requirements.

The appeal form may be downloaded from the financial assistance website. Submit the Appeal Form and all documentation to the Standards of Academic Progress (SOAP) Appeal Committee, c/o the Office of Financial Assistance Services. All appeals should be submitted no later than 30 days from notice of ineligibility. All appeals submitted completely and on time will be reviewed by the committee prior to the beginning of each semester. Decisions are made using the appeal documentation provided by the student in conjunction with the student’s academic record. All decisions by the committee are final.

A general description of the major financial assistance programs available through various departments as well as the Office of Financial Assistance Services can be found at www.miami.edu/ofas.
FINANCIAL PAYMENT POLICIES

Policy
All semester charges (tuition, room, board and fees) are due by the date on the billing notification e-mail, unless an established Monthly Payment Plan contract has been finalized with the Office of Student Account Services. Previously unbilled and new charges are due and payable when incurred. Payment is considered complete only when all charges are paid or when satisfactory arrangements to pay have been finalized with the Office of Student Account Services.

Consequences of Non-Payment
There are consequences to non-payment. New students that are delinquent in paying tuition and fees statement balance and/or Monthly Payment Plan may be subject to having their class schedule cancelled. Continuing students will not be able to obtain transcripts or process requests for diplomas. Also, course selection/modification will not be permitted for any previous, current or future semesters. Non-payment also means the student can lose all financial assistance awarded for the term in question.

A late payment fee will be assessed on all delinquent accounts.

Course selection will not be permitted for any past due accounts including Monthly Payment Plans. A late payment fee will be assessed on all delinquent accounts.

Finance Charges
No additional charges are imposed on an account once full payments are received by the payment due date. If, however, payment is received after the payment due date, a Finance Charge is assessed. Finance charges are assessed at an Annual Percentage Rate of 16%.

Anticipated Payments
If financial aid funds are not available at the time of registration, the student would normally be expected to cover these payments. However, financial aid awards will be considered “anticipated” under the following conditions:

- The Office of Financial Assistance Services (OFAS) is provided with a source of aid (other than College Work Study or Miami Commitment) on the student’s award package.
- OFAS awards the corresponding amount on the student’s award package. i.e., outside scholarship information must be provided to both the Offices of Financial Assistance and Student Account Services in order to consider the aid as “anticipated”.
- OFAS allocates the guaranteed award during the semester that the disbursement should be expected.
- Final guarantees have been processed by the appropriate alternative loan lender – preliminary approvals will not result in automatic disbursements of alternative loan funds.

**Examples**
Veterans Monthly Educational Benefit Checks: An amount not to exceed the total of the checks expected to be received during the semester (for fall and spring, this is typically three checks) may be credited. Arrangements for this type of tuition credit must be initiated with a representative of Veterans Affairs through the Office of the Registrar and the Office of Student Account Services. Students with VA benefits are required to sign a
promissory note with the Office of Student Accounts in order to have their anticipated awards credited to their account.

*International Students with Government Sponsorships:* Payment of all or a portion of charges that can be billed directly to corresponding government agencies may be credited upon presentation of appropriate documentation from their government or embassy.

**Florida Prepaid Program**

The University of Miami will assist with a student’s education expenses by billing for any available Florida Prepaid College Program funding directly to the Florida Prepaid College Board. Florida Prepaid participants may authorize the University of Miami to request payment disbursement option that best match your needs and current savings in the plan. We encourage participants to authorize a payment that will facilitate your financial planning objectives for your student’s enrollment at the University of Miami.

The University of Miami requires new students to have completed the “Florida Prepaid College Program Authorization Form”. In addition to this form, all students who plan to use their prepaid funds must contact Florida Prepaid at 1-800-552-4723 option 2, and request a separate Florida Prepaid “Transfer Form”. Upon your request, Florida Prepaid will mail the Transfer Form to you. The purchaser of the plan must complete this form and return it directly to Florida Prepaid. It is necessary that Florida Prepaid have this Transfer Form on file in order for students to use Florida Prepaid funds at the University of Miami.

Questions in reference to Florida Prepaid should be sent to saccounts@miami.edu with "Florida Prepaid" in the subject line. The required authorization form for the University of Miami and an example can be downloaded from the following web site: www.miami.edu/osas

**Policy on previous and unpaid balances**

**Non-Payment**

The University of Miami may declare due and payable at once the sum of all past due balances. In addition, the student will be responsible for interest accrued on all past due and unpaid amounts at the maximum rate permitted by law and any and all costs incurred by the University of Miami in enforcing its rights. The University reserves the right to withhold transcripts, diplomas, readmission, and future registration for non-payment of outstanding balances. The University’s Collection Department may also disclose the student’s outstanding indebtedness, along with other relevant information, to credit information bureaus. A non-refundable $100 reinstatement fee will be charged to reinstate each unpaid and cancelled semester.
Refund Policy

DEFINITIONS

Title IV Financial Aid or Title IV Programs refers to the following awards:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loan, DL PLUS (Graduate Student), DL PLUS (Parent)
- Federal PELL Grant
- Federal Supplemental Educational Opportunity Grant (SEOG)
- Federal College Work Study

REFUND POLICY

Students who have advised the appropriate University department of their withdrawal, through 60 percent of the semester, will receive credit for tuition and eligible financial aid refunds using a pro-rated calculation based on the percentage of the semester attended by the student. Unearned Title IV funds will be returned in accordance with the refund policy established in Section 484B of the Higher Education Act of 1965, as amended (HEA) and provided for through the Student Assistance General Provisions regulations enacted on October 7, 1998. Fees are not refundable and will not be pro-rated.

The University refund schedule does not apply to students in the following on-campus and off-campus programs: The Executive MBA, the MBA Program for Working Professionals, and the Master of Science in Professional Management. Unless the student has completed official withdrawal procedures in writing with the Graduate Business Program office prior to the beginning of a course/term, tuition will be refunded on a prorated basis based on the number of class meetings attended through the effective date of withdrawal.

No tuition refund will be granted when class attendance has exceeded 50% of class meetings. This policy supersedes any information stated in the Graduate Bulletin and other university publications.

PROCEDURE

The amount of earned tuition and financial aid will be calculated on a daily pro-rated basis. Unearned tuition will be credited to the students account. Unearned, disbursed financial aid will be charged to the students account and refunded to the appropriate financial aid programs. Students who have not completed the verification process are ineligible to receive any financial aid and therefore no financial aid will have been earned. All disbursed financial aid will be charged to the students account and refunded to the appropriate financial aid program.

The return of financial aid will be refunded to the following sources used in the specific order as noted below until the total amount of the school's responsibility has been satisfied:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loans
- Federal PLUS Loans (Graduate Student)
- Federal PLUS Loans (Parent)
- Federal Pell Grant
- Federal Supplemental Opportunity Grant (SEOG - Federal Portion Only)
- Any other Title IV Assistance
- State financial aid

In the event of an overpayment of unearned Title IV grants, the University will send the student a notification letter requesting payment in full or the establishment of a satisfactory payment arrangement with the University or the Debt Collection Services of the U.S. Department of Education. This notification letter will be processed within 30 days of the date of the University’s determination that the student withdrew.

If the student does not respond to the request for repayment within 15 days, the University will notify the Department of Education of any Title IV grant overpayment. If the student does not make satisfactory repayment arrangements for the repayment of Title IV grant aid, the student will then become ineligible for federal assistance on the 46th day from the date of the University’s repayment letter.

**WITHDRAWAL EXAMPLE**

A student notifies the Registrar of withdrawal on the 50th day of the semester. If the total number of calendar days in a semester were 108, the earned tuition and financial aid ratio would be 50 divided by 108 or 46.3 percent. The University would have earned 46.3 percent of the semester tuition and the student would have earned 46.3 percent of the approved federal aid that the student was originally scheduled to receive for the term. The remaining 53.7 percent of unearned tuition would be credited to the student’s account. The 53.7 percent of the student scheduled or disbursed aid remains unearned and must be returned to the Federal Program. If a student remains in school until the percentage of earned financial aid is 60% or more, then federal regulations consider the student to have earned 100% of their federal aid.

**POST WITHDRAWAL DISBURSEMENTS**

If the University determines that a student is eligible for Title IV funds that have not been disbursed, grant funds that the student is eligible for will be disbursed first. Federal aid that the student is eligible for will be credited to the students account and applied against any outstanding charges.

**Reinstatement of cancelled classes (Continuing Students)**

Classes are subject to cancellation if the student fails to complete payment by the due date for each semester. A non-refundable $100.00 Reinstatement Fee will be assessed on the student account in order to reinstate canceled classes.

If the student does not reinstate his/her canceled classes prior to the end of the semester, the student will not be allowed to register for subsequent semesters. The student will be allowed to register only when he/she has paid the student account balance in full, with certified funds, and has reinstated all canceled classes.

Important Note: Students who are receiving financial assistance and have had their classes canceled for the semester may lose all or part of their financial aid for that semester.
Students who wish to reinstate a canceled semester must first meet with an Advisor from the Office of Financial Assistance Services to determine the aid they are eligible to keep from the canceled semester. Once the aid has been determined, and the student knows what their out-of-pocket expenses will be, final arrangements for reinstatement of canceled classes can be made with a representative of the Office of Student Account Services.

Students must be reinstated into all classes in which they initially registered. Partial semester reinstatements will not be authorized.

**Payment options**

The University Cashier accepts cash, personal checks, traveler’s checks, cashier’s checks, certified checks, money orders, and checks drawn against lines of credit. Personal check and credit card payments are accepted online via CaneLink. Bank wire transfers are also accepted.

**Checks and Money Orders**

Payments must be in U.S. Dollars and drawn on a U.S. bank. Payments must be made payable to the University of Miami and include the student’s identification number to ensure credit to the student’s account. Post-dated checks are not accepted.

*Returned checks policy*

All returned checks are deposited twice, automatically, and without notice. A Returned Check Fine will be assessed to the student’s account, as listed below, after the second attempt. Check cashing privileges will be canceled for those students who have three (3) or more returned checks.

A notification letter will be mailed to the maker of the check by the University’s Collection Department detailing the amount and fine for the returned check. Check cashing privileges will be restricted until cash or certified funds (money order or cashier’s check) are presented for payment. A personal check will not be accepted to replace a dishonored check.

Returned check fines processed through CaneLink will incur a $20 fee. Checks not processed through CaneLine will incur the following charges:

<table>
<thead>
<tr>
<th>Description</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check &lt; or = $800.00</td>
<td>$20.00 fee</td>
</tr>
<tr>
<td>Checks over $800.00</td>
<td>2.5% of the check amount</td>
</tr>
<tr>
<td>Checks for Monthly Payment Plan</td>
<td>$25.00 Fee</td>
</tr>
</tbody>
</table>
Wire Transfer of Funds

Wire transfer of funds for payment on an account at the University of Miami may be processed through any full service bank. Please direct the transfer to:

Bank of America, N.A.
1500 South Dixie Highway
Coral Gables, Florida 33146

ABA Routing Number: 026009593
For Credit to: University of Miami Account 5508319094
For Further Credit to: Student Name and I.D. Number

The student’s name and the student’s identification number (C#) are required in order to properly credit funds to the student’s account.

Tuition payment plans

The Office of Student Account Services offers several tuition payment options to assist students and parents. The University’s payment options are designed to provide convenient alternative plans of budgeting and paying educational costs whether or not a financial assistance award is granted.

MONTHLY PAYMENT PLAN (MPP)

Purpose: This plan allows you to divide all or part of your semester educational expenses (tuition, fees, on-campus housing, and meal plan less financial assistance) into four convenient monthly payments for the fall. A four month payment plan is also available for the spring term as well. The University of Miami does not offer a monthly payment plan option for the summer term.

Contract length: This plan is offered on a semester-by-semester basis for the fall and spring semesters. The minimum contract for either plan is $2,000.

Fee: A 3% non-refundable participation fee of the amount financed is charged and included in the established monthly payments.

Conditions: Payments are due on the 1st of each month with the first payment due on August 1st. The first payment for spring MPPs will be due on the first business day in January.

Students may apply for the Monthly Payment Plan on CaneLink. For more information regarding this option please follow this link to the Monthly Payment Plan FAQ page.
TUITION STABILIZATION PLAN (TSP) (Undergraduates Only)

The University of Miami Tuition Stabilization Plan (TSP) allows you to pre-pay up to four years of tuition at the current tuition rate. The TSP relieves students and parents of concerns relating to future tuition increases and may also offer substantial savings in future tuition expenses. This plan does not include mandatory fees.

The TSP is a sensible alternative for families and independent students paying for tuition from existing savings or investment accounts. With increases in tuition rates at most Universities running above current inflation rates, a participant’s savings in tuition increases may more than make up for the loss of investment income.

The TSP is designed to be used by full-time undergraduate students for a minimum of two consecutive academic years and a maximum of four consecutive academic years; if a student withdraws from the University, the unused tuition will be refunded without penalty as outlined in the TSP agreement.

The TSP is designed to be used by students who are (a) are enrolled in a degree-seeking four-year program on a full-time basis and (b) do not receive any financial aid.

TSP Contract Amount and Terms

<table>
<thead>
<tr>
<th>Contract Duration</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-year contract</td>
<td>$83,160.00</td>
</tr>
<tr>
<td>3-year contract</td>
<td>$124,740.00</td>
</tr>
<tr>
<td>4-year contract</td>
<td>$166,320.00</td>
</tr>
</tbody>
</table>

TUITION and FEES

Tuition

The basic undergraduate tuition rate covers the normal student load and is increased if the student carries an overload. Private instruction, e.g., music lessons, carries extra charges. Students who opt to participate in any of the University’s intercession courses will be billed for the intercession course separately from the flat rate cost of full-time tuition and fees.

For tuition charges in special programs and sessions, see announcements that are published concerning these components of the University’s academic program.

The following list of charges is effective for the academic year 2013-2014.

UNDERGRADUATES (ALL COLLEGES AND SCHOOLS)

<table>
<thead>
<tr>
<th>Number of Credits</th>
<th>Tuition (per semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>$1,730.00</td>
</tr>
<tr>
<td>Two</td>
<td>$3,460.00</td>
</tr>
<tr>
<td>Three</td>
<td>$5,190.00</td>
</tr>
<tr>
<td>Four</td>
<td>$6,920.00</td>
</tr>
<tr>
<td>Five</td>
<td>$8,650.00</td>
</tr>
<tr>
<td>Six</td>
<td>$10,380.00</td>
</tr>
<tr>
<td>Seven</td>
<td>$12,110.00</td>
</tr>
</tbody>
</table>
Eight  $ 13,840.00  
Nine  $ 15,570.00  
Ten  $ 17,300.00  
Eleven  $ 19,030.00  
Twelve to twenty (Includes Course Fees)  $ 20,760.00  
In excess of 20, per credit  $ 1,730.00  
No credit towards degree (audit), per course, non-refundable  $ 1,730.00

Undergraduate students carrying both undergraduate and graduate courses will be charged tuition at the rate in effect for undergraduate credits taken and appropriate fees. For example, tuition for a student carrying a total of 15 credits, of which 3 are graduate and 12 are undergraduate, would be charged at the $20,760.00 rate.

Undergraduate students taking graduate level coursework that is priced at a special level will be billed separately for these courses. Students should check with their advisors and/or the appropriate school’s department for more details on their course pricing requirements.

Full-time fees will be assessed according to student classification as an undergraduate or graduate.

The University reserves the right to change without notice tuition, fees, room and all other charges at the beginning of any academic year, and the right to change activities and board fees at the beginning of any semester.

**GRADUATE STUDENTS**

| (Pre-Master’, Post-Master’s, and Doctoral Students per credit) | $1,730.00 |
| Research in Residence (720 or 750) or Continuous Registration-Master’s Study (725), per fall/spring semester | $1,730.00 |
| Research in Residence (720 or 750) or Continuous Registration-Master’s Study (725), per summer session (0 Research Credit Courses) | $1,730.00 |
| Audit Work (No degree credit) Tuition, per course, non-refundable. | $1,730.00 |

Certain programs are conducted by the University under contract with the State of Florida. Florida residents who have been accepted as students in those contract programs are required to pay current state tuition for each credit hour taken and the state provides the University with additional funds in accordance with the terms of the contracts. Students involved in state contract programs should contact the appropriate school/college to ascertain the state tuition charge per credit hour that they are expected to pay.

**Fees**

Some fees depend upon full-time status. This is usually determined by the sum total of semester credits carried by the student in all divisions or enrollment in certain special programs that are classified as full-time regardless of credit load. Intersession classes are
included with regular fall and spring semester classes in determining the student’s full- or part-time status. This determination will also result in the billing of required fees. Fees are subject to change.

Undergraduate students are classified full-time if they enroll in 12 or more credits in a regular semester or five (5) or more credits in a summer session or if they are enrolled in a special program which is classified full-time regardless of credit load.

Graduate students are classified full-time if they enroll in nine (9) or more credits in a regular semester or five (5) or more credits in a summer session, or if they are enrolled in dissertation credits that are classified as full-time.

**MANDATORY FEES**

<table>
<thead>
<tr>
<th>FALL OR SPRING SEMESTER FEES (per semester)</th>
<th>Student Activity Fee</th>
<th>Athletic Fee</th>
<th>Wellness Center</th>
<th>Student Health &amp; Counseling Centers Fee</th>
<th>Student Center Fee</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate – full-time (12 or more credits)</td>
<td>$153.00</td>
<td>$69.00</td>
<td>$152.00</td>
<td>$112.00</td>
<td>$150.00</td>
<td>$636.00</td>
</tr>
<tr>
<td>Graduate, full-time (9 or more credits)*</td>
<td>$42.00</td>
<td>N/A</td>
<td>N/A</td>
<td>$112.00</td>
<td>$150.00</td>
<td>$304.00</td>
</tr>
<tr>
<td>Rosenstiel Graduate (9 or more credits)*</td>
<td>$13.00</td>
<td>N/A</td>
<td>N/A</td>
<td>$112.00</td>
<td>N/A</td>
<td>$125.00</td>
</tr>
<tr>
<td>Medical Science Graduate (0 or more credits)*</td>
<td>$13.00</td>
<td>N/A</td>
<td>N/A</td>
<td>$25.00-Med</td>
<td>N/A</td>
<td>$124.00</td>
</tr>
<tr>
<td>Law Students (12 or more credits)*</td>
<td>$59.00</td>
<td>N/A</td>
<td>$152.00</td>
<td>$112.00</td>
<td>$150.00</td>
<td>$473.00</td>
</tr>
</tbody>
</table>

* Student Health & Counseling Centers Fee is mandatory for all full time students regardless of credit load. Also mandatory for part-time students.

**SUMMER SESSION FEES (per session)**

<table>
<thead>
<tr>
<th>Undergraduate (Full Time 5+ Credit Hours)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Activity Fee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$11.00</td>
</tr>
<tr>
<td>Student Health and Counseling Centers Fee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$56.00</td>
</tr>
<tr>
<td>Student Center Fee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$75.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$142.00</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduate (Full Time 5+ Credit Hours)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Activity Fee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$10.00</strong></td>
</tr>
</tbody>
</table>
You are not required to have the University sponsored health insurance plan in order to utilize the services of the Student Health Center. During the summer sessions the Student Health & Counseling Centers Fee is mandatory and is automatically added to tuition for students enrolled for 5 or more credit hours. Students who are enrolled for fewer than five credit hours during the summer must request this fee to be charged to gain access to the Student Health & Counseling Centers.

Students who are not enrolled for the current semester but intend to enroll for the next semester and graduating seniors (who wish access for one additional week after graduation), may gain access to the services of the Student Health Service after paying the Health and Counseling Centers Fee.

### OPTIONAL FEES

<table>
<thead>
<tr>
<th>FALL OR SPRING SEMESTER FEES (per semester)</th>
<th>Student Activity Fee</th>
<th>Student Health &amp; Counseling Centers Fee</th>
<th>Athletic Fee</th>
<th>Wellness Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Students (1 to 11 credits)</td>
<td>$153.00</td>
<td>$112.00</td>
<td>$69.00</td>
<td>$152.00</td>
</tr>
<tr>
<td>Graduate Students (0-8 credits)</td>
<td>$42.00</td>
<td>Not Optional</td>
<td>$69.00</td>
<td>$152.00</td>
</tr>
<tr>
<td>Graduate Students (9 or more credits)</td>
<td>N/A</td>
<td>N/A</td>
<td>$69.00</td>
<td>$152.00</td>
</tr>
<tr>
<td>Rosenstiel Graduate Students (0 to 8 credits)*</td>
<td>$13.00</td>
<td>N/A</td>
<td>$69.00</td>
<td>$152.00</td>
</tr>
<tr>
<td>Rosenstiel Graduate Students (9 or more credits)</td>
<td>Not Optional</td>
<td>N/A</td>
<td>$69.00</td>
<td>$152.00</td>
</tr>
<tr>
<td>Medical Science Graduate Students (0 or more credits)*</td>
<td>Not Optional</td>
<td>N/A</td>
<td>$69.00</td>
<td>$151.00</td>
</tr>
</tbody>
</table>

* Student Health & Counseling Centers Fee is mandatory for all full time classified graduate students regardless of credit load.

<table>
<thead>
<tr>
<th>Optional SUMMER SESSION FEES (per session)*</th>
<th>Activity Fee</th>
<th>Wellness Center fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduates</td>
<td>$11.00</td>
<td>$65.00</td>
</tr>
<tr>
<td>Graduate</td>
<td>$10.00</td>
<td>$65.00</td>
</tr>
</tbody>
</table>

*Summer fees optional for students taking less than 5 credit hours per session.
### OTHER FEES

<table>
<thead>
<tr>
<th>DIPLOMA FEE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Diploma</td>
<td>no charge</td>
</tr>
<tr>
<td>Replacement Covers</td>
<td>$ 5.00</td>
</tr>
<tr>
<td>Replacement – Bachelors, Masters, Ph.D.</td>
<td>$10.00</td>
</tr>
<tr>
<td>Replacement – Law, Medicine</td>
<td>$15.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRANSCRIPT FEE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mailed Transcripts</td>
<td>$6.00</td>
</tr>
<tr>
<td>Pick-up and Immediate Transcripts</td>
<td>$7.00</td>
</tr>
</tbody>
</table>

Note: Unofficial transcripts are available free of charge on [CaneLink](#) or for $3.00 each if ordered in the Office of the Registrar, 121 UC in writing. Those ordered in the Office of the Registrar will be available for pick-up within one week after the request is submitted.

<table>
<thead>
<tr>
<th>FEES CHARGED BY SONHS TO STUDENTS REGISTERED FOR CLINICAL COURSES (Annual, non-refundable, due at registration, estimated at time of publication)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Year 2011-2012</td>
</tr>
<tr>
<td>Professional Liability Insurance</td>
</tr>
<tr>
<td>Nursing Fees</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

**PROFESSIONAL LIABILITY INSURANCE (annual, non-refundable, due at registration, estimated at time of publication)***

Clinical athletic training students $75.00/semester

**MUSIC CHARGES FOR NON-MUSIC MAJORS OR MINORS (LESSONS IN APPLIED MUSIC)**

Fees, in addition to regular tuition, per credit per semester $300.00

**READMISSION FEE**

$100.00

**INACTIVE STATUS FEE**

$50.00/semester

**NON-UM PROGRAM STATUS FEE**

$50.00/semester

**GRADUATE APPLICATION FEE**

$65.00

**LATE REGISTRATION FEE (Permission to register required)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/22/2013 - 8/29/2013</td>
<td>$100.00</td>
</tr>
<tr>
<td>8/30/2013 - 9/6/2013</td>
<td>$200.00</td>
</tr>
<tr>
<td>9/7/2013 - forward</td>
<td>$300.00</td>
</tr>
</tbody>
</table>

**REINSTatement FEE**

64
Reinstatement Fee charged if classes are canceled AFTER Semester begins | $100.00

**PROFICIENCY OR COMPETENCY EXAMINATION FEE**
College of Engineering, Division of Continuing and International Education:

| Examination Fee, per examination | $25.00 |
| Recording Fee for Competency Examinations, per examination | $25.00 |
| English Language Proficiency Test | $50.00 |

**ALUMNI RATE and POLICY**

**Special Opportunity for UM Graduates**

UM graduates may take undergraduate credit courses in the College of Arts and Sciences on a space available basis, at a special alumni rate. All University of Miami graduates are eligible for this special program.

Students may take whatever courses are of interest. From Anthropology to Theatre Arts and all the disciplines in between, participants may choose a course or collection of courses (maximum two courses per discipline) to meet professional or personal goals.

Interested students may call the Division of Continuing and International Education at 305-284-4000 to inquire about the benefit and/or the current tuition rate, request an application, or enroll in the courses. They will submit a simple, no-fee, one-page application, simply select an undergraduate course (open on a space available basis) and be on their way to continued learning at UM.

**Policies Governing Enrollment in University of Miami Alumni Status**

The University of Miami Alumni Status includes students who are not seeking a degree and meet the following requirements. Enrollment in a non-degree program and/or satisfactory completion of courses does not imply admission to a degree program.

a) University of Miami graduates (completed degree);
b) U.S. citizens or permanent U.S. residents.

**I. Conditions applying to University of Miami Alumni enrollment**

a) Students may enroll in a maximum of 12 undergraduate credits per semester.
b) Students are limited to two courses per academic department.*
c) Courses may be selected from the College of Arts and Sciences only.
d) International students will not be issued I-20 forms.
e) International students in B-1 (business) or B-2 (pleasure) visa status may engage in study as long as the educational activity is secondary to the principal activity for which the visa was sought.
f) Enrollment may be completed on a space-available basis only. (Course availability determined two days prior to semester start.)
g) Courses taken for undergraduate credit (including 500 level courses) will not be considered for graduate credit at a later date.

*Note: Not all courses and/or departments may be available.
ROOM RATES - UNDERGRADUATES

<table>
<thead>
<tr>
<th>Residential Colleges¹</th>
<th>Semester</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double</td>
<td>$3,457.00</td>
<td>$6,914.00</td>
</tr>
<tr>
<td>Small Single²</td>
<td>$4,328.00</td>
<td>$8,656.00</td>
</tr>
<tr>
<td>Standard Single ³</td>
<td>$4,972.00</td>
<td>$9,944.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Village⁴</th>
<th>Fall Semester 2012 (Aug-Dec)</th>
<th>Spring Semester 2013 (Jan-May)</th>
<th>Summer Term 2013 (June-July)</th>
<th>Annual Rate (12-mos. agreement) in Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibis Model (1:1)</td>
<td>$8,105.00</td>
<td>$8,105.00</td>
<td>$3,222.00</td>
<td>$19,432.00</td>
</tr>
<tr>
<td>Palm Model (2:2)</td>
<td>$5,668.00</td>
<td>$5,668.00</td>
<td>$2,247.00</td>
<td>$13,583.00</td>
</tr>
<tr>
<td>Cane Model (4:2)</td>
<td>$4,676.00</td>
<td>$4,676.00</td>
<td>$1,850.00</td>
<td>$11,202.00</td>
</tr>
<tr>
<td>Villager Model (4:4)</td>
<td>$5,054.00</td>
<td>$5,054.00</td>
<td>$2,001.00</td>
<td>$12,109.00</td>
</tr>
<tr>
<td>Lake Model (4:4)</td>
<td>$5,153.00</td>
<td>$5,153.00</td>
<td>$2,041.00</td>
<td>$12,347.00</td>
</tr>
</tbody>
</table>

1. Freshmen are typically assigned to Hecht and Stanford Residential Colleges but may be assigned to another residential college based on availability.

2. Small Singles are only available in Hecht and Stanford Residential Colleges and only to new freshmen.

3. Standard single rooms are available in Eaton, Mahoney, and Pearson Colleges and only to returning upper-class students.

4. For upper-class students only (60+ academic credits completed)—no freshmen or sophomores; annual (12-month) agreement for all Village residents—billed by semester/term through the Office of Student Account Services.

<table>
<thead>
<tr>
<th>SUMMER SESSION (all air-conditioned)</th>
<th>Rates are per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Room</td>
<td>$900.00 per session</td>
</tr>
<tr>
<td>Small Single Room (when available)</td>
<td>$1,100.00 per session</td>
</tr>
<tr>
<td>Standard Single Room</td>
<td>$1,200.00 per session</td>
</tr>
</tbody>
</table>

GRADUATE HOUSING

Housing in on-campus housing is not available for GRADUATE students in addition to married students, single parents with children, law students, and medical students. The Department of Housing and Residential Life does assist GRADUATE students with off-campus housing information and resources at [http://www.miami.edu/housing](http://www.miami.edu/housing).

LAW HOUSING

Housing in on-campus housing is not available for LAW students in addition to married students, single parents with children, graduate students, and medical students. The Department of Housing and Residential Life does assist LAW students with off-campus housing information and resources at [http://www.miami.edu/housing](http://www.miami.edu/housing).
MEAL PLANS

The following are the Meal Plan rates for the 2012 - 2013 academic year. Meal Plan enrollment is for the full academic year but charged on a semester basis.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Dining Dollars per Semester</th>
<th>Semester Cost</th>
<th>Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Meal Plan</td>
<td>$50</td>
<td>$2484</td>
<td>$4968</td>
</tr>
<tr>
<td>14 Meal Plan</td>
<td>$150</td>
<td>$2374</td>
<td>$4748</td>
</tr>
<tr>
<td>8 Kosher Plus Meal Plan</td>
<td>$200 plus $500 Oasis Dollars</td>
<td>$2287</td>
<td>$4574</td>
</tr>
<tr>
<td>5 Meal Plan</td>
<td>$200</td>
<td>$1782</td>
<td>$3564</td>
</tr>
<tr>
<td>100 Block Meal Plan</td>
<td></td>
<td>$1092</td>
<td>$2184</td>
</tr>
</tbody>
</table>

University Village and Commuter students are eligible to participate in the 5 Meal Plan or the new Block Meal Plans. These plans offer greater flexibility, a better value and may be purchased at any time during the academic year. For more information, visit [http://www.miami.edu/finance/index.php/auxiliary_services/dining_services](http://www.miami.edu/finance/index.php/auxiliary_services/dining_services).

<table>
<thead>
<tr>
<th>Plan</th>
<th>Semester Cost</th>
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<tbody>
<tr>
<td>100 Block Meal Plan</td>
<td>$1,133</td>
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<tr>
<td>75 Block Meal Plan</td>
<td>$850</td>
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<tr>
<td>50 Block Meal Plan</td>
<td>$572</td>
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<td>10 Block Refresh</td>
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PARKING AND TRANSPORTATION SERVICES

<table>
<thead>
<tr>
<th>Description</th>
<th>Price (tax included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Student</td>
<td>$ 458.00</td>
</tr>
<tr>
<td>Fall Only - Commuter</td>
<td>$ 239.00</td>
</tr>
<tr>
<td>Resident Student</td>
<td>$ 492.00</td>
</tr>
<tr>
<td>Fall Only - Resident</td>
<td>$ 246.00</td>
</tr>
<tr>
<td>Discount</td>
<td>$ 234.00</td>
</tr>
<tr>
<td>Visitor</td>
<td>$ 516.00</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>$ 90.00</td>
</tr>
</tbody>
</table>

*Parking subject to change*

Parking on the University of Miami’s Coral Gables campus is a privilege extended to those using the facilities of the University consistent with the terms of the University’s Motor Vehicle Parking Code and other policies of the University as they are set or amended by the Provost. Parking privileges are extended only to those eligible members of the university community including trustees, faculty, administrators, staff, students, vendors and visitors who have paid for, received and properly displayed a current and valid UM parking permit. In consideration of being allowed to use the University’s facilities for parking, the purchaser of a parking permit agrees to be bound by the rules set forth in the Motor Vehicle Parking Code, and agrees to pay to the University any fine or administrative charge assessed for non-compliance with this code.

Students, faculty, employees, and staff may not park in visitor parking spaces, and UM parking permits are not valid at parking meters.

**First year resident students (students residing on the Coral Gables campus who are attending college on a full time basis for the first time) are restricted from purchasing a parking permit to park on the University of Miami’s Coral Gables campus. This policy applies to first year students living in University of Miami student housing on the Coral Gables campus.**

For more information on Parking, please visit our Website, [www.miami.edu/parking](http://www.miami.edu/parking). Annual permits are valid August 1, 2012 through August 15, 2013.
CAMNER ACADEMIC RESOURCE CENTER

Located on the second floor of the University Center, the Camner Academic Resource Center (ARC) offers free academic assistance to all UM students. The ARC offers individual peer tutoring by appointment in most subjects, study skills instruction with a Learning Specialist, free academic workshops, and many other valuable services. Please visit www.umarc.miami.edu or call 305-284-2800 to learn more or schedule an appointment.

Peer Tutoring

At the ARC, all UM students can take advantage of free individual peer tutoring to develop a deeper understanding of course work through additional, special, or corrective content instruction. All tutoring is course specific and taught by nationally certified peer tutors. All UM students are eligible for two hours of tutoring per week for each course. Peer tutoring is available for more than 175 courses.

Academic Workshops

This free workshop series instructs students on specific academic skills and strategies to enhance academic performance. Workshop topics include reducing test anxiety, effective test-taking strategies, improving study strategies, utilizing technology, and more. Topics are updated every semester, and students may attend unlimited sessions. Please visit our website www.umarc.miami.edu for the current workshop schedule.

Learning Specialists

The Camner Academic Resource Center provides the support of trained Learning Specialists to students experiencing difficulty with academic issues. Students may request a one-on-one meeting with a Learning Specialist to help develop the skills needed to achieve success in their academic careers. Skills covered during these appointments include time management, effective note-taking, college textbook reading, educational technologies, test taking, and other learning strategies. Students can request an appointment with a Learning Specialist through our website or by filling out a request form at the Camner Academic Resource Center. Visit the website at www.umarc.miami.edu for more information about the support services available to students.

Independent Learning Initiative

The Independent Learning Initiative is a fee-based academic support program that provides structure, support, instruction, and monitoring for students needing additional guidance during the college experience. During the semester, students will identify and understand their academic strengths and areas for growth, as well as learn strategies, skills, and technologies to enhance their academic and personal success in college. Participants learn to monitor their academic progress and critically evaluate their current skills and strategies to work towards becoming a successful independent student. For more information about the program or to apply, please visit our website at www.umarc.miami.edu.

Supplemental Instruction
Small group sessions are available to help students succeed in the University’s toughest courses. Group Peer Tutoring is done on a weekly basis where students sit down to discuss course content in a small group setting with the peer tutor serving as a facilitator.

**UMX: University of Miami’s Freshman Experience**

The University of Miami Freshman Experience (UMX 100) is a graded, comprehensive virtual self-paced course specifically designed to assist first year students, transfer students included, in making a successful transition to the University of Miami. The course creates opportunities for students to learn skills integral to developing connections with students, staff, administrators, and faculty. UMX provides an opportunity for students to utilize UM resources necessary for success in college and beyond. Specifically, students will be exposed to campus leadership opportunities, academic and career planning, university traditions, study abroad opportunities, personal wellness programs, as well as advising and registration through videos, power points, blogs, threaded discussions, and more. These resources and opportunities are only a click away for the students enrolled.

**Office of Disability Services (ODS)**

The Office of Disability Services (ODS) is the primary university office responsible for the coordination of auxiliary aids and services for students with disabilities (Please also see information listed under the Camner Academic Resource Center (ARC). Please visit our website [www.umarc.miami.edu](http://www.umarc.miami.edu) for more information.

The Office of Disability Services (ODS) provides academic accommodations and support to ensure that students with disabilities are able to access and participate in the opportunities available at the University of Miami. Individuals with disabilities must request academic accommodations through the Office of Disabilities Services. Accommodations are determined on a collaborative and case-by-case basis and are based on the documentation provided by the individual. ODS staff will work collaboratively with students to determine what academic adjustments and educational auxiliary aids are reasonable to ensure that students with disabilities are not subject to discrimination.

Information is available to prospective and enrolled students, their parents and/or sponsors. The Office of Disability Services (ODS) is located in the Camner Academic Resource Center in Whitten University Center N201. ODS staff can be reached at 305-284-2374 (Voice) or 305-284-1999 (Fax). Office hours are 8:30 am to 5:00 pm, Monday through Friday. Individuals may email the office staff at disabilityservices@miami.edu for quick responses to questions.
CANE CARDS

The Cane Card is an on-campus student identification card. Students, faculty, and staff must present a government issued photo ID such as a driver’s license or passport when acquiring their card. The Cane Card provides access to on-campus student residences, the Otto G. Richter Library, computer laboratories, the swimming pool, the Patti and Allan Herbert Wellness Center (for those who purchase a membership), and other facilities where access has been granted. The Cane Card is also used to control lending privileges at the library, access to athletic and other events (fee required), the purchase of discounted Metrorail tickets, U-Print services, and meal plan privileges. All University of Miami students, faculty and, staff are required to carry their Cane Cards for identification purposes while on campus.

- Lost or stolen Cane Cards should be reported to the Cane Card office at 305-284-3096 during the week or anytime by accessing your MyUM account, under the financial tab.

- Lost or stolen cards may also be reported to security 24 hours per day at 305-284-6666.

- After being reported stolen or lost, a card will be deactivated to prevent unauthorized use.

- Lost or stolen cards will be replaced for a $20 fee (fee waived for stolen cards upon presentation of police report).

- Damaged cards will be replaced for free upon exchange of the original damaged card.

- For all issues with Cane Express accounts, call Student Account Services at 305-284-6430.
THE DEPARTMENT OF COMMUTER STUDENT INVOLVEMENT

The Department of Commuter Student Involvement (CSI) is located on the second floor of the University Center, Room 236. This department offers a variety of services and programs for students from Miami-Dade and Broward Counties that live at home and commute to the University of Miami. For more information, please visit our site at www.miami.edu/csi.

Great Start Pre-Orientation Program for First-Year Commuter Students

Great Start is an overnight, pre-orientation program designed to promote and emphasize college adjustment and campus involvement opportunities. The program's goal is to help students feel like a part of the University and give them a chance to meet other commuter students. Students who participated in Great Start have said the program greatly contributed to a positive transition from high school to college. Commuter student leaders are needed to serve as Program Coordinators, Steering Committee members, and Counselors. Applications are available in the fall on the Great Start website, http://www.miami.edu/greatstart.

Commuter Assistant/Transfer Assistant Program

The Commuter Assistant (CA)/Transfer Assistant (TA) Program provides first-year commuter and incoming transfer students with an experience that mirrors the programs and services offered by Resident Assistants and Academic Fellows to first-year students living on-campus in a Residential College. All first-year commuter students and interested new transfer students will be assigned to a CA or TA group and will begin meeting with this group during New Student Orientation. The CA/TA serves as a mentor, plans programs that will aid commuter or transfer students in their transition to college, and works with the Department of Orientation and Commuter Student Involvement to plan, promote, and implement initiatives specifically focused on first-year commuter or incoming transfer students. CAs and TAs are hired during the spring semester. Applications are available on the CSI website, www.miami.edu/csi.

Association of Commuter Students

The Association of Commuter Students (ACS) is a second home for its members; a place to bond with fellow students and to participate in all that the University of Miami has to offer. ACS provides its members with a working knowledge of UM that gives them the opportunity to become fully involved in campus life. Brought together by a simple fact of life, commuting to school, ACS members have forged bonds that extend beyond this common circumstance. If you would like further information on joining this very active student group, please visit their website at http://www.miami.edu/studorgs/acs.
OFF-CAMPUS HOUSING ASSISTANCE
www.miami.edu/housing

The Department of Housing and Residential Life provides assistance to students, staff, and faculty with identifying off-campus housing options. A web-based search engine of community listings and information about off-campus apartment complex listings is available along with other resources such as:

- Individual consultations & appointments
- Over-the-phone guidance
- Knowledge of the greater Miami area & specific neighborhoods where students typically reside
- Roommate search assistance

For more information about assistance with off-campus housing, please see the Department of Housing and Residential Life web page at www.miami.edu/housing. Their office telephone number is (305) 284-4505 and their e-mail address is housing@miami.edu.
COUNSELING CENTER

www.miami.edu/counseling-center

The UM Counseling Center is the primary provider of mental health services for UM students. The UM Counseling Center provides time limited individual, couples, and group therapy as well as psycho-educational outreach programming and consultation. Urgent care and limited career and psychological assessment are also available. Psychiatric services are available to those under the care of a UM Counseling Center therapist.

The UM Counseling Center staff consists of experienced professionals from the fields of mental health counseling, psychology, social work and psychiatry.

During the Fall and Spring semesters, the UM Counseling Center is open Monday, Wednesday and Friday from 8:30 a.m. to 5 p.m. and Tuesdays and Thursdays from 8:30 a.m. to 7 p.m. During the Spring, Summer and Winter breaks the UM Counseling Center is open Monday through Friday from 8:30 a.m. to 5 p.m. Students can call the Counseling Center directly at (305)284-5511 or request an appointment in person. Generally, students can be seen the same day for a crisis appointment. The University Counseling Center is located in Building 21-R of the Center for Student Services.

SEXUAL ASSAULT RESPONSE TEAM (S.A.R.T.)

The Counseling Center also coordinates the Sexual Assault Response Team (S.A.R.T.). The number is 305-798-6666.

STUDENT TRAINING

The Counseling Center participates in the graduate training programs in the Department of Psychology and the programs of the Department of Educational and Psychological Studies. Doctoral students in psychology take part in the Center’s professional activities and have first-hand contact with clinical problems. In addition, interns obtain professional training at the Counseling Center through the Dr. Jess Spirer Predoctoral Internship in Professional Psychology.
OFFICE OF THE DEAN OF STUDENTS - UNDERGRADUATE

www.doso.miami.edu

The Dean of Students Office houses several units that provide co-curricular services. Through the Honor Council, the Office advises and directs the efforts of students, faculty and administrators in academic integrity-related concerns. The administration and record keeping of all undergraduate student disciplinary infractions are also the responsibility of the Dean of Students Office.

The Center for Alcohol and Other Drug Education and the University Chaplains Association both provide opportunities for involvement, leadership, and personal exploration. The Office of Greek Life coordinates and advises the efforts of the Association of Greek Letter Organizations, the National Pan-Hellenic Council, Inc., the Interfraternity Council, the Multiethnic Greek Council, and the Panhellenic Association. Rho Lambda National Leadership Recognition Society for Sorority Women, Order of Omega Greek Leadership Honor Society, Gamma Sigma Alpha National Academic Greek Honor Society, Alpha Lambda Delta Freshmen Honor Society, BACCHUS and GAMMA are advised by various Deans within the Office.

Veteran Student Services is the newest addition to the Office and serves as a centralized campus resource for UM’s veteran student population.

The Dean of Students Office coordinates efforts in response to various student crises and employs an Assistant Dean who is a Licensed Clinical Social Worker. The entire staff is knowledgeable and prepared to assist all students in their adjustments to campus life.

The Dean of Students Office is located in Building 21 (Center for Student Services), Suite H, (305) 284-5353.
GENERAL CAREER SERVICES

TOPPEL CAREER CENTER
www.HireACane.com

The Toppel Career Center, located at 5225 Ponce de Leon Boulevard, assists undergraduate students, graduate students and alumni in formulating their career plans and in pursuing graduate/professional school as well as full-time and internship opportunities.

It is the intent and desire of the University of Miami and the Toppel Career Center to provide equal employment opportunities for students and graduates regardless of race, color, national origin, religion, gender, sexual orientation, age or disabilities.

INDIVIDUAL CAREER ADVISING with professional career advisors is available to assist students with career questions, issues and concerns. Students are encouraged to meet with a professional staff member to discuss career goals and to obtain assistance in developing a career action plan (please schedule online through your HireACane account or call to make an appointment).

WALK-IN ADVISING is a service provided to students and alumni who need assistance with developing their resume, cover letter, and/or personal statement. No appointment is necessary for Walk-In Advising - simply stop by Toppel Monday through Thursday, 10am - 4:30pm. Walk-in advising is also available for quick internship questions on Mondays, 2:00-4:00 pm and Thursdays, 10:00 am to 12:00 pm. and for students in the School of Business Administration on Tuesdays and Wednesdays, 2:00 to 4:00 pm.

A series of PROGRAMS is offered throughout the academic year. Each session provides information and skill-building activities in the areas of resume development, interviewing skills, social media for the job search, securing internships, and much more. In addition, programs designed to increase awareness of specific career paths and professional opportunities are offered. These are conducted by outside speakers and panelists who are often UM alumni and recognized specialists in their field.

THE TOPPEL INTERNSHIP PROGRAM (TIP) is designed to provide valuable career-related work experience through internships with participating employers. Students can search HireACane for hundreds of opportunities available to them. It is recommended that students complete at least two internships while in school. Students may take on an internship position beginning the second semester of their freshman year.

The TIP Program allows students who have already secured an internship a one-credit transcript notation from the Toppel Career Center. The University of Miami Internship (UMI) course is offered fall, spring, and summer, and will allow you to have work experience related to your major, career path, or possible career path/interest and it will provide recognition of the internship experience on your official transcript. Part-time internships require at least 160 working hours while full-time internships require at least 320 working hours.

USHADOW: The UShadow program is an opportunity for students to develop career-related knowledge, skills, and values by meeting with a successful UM alumnus/a during a full or half-day of shadowing. Students who participate in the UShadow program are able to gain “first-hand” knowledge at the workplace in a career of their choice, make valuable networking contacts, and have the opportunity to see how classroom learning can be
applied to real-world situations. The program is open to all sophomores and students from all majors are encouraged to participate.

**ON CAMPUS RECRUITING (OCR):** Representatives from local, national and international businesses and industries, governmental agencies, non-profit organizations, military services, human services, and school systems visit the campus to meet with students and to interview and discuss career opportunities with students. After applying to openings via HireACane, students may be scheduled for individual interviews with visiting employer representatives.

**INFORMATION SESSIONS:** Many employers also visit campus to host information sessions about their company or organization where students have the opportunity to learn more about the career tracks and corporate culture of the company.

**CAREER EXPOS AND EVENTS** are open to all students and alumni and range from general events to major-specific fairs. FALL CAREER EXPO & GRADUATE SCHOOL FAIR is held in September and SPRING CAREER EXPO is held in February, and both are inclusive of all industries and majors. The fall event features graduate and professional schools of interest. Special CAREER FAIRS are held for interested students in Accounting (October) and Architecture (April). NETWORKING NIGHTS are more informal opportunities for students to interact with employers and include Communication, Engineering, and Nursing and Health Care. Students can also participate in virtual career fairs. Regardless of the focus, these EXPOS and EVENTS are intended to provide students and alumni with an opportunity to network with recruiters from a wide variety of industries.

**ONLINE CAREER RESOURCES**

**HireACane:** A career management system where students can access internships, jobs, on-campus recruiting information, career programs, and companies/organizations attending Careers Expos and Fairs. Students can only access these additional online resources by activating and logging into their HireACane account.

**TypeFocus:** Learn about your personality and explore potential career paths by using this career assessment.

**GoingGlobal:** Search postings for internships and jobs abroad, view country profiles, and research information on resumes and interviews.

**The Career Insider, Powered by Vault:** Access an extensive online career library to obtain industry, career, and employer information.

**UCAN (University Career Action Network):** Connects employers with talented undergraduate and graduate students who are seeking diverse career building experiences through internships. The UCAN Internship Exchange is shared among 22 of the most prestigious and elite universities in the United States:

**THE CAREER TECHNOLOGY LAB** enables students to work on their job and internship search. *HireACane*, our online Career Management System, allows students to create a career profile, upload resumes, search for jobs and internships, and sign up for on-campus interviews. In order to gain further insight about their career and personal preferences
students and alumni can utilize TypeFocus and The Strong Test, which are computerized career self-assessment tests; these are excellent tools for personal career development and decision-making.

The Launch Pad at Toppel is a career guidance component of the Toppel Career Center, providing resources to entrepreneurs and inventors at the University of Miami. They provide weekly information sessions and networking events, one-on-one facilitation to help students and alumni launch their ventures or help their companies grow, a venture coaching program, and an opportunity to join the Launch Pad Network, which will help you network with fellow entrepreneurs and inventors.
THE HONOR COUNCIL – UNDERGRADUATE

www.miami.edu/honor-council

The Honor Council is a standing committee of 29 undergraduate student representatives who are responsible for educating the University community on Honor Code related issues. The members promote academic integrity through a variety of educational programs and also investigate and adjudicate alleged violations of the Undergraduate Student Honor Code.

The purpose of the Honor Code is to protect the academic integrity of the University by encouraging consistent ethical behavior in assigned course work by students. Members of the University community who would like to request Honor Council programming or investigation of alleged academic dishonesty are encouraged to call the Secretary of the Honor Council at (305) 284-5354.
International Student and Scholar Services (ISSS)

5600 Merrick Drive, Building 21-F
Coral Gables, FL 33124-5550
Telephone: 305.284.2928
Fax: 305.284.3409
Email: isss@miami.edu
Website: www.miami.edu/internationalservices

ISSS represents the needs and interests of the University of Miami international community and provides support services and programs for international students, scholars, and academic departments at UM. Every year, approximately 3000 international students (undergraduate and graduate) and scholars (professors and researchers) from more than 115 countries representing every region of the world study, teach, and conduct research at the University of Miami.

International students and scholars face some unique challenges as well as opportunities while pursuing their academic goals at UM. The professional and dedicated ISSS staff provides expert advice, services, programs, and information aimed at supporting their educational endeavors and enriching their U.S. experience over the entire course of their stay. ISSS support services and programs encompass:

- Pre-Arrival Information
- Immigration Advising for Students and Scholars in F-1 and J-1 Status
- Employment Information and Authorization
- Online Tax Return Preparation System
- Liaison with Sponsoring Embassies, Government and Agencies
- Short-Term, Small Emergency Loans
- Assistance with Personal and Adjustment Problems
- Assistance in Coping with Crises
- Advocacy
- International Student Orientation
- International Scholar Orientation
- Thanksgiving Day Matchup Program
- Support for the Council of International Students and Organizations (COISO)

On the ISSS website you will find detailed information regarding each of these services and programs. Please do not hesitate to contact us should you have any questions or require additional information. We look forward to assisting you.
LIBRARIES

The University of Miami Libraries provide support and services for students, faculty and staff.

Please visit http://www.library.miami.edu/about/libraries/libraries_collections.html for detailed information.
Ombudsperson and University Troubleshooters Program  
www.miami.edu/ombudsperson

The Ombudsperson acts as an independent representative of the University to listen to student grievances and complaints. The Ombudsperson listens to the concern, investigates the facts and attempts to resolve situations in the best possible way. The Ombudsperson neither makes University policy nor overrides it. However, because of extensive knowledge of the University, the Ombudsperson is in a position to interpret University policy to students and make recommendations to the central administration when policy changes are needed. The Ombudsperson expedites the decision-making process within the University and ensures that the University follows its own published policies and procedures.

The Ombudsperson and University Troubleshooters Program was not established to bypass or circumvent those individuals who have responsibility for departments or classroom instruction. Nor is the Program designed to eliminate certain structured grievance and appellate mechanisms already established by the University. Each academic department and each administrative unit has established a contact person, known as a University Troubleshooter, to assist students with academic and administrative related matters. These University Troubleshooters are faculty members and administrators who serve as a resource for students seeking assistance.

When regular channels have not brought resolution to your problem and after you have spoken to the appropriate University Troubleshooter, you should contact the Office of the Ombudsperson. The Ombudsperson seeks to resolve matters informally before they become matters in a formal grievance-appeal proceeding and assists students in reestablishing communication with the person or persons with whom a complaint may have been filed.

To access the University of Miami Ombudsperson and University Troubleshooters program, contact the Office of the Vice President for Student Affairs, Ashe Administration Building Room 244, or 305-284-4922. For more information, visit www.miami.edu/ombudsperson. Concerns may be submitted through an online form located on that website.
UNIVERSITY HOUSING/RESIDENCE LIFE
www.miami.edu/housing

The University of Miami offers undergraduate on-campus housing in five residential colleges and University Village, which is comprised of seven buildings and two parking garages.

Each residential college has resident faculty members (Masters and Associate Masters), a student affairs professional staff member (Area Director / Assistant Area Director) and student staff who live in the residential college with the resident students to support and promote student well-being, safety, academic achievement, student learning, and development. In addition, numerous social, educational, cultural, and recreational programs are offered throughout the academic year.

Special Interest Housing (SIH) is also available within the residential college system—these resident communities are facilitated through the Office of Academic Enhancement. Themes center around outdoor adventure, ethnic cuisine, writing/cinema, community service, healthier lifestyles, and diverse educational experiences as well as academic and career focused themes.

General Highlights

- The University has both single and double rooms. Singles are assigned based on seniority living on campus and, thus, entering students are typically assigned to double occupancy rooms. Effort is taken to assign roommates of similar age, class standing, and smoking preference.
- All non-local freshmen students are required to live in University housing for two academic semesters, as long as space is available. This policy does not apply to freshmen students living with parents or legal guardians in Miami-Dade or Broward Counties.
- University Village, which is an apartment-style residential community with 12-month agreements, is an available option to juniors and seniors. The apartments are fully furnished and include in-apartment washers and dryers, full-size kitchen appliances (stove, refrigerator, microwave, & dishwasher), and free reserved parking. For general information on University Village, go on the web to http://www.miami.edu/housing.
- All housing facilities are co-educational with men and women living on alternate floors or alternating separate suites or apartments.
- All residential college rooms and apartment bedrooms are air-conditioned and equipped with a bed, dresser, desk, chair, and window coverings. A 140+-channel cable television system with many HD & digital channels and local telephone service is also provided. Each residential college room and University Village bedroom is wired for internet access.
Admitted undergraduate students, following verification of acceptance to the University and payment of the enrollment deposit, can apply for housing in CaneLink, the University’s recently re-designed on-line, interactive information hub.

- Students are encouraged to apply for housing as soon as possible after paying the enrollment deposit. New freshmen housing applications should be submitted by May 1, 2013; applications received from new freshmen after May 1, 2013 will be accommodated on a space available basis.

- The $250 non-refundable deposit can be paid by credit card or electronic debit from a checking account at the time of application.

- Assignments to buildings, rooms, and specific roommates are made according to the date of application and receipt of the housing deposit.

- Whenever possible, requests for specific buildings, rooms, and roommates are honored. However, if specific preferences are not available, the University reserves the right to assign students to other locations and roommates.

The 2013-2014 housing agreement is for both fall and spring semesters (12-month annual agreement for University Village), unless the applicant is:

1. applying only for spring semester housing (not available in University Village)
2. applying only for summer session housing
3. graduating in December (and May as well for University Village)
4. participating in a University of Miami study abroad experience spring semester (or summer for University Village)
5. not enrolling in the University spring semester (or for subsequent fall semester in University Village)

Housing cancellations received through May 31, 2013 will result in the forfeiture of the $250 housing deposit. Cancellations received after May 31, 2013 will result in:
- the forfeiture of the $250 housing deposit; plus
- the canceling student remaining responsible for the fall semester housing charges, unless or until the vacancy created by the cancellation can be filled by another qualifying University student applying for housing

Housing cancellations for the spring semester received through December 1, 2013 will result in the forfeiture of the $250 housing deposit. Cancellations for the spring semester received after December 1, 2013 will result in:
- the forfeiture of the $250 housing deposit; plus
• the canceling student remaining responsible for the spring semester housing charges, unless or until the vacancy created by the cancellation can be filled by another qualifying University student applying for housing

*Note: Written notice of cancellations must be made to the Department of Housing and Residential Life office directly.

The dates of housing availability are:
• Fall Semester          August 20, 2013 - December 19, 2013
• Spring Semester        January 8, 2014 - May 9, 2014

The Department of Housing and Residential Life also provides assistance to students, staff, and faculty with identifying off-campus housing options. A web-based search engine of community listings and information about off-campus apartment complex listings is available along with other resources such as:

• Individual consultations and appointments
• Over-the-phone guidance
• Knowledge of the greater Miami area & specific neighborhoods where students typically reside
• Roommate search assistance

For more information about housing on campus or assistance with off-campus housing, please see the Department of Housing and Residential Life web page at www.miami.edu/housing. Their office telephone number is (305) 284-4505 and their e-mail address is housing@miami.edu.
STUDENT HEALTH SERVICE

The Student Health Service provides primary care, specialty care and pharmacy services to eligible University of Miami students. You are not required to have the Health Center sponsored insurance plan to utilize our services. Appointments can be scheduled at mystudenthealth.miami.edu, services are also available on a “drop in” basis.

The Student Health Service is located at 5513 Merrick Drive, Coral Gables, Florida 33146, (across from the Pavia Garage).

Contact numbers are:
Telephone: (305) 284-9100/Fax: (305) 284-4098

Hours of operation:
Fall and Spring semesters: 8:30 a.m. to 5:00 p.m., Mondays, Tuesdays, Wednesdays and Fridays. On Thursdays: 9:00 a.m. to 5:00 p.m. Sundays: 11:00 a.m. until 4:00pm
Winter break, Spring break, and Summer sessions: Monday through Friday from 9:00 a.m. to 5:00 p.m.

The Health Service is closed on Saturdays and University holidays. After hours assistance is available by calling (305) 284-9100.

For sudden, severe illness or serious accident dial 911. For illnesses or injuries requiring immediate attention, students are urged to go to an Emergency Room. After hours assistance for urgent situations can be obtained by dialing (305) 284-9100. Students with United Healthcare insurance may also contact the United Healthcare Nurseline by calling (800) 436-7709 and selecting the Health Resources option. For less urgent conditions, you may visit one of the local Urgent Care Centers.

ELIGIBILITY/ACCESS

The Health & Counseling Centers Fee, is mandatory for (undergraduate, graduate, and law) students regardless of credit load and all students registered in an off-campus program who are enrolled in the University sponsored student insurance plan.

Employees may be charged the Health and Counseling Centers fee on their initial bill, however the charge will be removed from their bill soon after the last day to drop or add a class, if they remain eligible for tuition remission benefits. Dependent of UM employees are treated the same as all other students..

HEALTH INSURANCE

Domestic students enrolled in six or more credit hours per semester (or considered full time) are required to obtain adequate health insurance (see exceptions). The annual premium for the health insurance plan offered through the Student Health Service is added to each student's fees. Domestic students with adequate alternative coverage may request cancellation of the insurance fee via myUM. Insurance cancellation must be renewed each year via myUM.

Deadlines to waive the insurance are:
July 25 for the Fall semester,
January 25 for the Spring semester,
April 25 for Summer I,
June 25 for Summer II.

Domestic students can check the status of their insurance waiver/cancellation request via myUM. The insurance premium will be prorated for those students entering for the first time in the Spring or Summer semesters. No waiver and/or refund will be granted after the above dates.

Students who have previously waived the insurance charge can reinstate the insurance prior to the Spring semester or first Summer session by completing the reinstatement request form and checklist. Coverage can also be reinitiated at the start of the Fall semester by choosing not to re-waive the charge, or at other times during the academic year, if within 30 days of termination of other similar coverage, by completing the reinstatement request form and checklist. Documentation of termination may be requested.

Deadline for reinstatement of insurance is January 25th for the Spring. Please do not consider your reinstatement complete until reinstatement has been verified via myUM, the charge has been posted to your student account and all charges on your account have been paid.

All international students are required to enroll in the University sponsored health insurance program. The annual premium for this coverage is added to each student's fees.

Any additional questions regarding the health insurance requirement should be directed to the Student Health Service at 305-284-9100 or to studenthealth@miami.edu.

**IMMUNIZATION**

All students are required to provide proof of immunization against measles, mumps and rubella; and tetanus, diphtheria and pertussis. All new students must also provide proof of immunization against hepatitis B and meningococcal meningitis or sign a waiver declining these immunizations. An immunization form must be completed and returned to the Student Health Service prior to arrival on campus. For students less than 18 years old, the meningitis/hepatitis vaccine waivers must be signed by a parent or legal guardian.

All international students must also be screened for tuberculosis by completing page two of the immunization form.

Deadlines for submission of immunization records are Fall - August 22nd, Spring - January 15th, Summer - April 15th. Failure to comply with this requirement will interfere with registration. A $50.00 processing fee will be charged for any form received after the start of the semester. Immunization information must be entered at mystudenthealth.miami.edu prior to faxing or mailing the form to the Student Health Service for verification. Immunization compliance can also be verified at mystudenthealth.miami.edu. Instructions on the use of mystudenthealth.miami.edu is available at www.miami.edu/student-health.

Most students will be able to obtain the required immunization information from their prior medical providers or from their prior high school, college or university. Students who believe that they were previously immunized but are unable to provide proof of immunization may either obtain blood tests confirming immunity or obtain the necessary immunizations. Immunizations and blood tests documenting immunity are available at the Student Health Service. All charges are in addition to processing fees for late forms.

Immunization against varicella (chicken pox) is suggested and is available at the Student Health Service for a reasonable charge.
PHARMACY

The pharmacy is located on the second floor of the Student Health Service, and can fill prescriptions from most local and out of town medical providers.

Prescription prices are often lower than at local drug stores, and most insurance plans are accepted. For students with the Student Health Service sponsored United Healthcare insurance plan, low cost generic medications are available at the Student Health Service Pharmacy. Non-prescription medications, vitamins, nutritional supplements, personal care products, over-the-counter medications, and condoms are also available. New prescriptions can be dropped off or called or faxed by the ordering provider. Refill requests will be handled most promptly by having your prescription number available and calling the automated refill line at (305) 284-5922. Refills can also be requested by calling (305) 284-5922 option 2.

- Students, spouses, and dependents may have their prescriptions filled at the Health Service pharmacy.
- Students with the Health Service sponsored insurance plan receive enhanced benefits if prescriptions are filled at the Health Service pharmacy.

Pharmacy telephone: (305) 284-5922; fax: (305) 284-4883.

Hours of operation:
Fall and Spring semesters are from 9:00 a.m. to 5:30 p.m., Monday through Friday.
Winter break, Spring break, and Summer sessions, 9:00 a.m. to 5:00 p.m. Monday through Friday.

The pharmacy is closed on Saturdays, Sundays, and on University holidays.
UNIVERSITY DINING SERVICES

The University of Miami Dining Services program offers students a variety of food options conveniently located throughout the campus. Among these are the:

**Hurricane Food Court** - featuring varied concepts including several well-known national brands

- **Courtside Eatery at the Wellness Center** - featuring a variety of healthy food options
- **Jenkins Snack Bar** – the perfect spot to grab a quick bite at the School of Business
- **The Oasis** – specializing in kosher deli products
- **C-Store** – a full service convenience store
- **Starbucks at Richter Library** – your favorite specialty coffee
- **Carts** – for your convenience around campus [Communication, Memorial, and Merrick]
- **Village Marketplace** – providing UV residents your convenience store needs
- **Subway** – enjoy a delicious sub at the Law School
- **Sebastian’s Café** – offers specialty sandwiches and salads at UM’s Newman Alumni Center
- **GOT Spot featuring Rose’s Café** – our newest addition located at the University’s Gables One Tower

**Scheduled to open October 2013**

- **LIME Fresh Mexican Grill** – enjoy freshly prepared Mexican food at the University Center patio
- **M2O Deli** – offers made to order deli sandwiches, paninis, salads and soups at the Student Activity Center
- **Starbucks at Student Activity Center**

The University of Miami Dining Services program offers a variety of services that meet the individual student’s schedule of classes and extracurricular activities. Five different meal plan options are offered at the Hecht/Stanford and Mahoney/Pearson Dining locations:

- Unlimited meal plan provides unlimited meals per week
- 19-meal plan provides 19 meals per week
- 14-meal plan provides 14 meals per week
- 8-Kosher Plus meal plan provides 8 meals per week
- 8-meal plan provides 8 meals per week
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- 100 Block meal plan provides 100 meals to be consumed throughout the fall and spring semesters
- 75 Block meal plan provides 75 meals to be consumed throughout the fall and spring semesters
- 50 Block meal plan provides 50 meals to be consumed throughout the fall and spring semesters
- Enrollment in any of the residential colleges (excluding University Village) requires participation in the 8, 8-Kosher Plus, 14, 19, or Unlimited meal plans.
- Freshmen must choose from the Unlimited, 19, 14, or 8-Kosher Plus Meal Plans only.
- The block meal plans are open to Commuter and University Village students only.
- Graduate and undergraduate students who are 25 or older as of September 1 of the meal plan contract year are excluded from this requirement.
- Commuter and other students not enrolled in the residential colleges may participate in any meal plan.
- All meal plans are available seven days a week. Students have the opportunity to eat meals five times a day up to their weekly meal total. The Unlimited meal plan has unlimited access to the dining hall
- Takeout option is limited to one per meal period. Example: 1 takeout for Breakfast, 1 takeout for Lunch, & 1 takeout for Dinner

Dining Dollars

- Dining Dollars provided with the meal plan may be used in approved food service locations for food purchases only. Usage is limited to $20 per day.
- Dining Dollars may not be used in vending machines.
- Unused Dining Dollars at the end of the Fall Semester will carry into the Spring Semester.
- Unused Dining Dollars at the end of the Spring Semester are forfeited.
- Dining Dollars may be used at the Hurricane Food Court, Carts, The Oasis, Convenience Store, Village Marketplace, Rathskeller, Subway, Jenkins Snack Bar, Starbucks, BankUnited Center, Sebastian’s Cafe and Courtside Eatery at the Wellness Center.

Dining Services Contract

- The Dining Services contract begins with the first meal of Fall Semester and extends through the last meal of Spring Semester.
- The student indicates choice of meal program on the Dining Contract or via (myUM/CaneLink).
• The student’s signature on the Dining Contract or election via myUM signifies acceptance of that board plan for the period indicated.

• Students who do not enroll in any of the meal plans will be force enrolled onto the 14 meal plan. All terms and conditions will be binding upon the student.

• Meals are not served when the University is not in session, during official University vacation periods, or between semesters.

• The Oasis Kosher Deli is closed on Passover and all other holy days.

• The entire semester amount must be paid in full at the same time students pay other registration costs (tuition and fees) during or before the first week of classes.

• All students may make changes to their meal plan within the first week of the semester by notifying the Department of Dining Services or via myUM/CaneLink.

• Changes made to meal plans for the Spring Semester will be assessed a $40 processing fee.

• Charges will be prorated up to the end of the week.

• Meal plan weeks run Monday through Sunday.

• Releases will be subject to a $300 cancellation fee plus full charges through the week of cancellation, and may also result in a Dining Dollars surcharge fee.

• Approval is obtained solely through the Department of Dining Services.

• The University reserves the right to terminate the contract by written notice if a student fails to comply with any of the terms and conditions of the contract and all other University and Dining Services rules and regulations.

For more information on Dining Services write to University of Miami, Dining Services, P.O. Box 248106, Coral Gables, FL 33124-6909, call Dining Services at 305-284-3584, email diningservices@miami.edu or visit www.miami.edu/dining-services.
The Honors Program is under review, and these terms may be modified for the 2013-14 Academic Year.

HONORS PROGRAMS

In 1957 the faculty of the University of Miami established the General Honors Program to provide an academically challenging course of study for outstanding students. The program was later expanded by the addition of departmental honors. Students who satisfactorily complete the requirements for general and/or departmental honors are graduated with General Honors and/or Departmental Honors; the award is noted on the graduates diploma and official transcript.

GENERAL HONORS PROGRAM

Over the past four decades since its foundation, the General Honors Program has grown. The program coordinates courses and sections each semester at the introductory through advanced levels, in a wide variety of fields in all colleges and schools of the University. In general, Honors courses are small classes taught as seminars with emphasis on interactive learning and discussion.

ADMISSION TO GENERAL HONORS

Invitations to the General Honors Program are typically extended to the entering class on the basis of their outstanding scholastic achievements in high school and their high scores on the college entrance examination. Invitations are mailed shortly after acceptance to the university.

RETENTION AND REQUIREMENTS FOR GRADUATION WITH GENERAL HONORS

To remain in the General Honors Program a student must maintain an overall academic average of 3.500 and complete at least two Honors courses (six credits) per academic year.

To graduate with General Honors, a student must satisfy at least 24 credits in General Honors courses with a grade of “B” or better and have an overall grade point average of 3.500. Twelve of the 24 credits must be in courses at the 200 level or above. No more than 12 credits in the student’s major may be counted toward the 24 credits in General Honors.

WITHDRAWAL, DISMISSAL, AND REINSTATEMENT TO GENERAL HONORS

Students may withdraw from the program at any time at their discretion. They should notify the Honors Office in writing of their intention to withdraw. Honors students grade point averages and general performance are reviewed each academic year. Any student who fails to maintain the required cumulative grade point average or fails to take the required number of Honors credits will be excused from the program. Students may re-enter the program when their grade point average reaches 3.500; however, students must inform the Honors Office of the improved average and of their interest in re-entering the program.
DEPARTMENTAL HONORS PROGRAM

Among the departments offering approved programs for honors study at the junior-senior level for both majors and elective students are American studies, art and art history, biochemistry and molecular biology, biology, business administration, chemistry, computer science, engineering, English, finance, French, German, history, international finance and marketing, international studies, Judaic Studies, marine science, mathematics, meteorology, microbiology and immunology, philosophy, political science, psychology, religious studies, sociology, Spanish, and women’s and gender studies. Admission into the program is by invitation, but any student who believes himself or herself qualified may apply to the Chairman or the Departmental Honors Advisor of the major department, preferably during the sophomore or early junior year. Upon successful completion of the required program and with approval by the faculty of the department, the notation Departmental Honors in ... is included in the candidate’s diploma and transcript.

Departmental Honors Programs are designed primarily to provide an opportunity for the superior student to intensify and deepen his or her knowledge of the major, to permit closer associations with professors in the student’s area of concentration, and to prepare the student for research, thesis preparation, and other work at the graduate level in the major areas.

Minimal requirements for graduation with Departmental Honors are:
1. an over-all average of at least 3.300;
2. six credit hours or more in independent study, senior thesis, or designated advanced or special honors courses specified by the department, with grades of at least B;
3. an average in the major of at least 3.500.

Some departments specify additional requirements; the prospective Departmental Honors student should confer with the Honors Advisor within the department about specific requirements.

The College of Engineering offers a professionally oriented honors program which is described in their respective listing elsewhere in the Bulletin.

FOOTE FELLOWS PROGRAM

The Foote Fellows program, established in honor of former University of Miami President, Edward T. Foote II, each year gives a highly selected group of incoming first-year undergraduate students an opportunity to explore a wide range of academic pursuits and interests across the curriculum. Foote Fellows, who are required to fulfill certain areas of study determined by their individual school or college, are exempted from completing University general education requirements. They also receive special academic advising and mentoring as well as the opportunity to participate in cultural, social, and educational events.

HONORS PROGRAM IN BIOCHEMISTRY AND MOLECULAR BIOLOGY (HPBMB)

The Honors Program in Biochemistry & Molecular Biology (HPBMB) is offered to mature high school seniors with strong academic ability and achievement who seek careers in biological or biomedical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Philosophy Degree (PhD) in approximately six years.
To begin, students are admitted simultaneously into (i) the Honors Program and (ii) a special Privileged Studies Program in the College of Arts and Sciences. Privileged Studies provides flexibility in designing a course of study without the limitations of the conventional course distribution requirements. Furthermore, students are assured of a place in the graduate program of the Biochemistry & Molecular Biology Department after 2.5 or 3 calendar years of undergraduate work, provided that (i) a 3.5 GPA both overall and in the sciences is maintained and (ii) at least 1200 is scored on the graduate records examination (GRE). Undergraduates will conduct intensive laboratory work in the areas of biochemistry, molecular biology, and/or nutritional biochemistry starting in their very first year of the program. By spring of their junior year, students will prepare an undergraduate thesis as preparation for their entry into graduate school. At that time they will start taking graduate courses and continue to do research with a graduate faculty member.

Applicants must have a combined SAT1 score of 1400 (combined Math and Critical Reading scores) or an ACT score of 32 and an unweighted GPA of 3.75. An SAT2 score of at least 600 in Math, and one science (Biology, Chemistry or Physics) is required. Eight semesters of English and mathematics and two semesters each of biology and chemistry must be completed by the time they graduate from high school. All components of the Common Application for undergraduate admission must be completed by November 1 of the senior year. In addition, a supplemental application form for the Honors Program in Biochemistry & Molecular Biology (HPBMB) must be completed at this time, including the personal statement. Finally, letters of recommendation in support of the application must be received from (i) three teachers and (ii) a counselor.

For further information and application forms, please go to the following web address: www.miami.edu/dualdegree.

HONORS PROGRAM IN EXERCISE PHYSIOLOGY (HPEP)

The Kinesiology and Sports Sciences Department offers an accelerated Masters degree program for students who have completed their 4-year undergraduate program in Exercise Physiology. It allows students to complete their Masters degree in Exercise Physiology within one year of their BS degree obtained in that major.

The additional year of study will enable students to complete all requirements leading to a Master of Science degree in Exercise Physiology in the School of Education, (M.S. Ed.), in 5 years. To be considered, applicants must be in the top 10% of their high school graduating class. Students must have a minimum SAT score of 1300 or an ACT score of 30 and an Unweighted GPA of 3.75. The HPEP application form and supporting materials must be submitted no later than November 1st of the applicant’s senior year. A review of completed applications will begin by the end of November.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree.

HONORS PROGRAM IN LATIN AMERICAN STUDIES (HPLA)

The Honors Program in Latin American Studies (HPLA) is a dual degree program that allows students to receive a Bachelor of Arts and Master of Arts in five years following a rigorous, efficient, accelerated curriculum. This highly selective group of students will enjoy close faculty mentoring and the opportunity to engage in specialized research projects with faculty. Students will receive first-hand experience in their regions of focus by studying abroad. Most study abroad opportunities are for duration of six months. Applicants must be high school seniors in the top 10% of their class and must have a minimum SAT I score of
1360 or (ACT 31). In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Honors Program in Latin American Studies. The HPLA application form and supporting materials must be submitted no later than November 1st of the applicant’s senior year. A review of completed applications will begin by the end of November.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree.

**HONORS PROGRAM IN MARINE GEOLOGY (HPMG)**

The Honors Program in Marine Geology (HPMG) allows exceptional students to pursue an accelerated program in the undergraduate Geological Sciences and graduate Marine Geology and Geophysics programs. The degree consists of an undergraduate Bachelor of Sciences degree in Geological Sciences from the College of Arts and Sciences, combined with a graduate Master of Science degree from the Division of Marine Geology and Geophysics at the University of Miami Rosenstiel School of Marine and Atmospheric Science. Applicants must be high school seniors in the top 10% of their class and must have a minimum SAT I score of 1360 or (ACT 31). In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Honors Program in Marine Geology. The HPMG application form and supporting materials must be submitted no later than November 1st of the applicant’s senior year. A review of completed applications will begin by the end of November.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree.

**HONORS PROGRAM IN MEDICINE (HPME)**

The Honors Program in Medicine (HPME) is offered to mature high school seniors with strong academic ability and achievement who seek careers in medicine or medical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Medicine Degree (MD) in 7 or 8 years.

Students undergo a highly selective screening process and are admitted simultaneously to the College of Arts and Sciences to the School of Medicine. Accepted students are assured of a place in medical school after 3 or 4 calendar years of undergraduate work.

Applicants to the Honors Program in Medicine must be US citizens or permanent residents of the United States with an alien registration receipt card in their possession at the time of application. Residents of any state may apply. Only students who are in their last year of high school are considered and students who have graduated from high school are ineligible to apply.

To be considered students must:

- have a combined SAT1 score of 1400 (combined Math and Critical Reading scores) or an ACT score of 32 and an unweighted GPA of 3.75
- meet the SAT II score requirement of at least 600 in Math, and one science (Biology, Chemistry or Physics)
- have completed eight semesters of English and mathematics and two semesters each of biology and chemistry by the time they graduate from high school.
- complete all components of your Common Application for undergraduate admission by November 1 of your senior year.
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- complete a supplemental application form for the Honors Program in Medicine

For further information and application forms please go to the following web address: www.miami.edu/dualdegree.

HONORS PROGRAM IN LAW (HPLW)

The University of Miami offers the Honors Program in Law (HPLW) which allows excellent students with high academic ability to gain admission to both undergraduate study and to graduate study in the law school. Such an achievement eliminates the pressure of applying to law school and gives qualified students the chance to complete both Bachelor’s and Jurist Doctorate degree in 6 years. Applicants who wish to be considered for admission must be high school seniors in the top 5% of their class, have a minimum SAT I score of 1400 or (ACT 32) and an unweighted GPA of 3.750. In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Honors Program in Law. The HPLW application form and supporting materials must be submitted no later than November 1st of the applicant’s senior year. A review of completed applications will begin by the end of November.

For further information and application forms please go to the following web address. www.miami.edu/dualdegree.

COURSES OFFERED IN HONORS - Dept. Code:  HON

A list of these courses varies from semester to semester; an accurate list of offerings for a particular semester may be obtained from the Honors Program website (www.miami.edu/honorsprogram) or CaneLink.

HONOR SOCIETIES

The following honor societies have chapters at the University of Miami:

Alpha Epsilon Delta (Pre-Med)
Alpha Epsilon Rho (Electronic Media)
Alpha Eta Mu Beta (Biomedical Engineering)
Alpha Kappa Delta (Sociology)
Alpha Lambda Delta (Freshmen General Scholarship)
Alpha Phi Sigma (Criminology)
Alpha Pi Mu (Industrial Engineering)
Alpha Psi Sigma (Criminology)
Alpha Rho Chi (Architecture)
Beta Alpha Psi (Accounting)
Beta Beta Beta (Biology)
Beta Gamma Sigma (Business)
Chi Epsilon (Civil, Architectural and Environmental Engineering)
Eta Kappa Nu (Electrical and Computer Engineering)
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Golden Key National Honor Society (General Scholarship)
Honors Students’ Association (General Scholarship)
Mortar Board (General Scholarship)
Omicron Delta Kappa (General Scholarship)
Phi Alpha Theta (History)
Phi Beta Kappa (General Scholarship)
Phi Kappa Phi (General Scholarship)
Phi Lambda Pi (General Scholarship)
Phi Sigma Tau (Philosophy)
Pi Delta Phi (French)
Pi Kappa Lambda (Music and Music Education)
Pi Sigma Alpha (Political Science)
Pi Tau Sigma (Mechanical and Aerospace Engineering)
Psi Chi (Psychology)
Rho Rho Rho (Marine Science)
Sigma Delta Pi (Spanish)
Sigma Gamma Epsilon (Geological Sciences)
Sigma Tau Delta (International English)
Sigma Theta Tau (Nursing)
Tau Beta Pi (Engineering)
Tau Sigma Delta (Architecture)
Theta Alpha Kappa (Religious Studies)

UMX: University of Miami’s Freshman Experience – DEPT CODE: UMX 100

The University of Miami Freshman Experience (UMX 100) is a graded, comprehensive virtual self-paced course specifically designed to assist first year students, transfer students included, in making a successful transition to the University of Miami. The course creates opportunities for students to learn skills integral to developing connections with students, staff, administrators, and faculty. UMX provides an opportunity for students to utilize UM resources necessary for success in college and beyond. Specifically, students will be exposed to campus leadership opportunities, academic and career planning, university traditions, study abroad opportunities, personal wellness programs, as well as advising and registration through videos, power points, blogs, threaded discussions, and more. These resources and opportunities are only a click away for the students enrolled.

For any questions pertaining to UMX 100,
Please contact the Camner Academic Resource Center at 305-284-2800.
Freshman Seminars

FFA 190-199. Freshman Seminars in Arts
FLT 190-199. Freshman Seminars in Literature
FNS 190-199. Freshman Seminars in Natural Science
FPR 190-199. Freshman Seminars in Philosophy/Religion
FSS 190-199. Freshman Seminars in the Social Sciences

Conceived as alternatives to standard freshman survey courses, Freshman Seminars offer a limited number of students a small class focused on a specific topic. The seminars are interdisciplinary in nature and/or experimental in subject and design. Seminars are taught by distinguished faculty from a wide variety of academic disciplines. No student may take more than one. Freshman Seminars are 3 credit courses that may be used to fulfill general education requirements in natural sciences, social sciences, or humanities (literature, fine arts, philosophy, and religion)
RESEARCH AND SPONSORED PROGRAMS

OAK RIDGE ASSOCIATED UNIVERSITIES
Since 1956, students and faculty of the University of Miami have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 91 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at http://www.orau.gov/orise/educ.htm, or by calling either of the contacts below.

ORAU’s Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU’s members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs as well as services to chief research officers.

For more information about ORAU and its programs, contact Dr. Richard Bookman, ORAU Councilor for University of Miami at (305) 243-4487; or contact Ms. Monnie E. Champion, ORAU Corporate Secretary, at 865-576-3306; or visit the ORAU Home Page (http://www.orau.org).

PATENT AND COPYRIGHT REGULATIONS
Discoveries or inventions, whether or not subject to patent or copyright, developed by students as a result of research done or in connection with theses, dissertations or problems pertaining thereto, or as a result of a program of research financed wholly or in part by University funds, or by funds under the control of the University shall be the exclusive property of the University except as may be otherwise required by the terms of research grants or contracts. The University Patent and Copyright policy provides for the inventor(s) to share in any royalties received for any patented or patentable discovery or invention in which the University has a property interest. Any such discovery or invention shall be so disclosed promptly, but in any event within a period of not more than two months, to the Office of Technology Transfer. For specific information regarding the Policy, contact the Office of Technology Transfer, Medical Campus, 243-5689.

USE OF HUMAN SUBJECTS IN RESEARCH
All research that involves the use of human subjects must be reviewed and approved by one of the University Institutional Review Boards for the Protection of Human Subjects in Research. This policy applies to both funded and non-funded faculty and student research. Any individual student research project, including thesis or dissertation, that involves human subjects must be approved by one of the committees prior to initiation of the research. If there are any questions on whether or not a project constitutes human subjects research, please refer to the policies and procedures on human subject research which can be found at www.hsro.miami.edu. For additional information, contact the Human Subjects Research Office at (305) 243-3195.
VETERANS

VETERANS BENEFITS

The University of Miami maintains a Veterans Affairs (V.A.) Office in the Office of the Registrar, 121 University Center, to assist veterans and dependents of veterans who are entitled to V.A. educational benefits under Chapter 30, 31, 32, 33, or Chapter 35 of Title 38, U.S. Code, and Chapter 1606 or Chapter 1607, Title 10, USC. Anyone needing information on Veterans Benefits is advised to contact the Office of the Registrar or visit the Registrar’s website at www.miami.edu/registrar and select “Veteran Information”.

V.A. students with previous postsecondary educational training/experience must request official transcript(s) be sent to the school. If the transcript has not been received prior to the end of the student’s initial semester, or as specified in the guidelines under the program he/she is enrolled in, the Veteran Affairs Office will not re-certify the student for V.A. educational benefits. The Veteran Affairs Office may re-certify the student after the transcript has been received.

The V.A. student’s previous training and/or experience will be evaluated by the school. Should credit(s) be accepted and/or granted, the V.A. student’s tuition and training time will be reduced proportionally. The V.A. and the student will receive a written notice of the credit(s) allowed.

STANDARDS OF PROGRESS POLICY FOR VETERANS

Satisfactory progress is indicated by a Satisfactory Progress Average (SPA), which is a variation of the Quality Point Average (QPA). The SPA is computed by the following formula:

- A=4
- B=3
- C=2
- D=1
- E=0
- IE=0
- F=0
- IF=0
- NG=0

Note that “E’s”, “F’s”, “IE’s” and “IF’s” are included in the SPA. A grade of CR will be counted as CR=2.

The SPA is determined by dividing the total quality points earned by the credits attempted.

When a course is dropped with a grade of W, the V.A. requires a student to repay any benefits received for that course unless the V.A. determines there are mitigating circumstances involved.

Benefits will not be paid for courses in which a student receives an NG or NC.

- An SPA of 2.0 or greater for undergraduate students, or 3.0 or greater for graduate students, is satisfactory progress.
Less than 2.0 for undergraduate, and less than 3.0 for graduate students, is not satisfactory.

Law and M.D. students will be considered to be making satisfactory progress as long as they meet the academic standards set by their schools for retention in their degree programs.

The SPA is non-cumulative. It is computed each term on a one-term basis.

Any term a student’s SPA is less than 2.0 for undergraduate or 3.0 for graduate, he/she will be notified that he/she is not making satisfactory progress. He/she will be certified, in a probationary status, for only one additional semester.

If, at the end of this additional semester, his/her SPA for that semester is still below the satisfactory level, the V.A. will be notified of the unsatisfactory progress and his/her educational benefits will be terminated.

A student whose V.A. educational benefits have been terminated for unsatisfactory progress may petition the Veteran Affairs Office, 121 University Center, to be re-certified after one semester has elapsed.

The Veteran Affairs Office may re-certify the student for V.A. educational benefits only if there is a reasonable likelihood that the student will be able to attain and maintain satisfactory progress for the remainder of the program.

FOR V.A. PAYMENT OF BENEFITS PURPOSES

An “I” (Incomplete) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of one calendar year unless permission for a delay is granted by the Academic Dean.

An “NG” (no grade) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of one regular semester unless permission for a delay is granted by the Academic Dean.

If permission is obtained, a memo signed by the Academic Dean must be given to the Veteran Affairs Office during the semester in which the “I” or “NG” was to be removed. This memo should also state period of time for which delay is approved.

If a memo giving permission for a delay in the “I” or “NG” removal is not received by the end of the semester in which the “I” or “NG” was to be removed, the V.A. will be notified of the incomplete grade resulting in loss of educational benefits for that course.

Please consult with our office regarding regulations for “IP’s” received in Thesis, Research, or Dissertation.

There is an official period after each registration in which a student may drop a course without a “W” appearing on his/her grade report. This period is not to be confused with the last date to drop a course with a “W” grade. Please check the academic calendar on the Registrar’s website for dates: www.miami.edu/registrar.
CLASS ATTENDANCE AND ABSENCES

- Regular and punctual class attendance is vital for all students.
- It is the student’s responsibility to know the instructor’s policies regarding examinations, penalties for absences, and late or missed work.
- A copy of the student’s transcript will be placed in the student’s permanent file maintained by the Veteran Affairs Office.

Because of the far-reaching effects of these revisions in the V.A. educational benefits program, it is suggested that you exercise care and judgment in your program planning and in the selection of your courses. V.A. educational benefits will only pay for courses that are toward the program in which you are enrolled.

Veterans and children of deceased or totally disabled veterans receive training allowance in proportion to the schedule carried. The full load required to receive full training allowance is 12 in undergraduate school (nine in Graduate School).
INTRODUCTION

The School of Architecture offers a five-year, accredited professional program leading to the Bachelor of Architecture degree. The Bachelor of Architecture fulfills the educational requirements for professional registration. It offers specialized architectural study through upper-level studios and architecture electives, as well as opportunities for the study of liberal arts through the elective sequence.

MISSION

- Prepare students for professional leadership and lifelong learning in architecture, urbanism and related fields.
- Preserve and develop knowledge for the profession through research and practice.
- Share knowledge locally and internationally through community service.
- Promote building and community design goals of environmental responsibility, social equity and economic sustainability.

ACCREDITATION

The school is a member of the Association of Collegiate Schools of Architecture and the Association of Collegiate Schools of Planning, and is fully accredited by the National Architectural Accreditation Board, who asks each school to include the following paragraph on professional degrees in all literature:

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards. Master’s degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The School of Architecture’s location in Coral Gables within the Miami metropolitan area provides an outstanding laboratory for research and advanced study; the challenges of conservation and development are intense in one of the nation’s fastest growing urban areas. These challenges result in an increasing demand for skilled professionals. Students have the opportunity to work with the faculty in the exploration of theoretical issues and in the resolution of practical problems. The School of Architecture values and sustains a
creative, open and supportive environment, emphasizing personalized instruction in small classes and studio courses.

RESOURCES

The school’s resources, including state-of-the-art computer and digital fabrication laboratories, are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. A distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

Other programs that offer academic opportunities for undergraduate architecture students include: the Historic Preservation Certificate, the Classical Architecture Certificate, the Master of Urban Design, the Master of Real Estate Development and Urbanism, the BSAE/MARCH and the BARCH/MBA.

ACADEMIC POLICIES

Admission

Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the School of Architecture is selective and highly competitive. Application to the Bachelor of Architecture program is requested by January 1st. Early application is encouraged.

Freshman: Admission decisions are based on the following factors: portfolio, secondary school record, SAT/ACT score, counselor’s evaluation and the student essay.

Transfer Students: The academic accomplishments of each transfer student will be evaluated on an individual basis. A 3.0 G.P.A. is required for transfer admission. A portfolio is required for advanced placement in the design sequence of the Bachelor of Architecture Program. Application deadline for the School of Architecture program is March 1st.

Transfer Students

All transfer students requesting advanced placement in design must provide a portfolio of previous academic design and graphic work and three academic recommendations. Students accepted into third year design will be required to complete a transitional design course (ARC 301) during the summer prior to enrollment. The courses MTH 130 and PHY 103, or their equivalent are to be completed before admission into ARC 305.

Student Responsibilities

Students in the School of Architecture are responsible for planning their own programs and for meeting degree requirements. It is the student’s responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study. Students are provided assistance by advisors and faculty members. Written requests for variation from program or school requirements are reviewed by a faculty committee.
Academic Progress and Probation

The School of Architecture will review each student’s record at the end of each semester. When a student’s semester or cumulative average is less than stated below, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with School of Architecture policies and procedures. Students on probation are not permitted to enroll in more than 13 semester hours, shall meet on a monthly basis with their academic advisor, and may have a STOP placed upon their future enrollment until grades for work-in-progress are reviewed. First semester freshmen who have a semester grade-point average below 2.0 shall be placed on probation.

<table>
<thead>
<tr>
<th>Credits earned</th>
<th>CGPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 33 credits</td>
<td>2.0</td>
</tr>
<tr>
<td>33-64 credits</td>
<td>2.1</td>
</tr>
<tr>
<td>65-96 credits</td>
<td>2.2</td>
</tr>
<tr>
<td>More than 96 credits</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Students must complete all Architecture Design studios with a grade of C- or higher. Students receiving two consecutive C- grades in architecture design studios will have to repeat the later course. Students receiving a grade of D+ or lower in an architecture design studio must repeat the studio and will be restricted to a 15 credit semester load. The student will meet with an academic advisor on a monthly basis and will be reviewed prior to continuation.

Academic Dismissal

A student in the School of Architecture whose CGPA or progress toward degree completion falls below the level of the minimum standards of the University of Miami may be dismissed. In the School of Architecture this includes a student who receives three grades of D+ or lower in design courses.

Class Attendance and Absences

Class attendance is mandatory for all architecture courses; three unexcused absences constitutes grounds for dismissal from the course and/or a failing grade. Students are required to be present for an entire design review, therefore, students arriving late or departing early from class will be considered absent. Excused absences require written notification and are granted by the instructor.

Failing Grades or Incompletes

A required architecture course in which a student receives a failing grade must be repeated during the first subsequent semester in which the course is offered. Incompletes can be given only for reasons of serious illness or exceptional hardship.

Student Work

The University may retain selected student work and may place it in the architecture archives for exhibition, publication, or other use as the University deems appropriate. Each student in architecture is encouraged to maintain a design portfolio of every project undertaken throughout the five-year program.
Permission to Take Courses at Another University

A form is available from the Office of Academic Services and should be completed and approved PRIOR to off-campus enrollment. Students are encouraged to provide complete documentation for each course request form. Each student requesting transfer credit must supply the University of Miami registrar with certified transcripts. Additionally, each student should review transfer evaluations to be certain that all courses are correctly evaluated for credit. The proper transmission and transfer of credits is the responsibility of the individual student. The last 45 credits towards the degree must be completed at the University of Miami.

Changes to Academic Requirements

The School reserves the right to change academic requirements.

Computer Requirement

Undergraduate and graduate students entering the program are required to purchase their own computers for use in the design studio. The School of Architecture computing resources are accessible via a wireless network with an approved device and subject to School and University policy. System requirements are published on the School of Architecture web site.

REQUIREMENTS FOR GRADUATION

Architecture students must complete a cognate in People and Society and a cognate in either Arts & Humanities or Natural Science.

DEGREE PROGRAMS - UNDERGRADUATE

BACHELOR OF ARCHITECTURE CURRICULUM

Specific procedures and policies are detailed in the student handbook available from the Office of Academic Services.

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>ARC 101 Architecture Design I</td>
<td>6</td>
</tr>
<tr>
<td>ARC 111 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ARC 121 Architecture and Culture</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Introductory Calculus</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>18</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
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<tbody>
<tr>
<td>First Semester</td>
</tr>
<tr>
<td>ARC 203 Architecture Design III</td>
</tr>
<tr>
<td>ARC 223 Architecture and the Environment</td>
</tr>
<tr>
<td>ARC 230 Building Technology I</td>
</tr>
<tr>
<td>ARC 267 History of Architecture I: Ancient, Medieval and Renaissance</td>
</tr>
<tr>
<td>ARC 213 Drawing III</td>
</tr>
<tr>
<td>Total Credits</td>
</tr>
</tbody>
</table>
THIRD YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 305 Architecture Design V</td>
<td>ARC 306 Architecture Design VI</td>
</tr>
<tr>
<td>ARC 362 Building Technology I</td>
<td>ARC 363 Building Technology II</td>
</tr>
<tr>
<td>CAE 213 Building Structures I</td>
<td>CAE 313 Building Structures II</td>
</tr>
<tr>
<td>Cognate A</td>
<td>Cognate B</td>
</tr>
<tr>
<td>Cognate B</td>
<td>Architecture Elective</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>Total Credits</strong></td>
</tr>
<tr>
<td>18</td>
<td>18</td>
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</tbody>
</table>

FOURTH AND FIFTH YEARS

| ARC 407 Architecture Design VII             | ARC 408 Architecture Design VIII |
| ARC 452 Practice of Architecture II         | ARC Professional Practice Elective |
| ARC 509 Architecture Design IX              | ARC History Elective            |
| ARC 510 Architecture Design X               | ARC Elective                   |
| Cognate B                                   | Cognate B                      |
| Non-Architecture Electives                  | Architecture Electives         |
| **Total Credits**                           | **Total Credits**              |
| 63                                          | 63                               |

TOTAL CREDITS FOR DEGREE 171

Curriculum Notes

The School reserves the right to retain all student projects done in for academic credit. MTH 130 AND ENG 105 are entry-level courses. Courses taken to achieve entry-level status cannot be considered towards the total credits required for the B.Arch. Degree.

Electives

The program requires four types of electives:

Architecture electives (7 courses)
Investigations in areas of architectural interest beyond the core requirements
Professional practice elective (1 course)
Focused examination of a topic related to practice
Non-Architecture electives (3 courses)
Explorations of general University offerings
Minor (4-5 courses) or 2 cognates (6 courses)
Concentrated study in an area outside of architecture

A minor or its equivalent is required for all students who began the program prior to the Fall of 2013. All others shall complete the cognate requirements. Areas are selected in consultation with faculty advisors.

DUAL DEGREE PROGRAMS

A six year dual degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Science in Architecture is also available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion of this program, graduates are eligible for professional registration as both an engineer and an architect. The course requirements for the BSAE/MArch program are as follows:
**Bachelor of Science in Architectural Engineering and Master of Architecture**

**key:** BSAE Curriculum, M. Arch Curriculum, & Shared BSAE/M. Arch Curriculum

<table>
<thead>
<tr>
<th>Year</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td>CAE 111 Introduction to Engineering I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENG 105 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 151 Calculus I for Engineers</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>PHY 205 University Physics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 121 Architecture &amp; Culture</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total 17</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAE 112 Introduction to Engineering II</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ENG 107 Writing About Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 162 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHY 206 University Physics II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 208 University Physics II Lab</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>People and Society Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total 16</strong></td>
<td></td>
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<tr>
<td><strong>Year 2</strong></td>
<td>ARC 567 History of Architecture I (ARC 294)</td>
<td>3</td>
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<tr>
<td></td>
<td>CAE 210 Mechanics of Solids I</td>
<td>3</td>
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<tr>
<td></td>
<td>ARC 530 Building Tech I: Mat. &amp; Methods (ARC 230)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 207 University Physics III</td>
<td>3</td>
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<tr>
<td></td>
<td>PHY 209 University Physics II Lab</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MTH 211 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total 16</strong></td>
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<tr>
<td></td>
<td>CAE 211 Mechanics of Solids II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 212 Structural Laboratory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CHM 151 Chemistry for Engineers I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CHM 153 Chemistry Lab for Engineers I</td>
<td>1</td>
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<tr>
<td></td>
<td>IEN 311 Applied Probability &amp; Statistics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 303 Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total 17</strong></td>
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<tr>
<td><strong>Year 3</strong></td>
<td>CAE 310 Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 330 Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Technical Elective*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 511 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 501 Architecture Design I (ARC 292)</td>
<td>6</td>
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<tr>
<td></td>
<td><strong>Total 18</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAE 321 Steel Structures (ARC 532)</td>
<td>3</td>
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<tr>
<td></td>
<td>CAE 380 Electrical &amp; Illumination Systems (ARC 563)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 381 Mechanical Systems for Buildings (ARC 562)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>513 Computing I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 502 Architecture Design II (ARC 293)</td>
<td>6</td>
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<tr>
<td></td>
<td><strong>Total 18</strong></td>
<td></td>
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<tr>
<td><strong>Summer (REQUIRED 10 week semester)</strong></td>
<td>ARC 503 Architecture Design III</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Total 6</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Year 4</strong></td>
<td>CAE 480 Design of Environ.I Systems for Buildings</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 470 Foundation Eng. &amp; Earth Retaining Sys</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 320 Concrete Structures (ARC 533)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 504 Architecture Design IV (Comprehensive)</td>
<td>6</td>
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<tr>
<td></td>
<td>People and Society Elective</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Total 18</strong></td>
<td></td>
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<tr>
<td></td>
<td>CAE 370 Geotechnical Engineering I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 371 Geotechnical Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CAE 402 Professional Engineering Practice</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CAE 460 Construction Management (Arch Elective)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 531 Building Tech II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 568 Architecture History II</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Total 16</strong></td>
<td></td>
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<tr>
<td><strong>Year 5</strong></td>
<td>CAE 403 Senior Design Project I</td>
<td>1</td>
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<td></td>
<td>History of Architect (ARC 476)</td>
<td>3</td>
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<tr>
<td></td>
<td>ARC 500 Theory of Architecture and the Environment</td>
<td>3</td>
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<tr>
<td></td>
<td>ARC 507 Architecture Design</td>
<td>6</td>
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<tr>
<td></td>
<td><strong>Total 13</strong></td>
<td></td>
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<tr>
<td></td>
<td>CAE 404 Senior Design Project II</td>
<td>2</td>
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<td></td>
<td>ARC 594 GIS in Urban Design</td>
<td>3</td>
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<tr>
<td></td>
<td>Architecture Elective</td>
<td>3</td>
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<td></td>
<td>ARC 609 Architecture Design</td>
<td>6</td>
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<tr>
<td></td>
<td><strong>Total 14</strong></td>
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<tr>
<td><strong>Year 6</strong></td>
<td>ARC 517 Construction Documents</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 652 Management of Professional Practice</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 699 Architectural Thesis Preparation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Architecture Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARC 610 Architecture Design Degree Project</td>
<td>6</td>
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<tr>
<td></td>
<td><strong>Total 12</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Total 15</strong></td>
<td></td>
</tr>
</tbody>
</table>

*To be selected from approved lists of People and Society/Humanities and Arts, Technical and Design Electives*
MINOR IN ARCHITECTURE

A minor in architecture is available to non-architecture majors as an option in the undergraduate architecture program. The purpose of the minor is to provide a general understanding and appreciation of the discipline of architecture. The minor does not satisfy professional requirements in architecture but does offer an introductory basis for further study at the undergraduate or graduate level. The program requires 12 credit hours in architecture courses.

Four architecture electives from the following list of courses: ARC 121, 122, 141, 191, 223, 267, 268, 294, 323, 324, 371, 372, 373, 374, 390, 475, 476, 481, 521, 544, 551, 554, 581, 582, 583, 584, 585, 586, 590 may be taken to complete the requirements for the minor.

HONORS

**Henry Adams Medal**
Awarded in conjunction with the American Institute of Architects to the highest-ranking graduating student for scholarship and excellence in a professional architecture program.

**Henry Adams Certificate**
Awarded in conjunction with the American Institute of Architects to the second highest-ranking graduating student for scholarship and excellence in a professional architecture program.

Other honors, distinctions, and awards are presented annually for excellent student performance.

[Architecture Course Listing]
INTRODUCTION

The College of Arts and Sciences at the University of Miami is a community of scholars and students that encourages the quest for a deeper understanding of the human experience and fosters a personal commitment to lifelong learning, intellectual growth, and the enduring values of the liberal arts.

The College is dedicated to helping students develop analytical and communication skills, creative abilities, and a sense of civic responsibility needed in an increasingly complex society. It strives to provide them with a rigorous grounding in their chosen field, an awareness of the interconnectedness of disciplines, and an exposure to the discovery of new knowledge.

The College seeks to create an intellectual environment that enhances individual growth and supports scholarly activities and creative endeavors that augment human knowledge and understanding.

DEGREE PROGRAMS

The College of Arts and Sciences offers courses leading to the degrees of:

Bachelor of Arts
Bachelor of Science
Bachelor of Fine Arts
Bachelor of Liberal Arts

Graduates with one of these degrees will have had a sound liberal arts introduction to the major fields of human knowledge. In addition to this background, each bachelor’s candidate has the opportunity to select an area of academic or of occupational interest. Professional or pre-professional curricula leading to certification in teaching, or to dentistry, medicine, law, etc., can be built into the degree program.

ACADEMIC POLICIES

The College of Arts and Sciences follows the general university academic policies outlined in the General Academic Information section of this Bulletin.

REQUIREMENTS FOR GRADUATION

BACHELOR OF ARTS AND BACHELOR OF SCIENCE DEGREES

Candidates for B.A. and B.S. degrees in the College of Arts and Sciences must complete the credit hours of work and achieve the quality point average specified for students in the University at large. These requirements are indicated in the Academic Procedures and Information section of this Bulletin. Candidates must also complete the General Education
requirements of the University, i.e., the Proficiencies: English Composition, Writing Across the Curriculum, and Mathematics; and the Areas of Knowledge requirement: completion of a cognate in each of the three areas: Arts & Humanities, People & Society, and Science, Technology, Engineering & Mathematics. The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge.

I. Additional Proficiencies and Areas of Knowledge Requirements

In addition to the university’s general education requirements, the college has the following requirements and provisos:

Second Language Proficiency (B.A. and B.S degrees)
B.A. and B.S. degree candidates must earn at least 3 credits of a language other than English at the 200 level or higher. This requirement can be fulfilled through courses offered in the departments of Modern Languages and Literatures (Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Portuguese, and Spanish, except for courses numbered 310-319), Classics (Latin and Greek), and Teaching and Learning in the School of Education (American Sign Language). Special 100- and 200-level Spanish courses are required of heritage Spanish speakers who choose to fulfill the language requirement by taking Spanish. Courses taken in order to meet this requirement, including necessary prerequisite courses to the 200-level course, cannot be used in cognates taken to fulfill the Areas of Knowledge requirement.

B.A. and B.F.A. degree candidates must earn credit in a MTH course numbered 108 or higher. B.S. degree candidates must complete a calculus sequence: MTH 161-162, MTH 140-141-162, or MTH 171-172, and either a) a computing course approved by the major department; or b) a statistics course approved by the major department.

Natural Science Area of Knowledge (B.A. and B.S degrees)
B.A. degree candidates must earn 3 credits in Natural Science: Anthropology (APY203), Biology, Chemistry, Ecosystem Science and Policy (ECS 111, ECS 112, ECS 202), Geography (GEG120), Geological Sciences, Marine Sciences (except MSC 313 and 314), Physical Sciences, and Physics. These Natural Science credits may double count with any other requirement. B.S. degree candidates must earn 3 credits in Natural Science, in one of the following departments: Biology, Chemistry, Geological Sciences or Physics. These credits must be earned in courses that count toward a major in that department. These Natural Science credits may double count with any other requirement.

Separation of Proficiencies and Areas of Knowledge (All degrees)
Courses taken to fulfill the English Composition, Mathematics, and Second Language proficiency requirements cannot be used in cognates taken to fulfill the Areas of Knowledge requirement.
II. Major and Minor Fields  (B.A. and B.S degrees)

B.A. and B.S. degree candidates must choose a major offered in the college by one of the disciplines with an undergraduate academic program in the college, and at least one other minor or major from any of the disciplines in the university. B.S. degree candidates must choose a major from one the STEM fields: Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Ecosystem Science and Policy, Geological Sciences, Mathematics, Microbiology and Immunology, Neuroscience, Physics, Psychology. B.A. degree candidates must choose at least one major or minor from a field other than the STEM fields: Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Geological Sciences, Mathematics, Microbiology and Immunology, Neuroscience, Physics, and Engineering. To find the requirements for majors and minors, consult this bulletin under the discipline concerned, and confer with the designated departmental representatives. Any student who does not make satisfactory progress towards a major may be required to change or relinquish candidacy for the degree.

III. Additional Bachelor of Fine Arts Requirements

B.F.A. degree candidates must satisfy the requirements of a major as determined by the Department of Art and Art History or the Department of Theatre Arts. B.F.A. studio majors must minor in Art History. Students must maintain at least a GPA of 3.0 in their major, and an overall GPA of 2.0 or above as specified in departmental and program sections of this bulletin.

IV. Additional Bachelor of Liberal Arts Requirements

B.L.A. degree candidates must complete 120 credits with an overall GPA of 2.0 or above. At least 60 of the 120 credits must be in 300, 400, or 500-level courses. Of these 60 credits, 30 credits must be completed in the College of Arts and Sciences. No more than 40 credits in 300-level or higher courses may be earned in any one department, and no more than 52 total credits may be earned in any one department. Up to 30 of the 120 credits may be courses from other schools and colleges of the university except for those courses expressly excluded from recognition by the college. Students may, but are not required to, elect a major in a department. If a student fulfills the departmental requirements for the major, it will be recorded on the official transcript. No minor may be elected.

V. Other Requirements.

General Electives.  Beyond the general education and major/minor courses, all students must complete sufficient general electives to reach a total of 120 credits. General electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses.

Credit Only.  Only general electives may be taken under this option. Courses that are used to satisfy the major, the minor, the distribution requirements of the College and the general education requirements of the University may not be taken for credit only.

Exemption.  Exemption from a course or courses refers specifically to the following: a) credit by examination through the Advanced Placement (AP) or International Baccalaureate (IB) programs; b) advanced placement by proficiency examinations or test scores, with no credit earned; c) advanced standing and/or placement, with credit earned.

Transfer Credits.  Credits transferred from other institutions may not count towards the completion of a major or minor without the written approval of the department or program.
PRELAW PREPARATION

Although no specific curriculum is required in preparation for Law School, the Pre-Law Committee of the American Bar Association strongly recommends that students considering a career in Law should have a well-balanced education. This education should include courses requiring intensive writing, logical reasoning and critical thinking and reading skills.

Prelaw Advising provides a variety of services to all students interested in attending Law School. For more information, please contact the Office of Student Academic Services in Ashe 200. These services include:

1. Pre-Law Advising: confidential advising in preparation for law school (i.e. application process, general information, discussion of your concerns).
3. Pre-Law Newsletter: information about programs and events.
4. LSAT and LSDAS registration booklets (for juniors and seniors).
5. Campus-wide programs for pre-law students such as Law Day.
6. Programs and seminars in coordination with other University of Miami departments such as: School of Law Career Planning Center, School of Law Center for Ethics and Public Service, Toppel Career Planning and Placement, the Counseling Center, and the Reading and Study Skills Center.

In order to take advantage of the services listed above a student should complete a Pre-Law registration card at the beginning of the academic year.

OTHER

The Max and Peggy Kriloff Fund is a fund that provides travel support for students earning degrees from the College of Arts and Sciences. The fund provides support for students to present papers, or posters at professional conferences worldwide. Students will need to fill out an application form available in Ungar 333 and submit it, along with the necessary supporting documentation to the Office of Graduate and Administrative Services in the Ungar Building.
UNDERGRADUATE ACADEMIC PROGRAMS

AEROSPACE STUDIES - Dept. Code: AIS
www.miami.edu/aerospace-studies

INTRODUCTION

The Department of Aerospace Studies represents the Air Force Reserve Officer Training Corps (AFROTC), at the University of Miami. Providing academic instruction and training experiences leading to commissioned service in the United States Air Force.

AFROTC is an educational program designed to provide college students the opportunity to become Air Force officers while completing a Bachelor’s degree. The AFROTC program provides superior hands-on leadership training and is designed to prepare cadets to assume positions of increasing responsibility as officers in service to their country.

Normally, the program is four years, but in some instances students can complete requirements in three years. The first two years of the program, the General Military Course (GMC), consist of a one hour class, three hours of leadership laboratory/practical military training, and two hours of organized physical conditioning each week. AFROTC cadets compete for entry into the last two years of the program, the Professional Officer Course (POC). Competition includes both quantitative and qualitative factors, such as grade-point average, unit commander’s evaluation, aptitude test scores and physical fitness test scores. If selected, cadets must complete a four-week summer Field Training Program at Maxwell Air Force Base in Montgomery, AL before entering the POC.

After earning their degree and successfully completing all Air Force ROTC requirements, cadets are commissioned as Air Force officers with a four-year active duty service commitment. Pilots, Combat Systems Officers and Air Battle Managers have longer service commitments upon completion of specialized training.

For more information, contact Detachment 155 Cadre at (305) 284-2870.

ENROLLMENT

There is no military obligation to enroll in AFROTC. To enroll students must meet the following criteria:

- Be a U.S. citizens or resident alien, or be able to become a U.S. citizen prior to attending Field Training the summer following sophomore year
- Be full-time college students, enrolled in 12 credits per semester
- Be able to participate in a demanding physical fitness program
- Be able to pass a Department of Defense Medical Examination
- Have solid moral character
- Maintain AFROTC minimum required grade point average
SCHOLARSHIPS

More than 70% of Air Force ROTC scholarships are awarded to undergraduate students in engineering or other scientific and technical disciplines. However, students in every degree program enjoy scholarship opportunities, as the Air Force seeks to engage students who excel both academically and militarily. Scholarships are awarded in increments of two, three, and four years. Air Force ROTC offers several types of scholarships. Type 1 covers full tuition and most required fees. Type 2 covers tuition and fees, but is capped at $18,000 annually. Type 7 scholarships are designated for in-state tuition-level institutions. All types of awards provide an allowance for books and a monthly non-taxable stipend. All scholarship cadets are required to meet academic, military, and physical fitness standards to earn and maintain scholarship benefits.

Additionally, University of Miami undergraduates enrolled in the Air Force ROTC program are assured annual 25% subsidy of the University’s tuition for up to four years. Students must maintain continuous enrollment in the AFROTC program and full time enrollment in one of the University’s undergraduate degree program. No application required. Awards are made automatically based on information provided by the University’s AFROTC detachment.

BENEFITS

All AFROTC cadets receive uniforms, books and equipment for ROTC classes at no cost. Upon being commissioned a Second Lieutenant in the Air Force, you will receive a starting salary and allowances worth more than $55,000 annually*. Free medical and dental care, 30 days paid annual vacation and educational benefits are also part of the compensation package.

*Based on 2011 Pay Chart and Miami FL Housing Allowance for an O-1*

EDUCATIONAL OBJECTIVES

AIS 101/102 Foundations of the United States Air Force (Lecture 1, Leadership Lab* 0)

Aerospace Studies 101/102 is a survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS 201/202 The Evolution of USAF Air and Space Power (Lecture 1, Leadership Lab* 0)

Aerospace Studies 201/202 is a survey course designed to examine general aspects of the employment of air and space power through a historical perspective. Historical examples assist in understanding the development of Air Force distinctive capabilities and missions. In addition, the students continue discussing the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders. Students also continue to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.
AIS 301/302 Air Force Leadership Studies (Lecture 3, Leadership Lab* 0)

Aerospace Studies 301/302 teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

AIS 401/402 National Security Affairs and Preparation for Active Duty (Lecture 3, Leadership Lab* 0)

Aerospace Studies 401/402 is a course designed to examine national security process, regional studies, advanced leadership ethics, and Air Force Doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism with a continuing emphasis on the refinement of communication skills. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

MINOR

MINOR IN AEROSPACE STUDIES

- A minor in Aerospace Studies consists of 16 credits.
- You must take all AIS courses listed under the Aerospace Course Listing
- A grade of C- or higher, with an overall GPA of 2.0, is required in each course taken for the minor.

Aerospace Course Listing
AFRICANA STUDIES - Dept. Code: AAS
www.as.miami.edu/africanastudies

INTRODUCTION

The Program in Africana Studies (AAS) provides opportunities for students to learn about the experiences of people of African descent in North and South America, the Caribbean and continental Africa. Courses are presently offered leading to a major or minor in Africana Studies. Students are encouraged to pursue these courses, even if they are not majors or minors, in order to achieve a balanced education in keeping with the stated goals of the University of Miami.

EDUCATIONAL OBJECTIVES

a) To help students research, acquire, and disseminate information about the historical and social experiences of Africans and people of African descent on all sides of the Atlantic basin, but with special emphasis on the United States.
b) To facilitate students’ understanding of the multi-cultural, multi-ethnic, globalized society of our time.
c) To help students think critically about the global black experience.
d) To prepare students for graduate work and professional careers.

DEGREE PROGRAMS

Bachelor of Arts

MAJOR

MAJOR IN AFRICANA STUDIES

- A major in Africana Studies consists of 30 credits.
- Twelve of the 30 credits must be completed at the 300 level or above.
- A grade of C- or better with an overall GPA of 2.0 is required in each course taken for the major.
- Africana majors must complete the following core courses: AAS 150, AAS 490, HIS 201, and HIS 209 or HIS 210.
- Africana majors must complete one course in Caribbean Studies (ENG 361, APY 385, GEG 212, HIS 318).
- The remaining courses must be selected from the list of acceptable courses approved by the program, in any school or college within the university.
MINOR

MINOR IN AFRICANA STUDIES

- A minor in Africana Studies consists of 15 credits.
- Africana minors must complete the following courses: AAS 150 and HIS 201 or HIS 209.
- The remaining courses must be selected from the list of acceptable courses approved by the program, in any school or college within the university.
- A grade of C- or higher with an overall GPA of 2.0, is required in each course taken for the minor.
- The remaining courses must be selected from the list of acceptable courses.
- A minimum of six credits must be numbered 300 or higher.

DEPARTMENTAL HONORS

Carter G. Woodson Award - Best all-round student who combines intellectual excellence and community service.

Africana Studies Course Listing
INTRODUCTION

The Program in American Studies at the University of Miami fosters the interdisciplinary study of American culture and society, and explores the place of the United States in an increasingly interconnected world. Our faculty come from a wide range of fields, including history, literature, political science, religion, art, philosophy, law, music, ethnic studies, anthropology, architecture, sociology, communications, and education. What unites them is the commitment to examining the U.S. from multiple perspectives, highlighting the diversity of people, cultures, and experiences that have shaped the past and present United States. The Program places analysis of globalization at its center, and encourages a hemispheric perspective that allows students and faculty to explore interests in the United States, the Caribbean, Latin America, the Pacific Rim, and other border crossings.

EDUCATIONAL OBJECTIVES

The undergraduate curriculum in American Studies encourages students to bridge the divide between disciplines by examining specific themes and topics in an engaging, dynamic, interdisciplinary manner. By exposing students to courses that place questions of cultural diversity, regional difference, ethnic and racial identity, gender and sexuality, class dynamics, and popular culture at the forefront of intellectual investigation, the Program in American Studies enables them to situate their own experiences in a wider context. It also exposes them to a multiplicity of perspectives that inform our understanding of the United States and its place in a global society. The Program encourages its majors to study abroad, and faculty members help students plan their curriculum to make that option feasible.

DEGREE PROGRAMS

Bachelor of Arts

MAJOR

MAJOR in American Studies (30 credits):

A major in American Studies consists of at least 30 credits in American Studies courses (core, co-listed, or cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in AMS courses. These credits must include at least 18 at the 300 level or above. All majors must complete AMS 101: Introduction to American Studies; AMS 310: The United States in the World; at least two other AMS core courses; at least one course in American history, and at least one course in American literature.

Students must take three courses, chosen in consultation with an American Studies advisor, in a specialized area of American Studies (200 level or higher). Students may work in areas including, but not limited to, Ethnic Studies, Caribbean Studies, Latino/a Studies, Environmental Studies, Communication Studies, Women's Literature, Urban Studies,
Africana Studies, Religious Studies, or Material Culture Studies. At least one of these courses must be either comparative or non-U.S.-based.

Students must take courses from at least three different departments in order to fulfill the requirements for the major.

In addition, all majors must complete AMS 501: Senior Project. This capstone course can take the form of an individual research project or an internship at a local cultural or civic institution. For the research option, students will identify an appropriate faculty member to supervise and grade the project, and then obtain approval from the program director before proceeding with the project. The student must produce a substantial written report or research paper, the format of which will be determined by the faculty member and student in consultation with the program director. For the internship option, students will partner with any number of local institutions and produce a creative and/or scholarly project for evaluation. The internship will be arranged through the program director, in consultation with the Butler Center and/or the Office of Civic and Community Engagement. The final product will be evaluated by the program director.

**MINOR**

**MINOR in American Studies (15 credits)**

A minor in American Studies consists of at least 15 credits in American Studies courses (core, co-listed, or cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in AMS courses. These credits must include at least 9 at the 300 level or above. All minors must complete AMS 101: Introduction to American Studies; AMS 310: The United States in the World; at least one other AMS core course; and at least one course in American history or American literature.

**DEPARTMENTAL HONORS**

American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505: Honors Thesis. Candidates for departmental honors are responsible for finding a faculty member to serve as thesis advisor. Students then must complete a thesis proposal of approximately 500 words that must be approved by the thesis advisor and the program director. The format and length of the thesis will vary according to the nature of the project. Students would take AMS 501 in the fall semester of the senior year and AMS 505 in the spring to complete the honors thesis.
ANTHROPOLOGY - Dept. Code: APY
www.as.miami.edu/anthropology

INTRODUCTION

Anthropology is the scientific study of humankind, from its beginnings to the present. Of the many sciences that study aspects of humans and their behavior, only anthropology attempts to understand and integrate the entire panorama of human biology and culture in all times and places.

The Anthropology Department offers a wide range of courses for students in pursuit of the Bachelor of Arts degree, from the basic four fields of cultural anthropology, linguistics, physical anthropology, and archaeology, to advanced study of topics such as underwater archaeology, medical anthropology, Caribbean cultures, primatology, and Iron Age Europe.

The science of anthropology holds that to understand the principles of human behavior, we must compare our own behaviors with those of people from other times and places around the world. These comparisons demand evolutionary, cross-cultural studies of human behavior, constantly changing, ever intriguing us.

The field is especially suited to a multi-ethnic, multi-lingual, and multi-cultural urban center such as Miami, and the research programs of the department faculty reflect the compositions and concerns of the larger community.

Anthropological knowledge has taken an increasing role in the solution of practical problems in public health, cultural resource management, economic development in the Third World, business relations with immigrant and overseas populations, State and Federal programs, and many other areas. Anthropology majors may become professionals in the field by continuing their training in one of the many excellent graduate programs around the country.

EDUCATIONAL OBJECTIVES

Students who graduate from our program in anthropology will have achieved:

1) Basic familiarity with each of the four subfields of our discipline: archaeology, cultural anthropology, linguistic anthropology, and physical or biological anthropology.

2) Extended familiarity with one or more of these subfields in terms of knowledge of content, e.g. area ethnology in Latin America and/or the Caribbean, topical knowledge such as Drugs and Culture, Ritual and Sacrifice, Sex and Culture, Food, Primate Behavior, Iron Age Civilizations, or World Languages, or methodological skills involving field research in one or more of the subfields.

3) The ability to articulate the anthropological view of the human condition in terms of an operational definition of culture and a holistic perspective on how humans behave.

4) Sufficient skill in research to be able to produce a research paper on an anthropological topic.
DEGREE PROGRAMS

The Department of Anthropology offers a major and a minor in the University’s array of Bachelor of Arts Degrees.

MAJOR

- A major in Anthropology consists of 30 credits in Anthropology, passed with a grade of C- or higher with an overall GPA of 2.0.
- APY 201, 202, 203, 204 (or approved alternatives), and a minimum of four anthropology courses at the 300 level or higher are required. APY 208 may count as one of the six courses taken in addition to the four basic courses.
- The remainder of the program will be developed with the student’s departmental advisor.

MINOR

A minor in Anthropology consists of 15 or more credits, passed with a grade of C- or higher with an overall GPA of 2.0 including any two 200-level anthropology courses.

Any two of the following courses in other departments may be applied to the major in Anthropology; any one to the minor:

ARH 332
MCY 554
COS 545
MAF 526
MAF 501 or MAF 505.

Please check with the Anthropology department for any updates to the above list.

DEPARTMENTAL HONORS

A student with a cumulative grade point average of 3.5 or higher may earn honors in anthropology by writing a qualifying thesis paper under the direction of a member of the faculty in the Department of Anthropology.

MEDICAL ANTHROPOLOGY TRACK

The courses listed below constitute a medical anthropology track that may be pursued by anthropology majors. In addition to the required four subfield courses (APY201-204), the medical anthropology track may consist of any six of the following list of courses.

APY391 Gender in Ancient Cultures
APY315 - Folk and Alternative Medicine
APY416 Bioarchaeology - Peopling the past
APY392 Sex and Culture
APY421 Interpreting Bodies
APY393 Drugs and Culture
APY397 Violence and Ritual
CLA233 Ancient Medicine
APY413 Medical Anthropology
APY501 Research Methods in Anthropology
APY502 Field Studies in Anthropology
APY512 Advanced Medical Anthropology
PSY204 Introductory Biobehavioral Statistics
SOC211 Quantitative Methods (incl. lab)
APY307 Human Adaptation  [forthcoming – linguistics of healing]
APY310 Primate Behavior
APY 360 Anthropology of Food
APY414 Forensic Anthropology I: Osteology
APY415 Forensic Anthropology II: Fieldwork

Anthropology Course Listing
ART AND ART HISTORY - Dept. Codes: ART, ARH

www.as.miami.edu/art

EDUCATIONAL OBJECTIVES

The Department of Art and Art History provides facilities and instruction to serve equally the needs of the general student for participation in and appreciation of the visual arts and those of students with specialized interests and abilities preparing for careers in the production, teaching, utilization, and interpretation of Art and Art History.

DEGREE PROGRAMS

The Department of Art and Art History offers two degrees: the Bachelor of Arts with tracks in Art History, General Study and Studio Art and the Bachelor of Fine Arts in Studio Art which allows for primary, secondary and tertiary concentrations in Painting, Sculpture, Printmaking, Photography/Digital Imaging, Graphic Design/Multimedia and Ceramics. The B.A. requires a minimum of 36 credit hours in the department with a grade of C or higher. The B. A. major is also required to have a minor outside the department. Minor requirements are specified by each department and are listed in the Bulletin. The B.F.A. requires a minimum of 72 credit hours in the department, a grade of C or higher in each course, a successful portfolio review, and at least a 3.0 average in departmental courses. The B.F.A. major is not required to have a minor outside the department.

MAJOR

DEGREE REQUIREMENTS

BACHELOR OF ARTS - ART HISTORY

Foundation Courses: Any two ART courses 6 Credits

Art History Foundation Courses: ARH 131. Survey of Western Art I and ARH 132. Survey of Western Art II 6 credits

Area of Study: Art History: seven courses from 200 level or higher, plus one art history seminar course 24 credits

Total: 36 credits

BACHELOR OF ARTS - GENERAL STUDY

Foundation Courses: ART 101. Introduction to Drawing I and ART 109. Introduction to Electronic Media 6 credits
Art History Courses: 9 credits
ARH 131. Survey of Western Art I AND
ARH 132. Survey of Western Art II
One course from 100, 200, or 300 level

General Study Courses: 21 credits
Any seven courses from the following areas:
Art History
Drawing
Painting
Sculpture
Printmaking
Graphic Design/Multimedia
Photography/Digital Imaging
Ceramics/Glass

Total: 36 credits

BACHELOR OF ARTS STUDIO ART

Foundation Courses: 6 credits
ART 101. Introduction to Drawing I and
ART 109. Introduction to Electronic Media

Art History Courses: 9 credits
ARH 131. Survey of Western Art I AND
ARH 132. Survey of Western Art II
One additional course at the 100, 200, or 300 level

Studio Art Courses: 21 credits
Seven Studio courses from the following areas:
Drawing
Painting
Sculpture
Printmaking
Graphic Design/Multimedia
Photography/Digital Imaging
Ceramics/Glass

Total: 36 credits

BACHELOR OF FINE ARTS

PORTFOLIO REVIEW
All students who anticipate graduating with a Bachelor of Fine Arts (BFA) degree must submit a portfolio consisting of 15-20 images of their work. Instructions for submitting this folio can be found on the department website. Students can apply as incoming freshmen or anytime within their first years. NO STUDENT IS OFFICIALLY CONSIDERED A BFA CANDIDATE UNTIL THE PORTFOLIO IS APPROVED BY THE FACULTY. If the BFA portfolio is not submitted at the proper time or fails to be passed by the faculty, the student will be advised and registered as a Bachelor of Arts (BA) candidate.

BFA EXHIBITION
Unless otherwise instructed, each BFA candidate will take part in an exhibition of work screened and approved by a faculty member from their area of specialization, accomplished as an art major at the University of Miami, in the Fall or Spring semester of the senior year. The BFA exhibitions are held in the College Gallery.

At the time the candidates BFA exhibition is hung, a formal critique will be arranged between the student and the art faculty.

**BFA COURSE REQUIREMENTS**

**General Foundation Courses:** 6 credits
- ART 101. Introduction to Drawing I
- ART 109. Introduction to Electronic Media

**Art History Courses:** 15 Credits
- ARH 131. Survey of Western Art I
- ARH 132. Survey of Western Art II
- ARH 343. Modern Art OR
- ARH 344. Contemporary Art
- Two courses from 100, 200, or 300 level

Note: ARH 346 - History of Graphic Design is required for Graphic Design/Multimedia majors.
- ARH 107 – History of Photography is required for Photography majors.

**Art Electives** 12 Credits
12 Credits to be taken in the Department outside of area of specialization.

**Areas of Concentration (one entire sequence required)** 39 Credits

**Primary** concentrations can be taken in Painting, Printmaking, Graphics-Multimedia, Photo Digital, Ceramics and Sculpture.

**Secondary and Tertiary** concentrations can be taken in Painting, Printmaking, Graphics-Multimedia, Photo Digital, Ceramics, Sculpture, Introductory Art Studio (ART 102, 103, 104, 108), and Drawing (ART 102, 105, 107, 305).

**TOTAL: 72 Credits**

**BFA Minor in Art History**
All BFA studio majors automatically minor in art history. A minor outside the department is not required.

A BFA student is limited to a maximum of 21 credits in any one studio area – Painting, Printmaking, Graphics-Multimedia, Photo Digital, Ceramics, Sculpture.

Students must maintain at least a 3.0 average in their major.

**MINOR**
A minor in Art and Art History consists of 15 credits (9 of which must be from the University of Miami) in departmental courses passed with a C or higher.
DEPARTMENTAL HONORS

Admission
Admission is by invitation from the Department Chair. Students are invited the first semester of their junior year and are required to complete the program before their date of graduation.

Requirements
Studio Art Majors - Students must have passed the B.F.A. Portfolio Review and have a GPA of 3.5 or higher in the Art major.

Art History Majors - Students must be a declared Art History major, and have a GPA of 3.5 or higher in the Art History major.

Students must complete a minimum of six credit hours in designated honors courses (ART 499 or ARH 499) with a grade of B or higher.

Students must have an overall GPA of 3.3 or higher.

Students must submit the results of their honors study for approval to a Departmental Honors Committee.

AUDIT
Due to the nature of studio courses, it is not possible for a student to audit courses offered in the studio areas.

Art and Art History Course Listing
ASTRONOMY

For courses in Astronomy see PHYSICS, in particular PHY 110 and 545.
BIOCHEMISTRY AND MOLECULAR BIOLOGY - Dept. Code: BMB

http://biomed.miami.edu/default.asp?p=818
(Code for the major is BCH)

INTRODUCTION

Biochemistry is the chemistry of life. It includes or has large areas of overlap with molecular biology, biophysics, structural biology, cell biology, metabolism, neuroscience, nutrition, genetics, etc. It tries to explain what happens in living organisms and how biological processes are regulated. It is a relatively young science. Our understanding is still developing and students (and faculty) can learn something that is totally new every day. An Undergraduate Major in one of our two tracks, Biochemistry and Molecular Biology or Biochemistry and Nutrition, provides an excellent preparation for:

1. Medical School

2. Graduate Studies in all basic medical sciences:
   - Biochemistry  Molecular Biology
   - Cell Biology  Genetics
   - Neurobiology  Microbiology
   - Immunology  Pharmacology
   - Biophysics  Physiology
   - Bio-informatics  Biology
   - Nutrition  Environmental Science
   - and others

3. Industry
   - Biotechnology  Pharmaceutical
   - Food Production  Food processing

4. Patent Law

5. Allied Health Professions
   - Nutrition  Dentistry
   - Forensics  Veterinary Medicine
   - Toxicology  Clinical Chemistry
   - Environmental Science

6. Non-Health Professions
   - Chemistry
   - Physics
   - Scientific Publishing

INTERESTING ARTICLES


EDUCATIONAL OBJECTIVES

The Department of Biochemistry and Molecular Biology intends to provide its students with the best possible opportunities to master the subject and become independent learners.
DEGREE PROGRAMS

The Department of Biochemistry and Molecular Biology offers an undergraduate B.S. degree as a member of the College of Arts & Sciences. It also offers the following graduate degrees: Ph.D. and combined M.D. and Ph.D. It offers a Molecular Medicine Pathway for medical students.

MAJOR

A major in Biochemistry and Molecular Biology leading to a Bachelor of Science degree requires a thorough foundation in chemistry and biology or microbiology and good background knowledge of physics and mathematics. Students can select one of the two following tracks.

Track 1: Biochemistry & Molecular Biology

Minimum requirements:

1. 16 credits from the courses offered by the Department of Biochemistry and Molecular Biology plus at least 16 credits in chemistry and at least 19 credits in biology. Examples of courses that can be taken for this track of the major are BMB 145, 151, 245, 251, 260, 401, 411, 501, 506, 507, 509, 511 and 545. Courses printed in bold letters are absolutely required. Courses printed in italics can be taken more than once. Students are encouraged to take at least one semester of BMB 545 (Research Problems in BMB). The Department will make its own independent determination on a case-by-case basis concerning the equivalency of courses taken at other universities.

A UM cumulative grade point average of 2.9 is required to declare a BCH major or minor. Transfer students can only declare a BCH major if they have a grade point average of 3.5. A grade of C or better must be earned in each Biochemistry and Molecular Biology course.

2. Required Biology and/or Microbiology courses are:
   BIL 150, 151, 160, 250, 252 or 256 or 251 (252 is preferred), 255 plus
   BIL 355 (Developmental Biology) or MIC 301. All the 200-level courses should be completed during the first five semesters.

3. Required Chemistry courses include completion of either (i) the traditional series CHM 111/113, 112/114, 201/205, and 202/206 or (ii) the bioscience series CHM 121/113, 221/114, 222/205, and 206.
   The courses in either series should be completed before the end of the sophomore year. Chemistry 304 and/or 331 are recommended.

4. Mathematics: MTH 161 and 162 or 171 and 172.

5. Physics:
   For students contemplating graduate studies: PHY 201 or 205, 202 or 206 and 207 plus laboratories or PHY 205 and 210 plus 2 physics laboratory classes. For students not contemplating graduate studies: PHY 101 and 102 plus labs are acceptable.
Track 2: Biochemistry & Nutrition

Minimum requirements:

1. 16 credits from the courses offered by the Department of Biochemistry and Molecular Biology plus at least 16 credits in chemistry and at least 19 credits in biology. Examples of courses that can be taken for this track of the major are BMB 145, 151, 245, 251, 260, 401, 411, 417 (BCH of Food & Nutrition), 506, 501, 5XX (Nutrigenetics), 5YY (Applied Nutrition), 511 and 545. Courses printed in bold letters are absolutely required. Courses printed in italics can be taken more than once. Students are encouraged to take at least one semester of BMB 545 (Research Problems in BMB). The Department will make its own independent determination on a case-by-case basis concerning the equivalency of courses taken at other universities.

A UM cumulative grade point average of 2.9 is required to declare a BCH major or minor. Transfer students can only declare a BCH major if they have a grade point average of 3.5. A grade of C or better must be earned in each Biochemistry and Molecular Biology course.

2. Required Biology and/or Microbiology courses are:
   BIL 150, 151, 160, 250, 252 or 256 or 251, 255 plus MIC 301.
   All the 200-level courses should be completed during the first five semesters.

3. Required Chemistry courses include completion of either (i) the traditional series CHM 111/113, 112/114, 201/205, and 202/206 or (ii) the bioscience series CHM 121/113, 221/114, 222/205, and 206 .
   These courses should be completed before the end of the sophomore year.
   Chemistry 304 and /or 331 are recommended.

4. Mathematics: MTH 161 and 162 or 171 and 172.

5. Physics:
   For students contemplating graduate studies: PHY 201 or 205, 202 or 206 and 207 plus laboratories or PHY 205 and 210 plus 2 physics laboratory classes. For students not contemplating graduate studies: PHY 101 and 102 plus labs are acceptable.

   Variations of the above program are feasible for students entering with advanced standing on the basis of placement tests or for transfer students but only with the express permission of the biochemistry advisor.

Dual Degree Honors Program

The Honors Program in Biochemistry & Molecular Biology (HPBMB) is offered to mature high school seniors with strong academic ability and achievement who seek careers in biological or biomedical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Philosophy Degree (PhD) in approximately 6 years. For information see http://www.miami.edu/admission/index.php/undergraduate_admission/academics/dual_degree_honors/
MINOR

Minimum requirements are:

1. 10 credits in the Biochemistry and Molecular Biology track or 10 credits in the Biochemistry and Nutrition track. BMB 401 and 506 are required. Students must have all the courses that are a prerequisite for BMB 401 and 506. The remaining credits may come from any of the courses offered by the Department. Students should become familiar with the credit sharing rules. Credits for a minor cannot be used for a major. Credits can be shared between two majors.

2. The Department will make its own independent determination on a case-by-case basis concerning the equivalency of courses taken at other universities. A grade of C or better must be earned in each Biochemistry and Molecular Biology course.

For graduate programs or combined Ph.D.-M.D. programs, consult the Bulletin of the Graduate School.

Registration in all 500-level courses requires permission from the Biochemistry advisor or course coordinator.

DEPARTMENTAL HONORS

Departmental honors can be earned by biochemistry majors who have:

1. successfully completed two semesters of research (5 or 6 credits of BMB 545). This research must be described in a brief thesis that needs to be approved by three BMB faculty members.

2. a 3.5 or higher grade point average in all BMB courses.

3. at least a 3.3 average for all their courses taken at the University of Miami.

For general honors see elsewhere in this Bulletin.

Biochemistry and Molecular Biology Course Listing
INTRODUCTION

The Department of Biology offers undergraduate programs for students interested in a natural science education that will prepare them for careers in biological research, medicine and other health-related fields, teaching, environmental management and other fields that require a broad base of biological knowledge.

EDUCATIONAL OBJECTIVES

The Department of Biology trains students to understand and use the scientific method, and to engage in critical thinking and experimental design. We strongly encourage original laboratory and/or field research under the mentorship of biology faculty. The Bachelor of Science in Biology prepares the student for further training in natural science, such as biology graduate school, as well as medical, veterinary, dental or other health-care professions. The Bachelor of Arts degree prepares the student for a career in more humanities-related fields such as teaching or environmental law.

DEGREE PROGRAMS

Two undergraduate degrees are available in Biology: the B.S. and B.A. Both require a major in Biology of 34 credits with a minimum grade of C- in each course and an overall GPA of 2.0.

MAJOR

Bachelor of Science Degree

The B.S. degree is recommended in preparation for graduate schools, professional schools, marine biology, and high school or college teaching. In addition to the College of Arts and Sciences general degree requirements, the B.S. requirements are as follows:

1. BIL 150, 151, 160, 161
2. BIL 250 (Genetics) and BIL 255 (Cellular and Molecular Biology)
3. BIL 330 or 432 (Ecology) and BIL 360 (Comparative Physiology)
4. Additional BIL electives to total 34 credits, at least three of which must be at the 400-level or higher.
5. Two laboratory or field courses beyond 151, 161 are required as part of the 34 credits in BIL.

Up to eight credits toward the major, but not the minor, may be selected from the following: (1) courses numbered 300 or higher in BMB, MBF or MIC, (2) BME 305, (3) CSC 548.

- A maximum of two credits of BIL 371 and BIL 372 may be applied towards the major.
- A maximum of six credits of BIL 495, 496 and 497 may be applied towards the major.
- One course only from BIL 495, 496 or 497 may be counted towards the laboratory course requirement for the B.S. degree.
- A maximum of one credit in BIL 381 and one credit of BIL 382 may be applied towards the major, although these two courses may be taken more than once each for general elective credit.
- **A maximum of two credits in BIL 481 (Undergraduate TA in Biology) may be applied towards the major or minor, as long as each BIL 481 has a different subtitle (i.e., is for a different undergraduate course). This course may be taken more than twice for general elective credit only.**

In addition, students must complete the following:

1. Select one statistics course from the following: BIL 311, BIL 511, ECS 204, IEN 311, MSC 204, MTH 224, or PSY 292 OR one computer language/programming course from the following: CSC 120, EEN 118. This will fulfill the Mathematics-statistics/computer programming requirement under the College of Arts and Sciences General degree requirements.

2. One year of inorganic chemistry (111-112) with laboratory (113-114) (recommended to be taken in the first year) one semester of organic chemistry with laboratory (201/205) (recommended to be taken in the second year).

3. Two semesters of college physics with laboratory or three semesters of university physics with laboratory.

4. A minor in chemistry, ecosystem science and policy, physics, geological sciences, marine sciences, biochemistry and molecular biology, computer science, mathematics, or microbiology and immunology.

**Bachelor of Arts Degree**

The B.A. degree is recommended for students involved in interdisciplinary programs and for entrance to those professional schools and specific biological careers not requiring a B.S. degree with a major in Biology. In addition to the College of Arts and Sciences degree requirements, the B.A. requirements are as follows:

1. Biology 150, 151, 160, 161 (first year)

2. BIL electives to total 34 credits, at least three of which must be at the 400-level or higher.

3. Up to eight credits toward the major, but not the minor, may be selected from the following: (1) courses numbered 300 or higher in BMB, MBF or MIC, (2) BME 305, (3) CSC 548.

4. One semester of inorganic chemistry with laboratory (111/113 or 103/105) and one semester of organic chemistry with laboratory (201/205 or 104/106).

5. A minor in a department other than natural science.
MINOR

A biology minor consists of nine credits of BIL at the 200-level or higher taken in residence at the University of Miami. (Note: All courses in the minor must be in BIL. Courses from BMB, MBF, MIC, or BME, or other natural sciences approved as a substitute for one BIL elective in the major may not be counted towards the minor.) Overall GPA in the major or minor must be a minimum of 2.0.

At least one half of the credits required for a Biology major must be earned in residence at the University of Miami.

DEPARTMENTAL HONORS

HONORS PROGRAM
See HONORS PROGRAMS elsewhere in this Bulletin for minimal requirements. In addition to the grade point averages specified in the minimal requirements, the following program constitutes the Biology Departmental Honors Program:

1. A minimum of two of the following: Biology 495, 496, 497 (2 credits each), involving a research project carried out under the supervision of a member of the Department of Biology faculty.

2. Biology 498, a senior thesis, of superior quality, on the results of the research.


4. A minimum of two BIL credits from the following list: 253, 257, 299, 374, 375.

5. A minimum of one course in the Department of Biology at the 500 level.

6. An overall GPA of 3.3 and a biology GPA of 3.5.

Advanced placement, and in certain situations, course credit can be earned through the College Entrance Examination Board program, placement examinations, and departmental proficiency examinations.

For Graduate programs, consult the Graduate School section of this Bulletin.

Variations within the above program may be permitted by the Department Chairman in special cases.

Biology Course Listing
CHEMISTRY - Dept. Code: CHM  
www.as.miami.edu/chemistry

INTRODUCTION

Each undergraduate chemistry degree program requires the core courses CHM 111, 112, 113, 114, 201, 202, 205, 206, and 304; one year of calculus; and at least two semesters of physics. The requirements for a major are flexible and should conform to the objectives of the student. A grade of C- or higher must be earned in all courses taken for major or minor credit, and the Chemistry GPA must be 2.00 or higher. Credits earned in CHM 381 and CHM 382 do not count toward the major or minor.

EDUCATIONAL OBJECTIVES

The mission of the Bachelor’s degree program in the Chemistry Department is to promote an understanding and appreciation of the role of chemistry in modern society, especially as it relates to and integrates with other biological and physical sciences and societal issues facing humanity today such as the environment, health issues and technological advances.

DEGREE PROGRAMS

Three programs lead to degrees with a chemistry major:

1. the B.A. degree
2. the B.S. degree
3. the B.S. degree with certification by the American Chemical Society Committee for Professional Training of Chemists.

MAJOR

1. The **B.A.** degree requires 27 credits of chemistry: the core courses; CHM 331 or 360; plus electives from the following sufficient to reach the required credit hours for the degree: CHM 316, 320, 365, CHM 401, CHM 531, 520 or BMB 401. This major is designed for premedical students, high school science teachers, and others who choose a non-science minor. It may be combined with business courses in an interdisciplinary program.

2. The **B.S.** degree requires 34 credits of chemistry: the core courses; CHM 360, 364, 365 and 316, 320; plus electives from the following sufficient to reach the required credit hours for the degree: CHM 401, CHM 441, 520, 563 or BMB 401 or 506. Two semesters of physics are required. This major meets the minimum entrance requirements of many graduate programs in chemistry.

3. The American Chemical Society **certified B.S.** degree consists of 44 credits: the core courses; 316, 320, 360, 364, 365, 441, 442, 464, BMB 506; CHM 520, and 563; at least two credits in CHM 488 or 490; either PHY 205/210; or PHY 205, 206, and 207; and both PHY 208 and 209. The Professional Chemistry Program is also available in the Engineering Science Department, College of Engineering. A senior research thesis is required by the ACS for awarding of this degree.
Variations within the above programs may be recommended by the Department. Transfer students must complete a minimum of half of the required major credits in residence in the Department. Students should make certain that math and physics prerequisites are fulfilled in a timely manner. For students who plan to do graduate work in physical chemistry, a double minor is recommended: Mathematics and Computer Science through 310 and 311, Physics through 350 and 360.

**MINOR**

A minor in chemistry consists of 8 credits in chemistry courses at the 200 level or above, taken at the University of Miami, exclusive of CHM 381, 382, 488 and 490.

Credit may be earned in only one of the courses Chemistry 103, 111 or 151. Credit may not be earned in both CHM 104 and CHM 201.

**DEPARTMENTAL HONORS**

Honors in Chemistry may be earned by students who are in good standing within the University’s Honors Program. In addition to the general requirements for University Honors, a student must also complete the core courses in Chemistry; CHM 360, 364, and 365; at least six credits of CHM 490; and any three of the following: CHM 316, 441, 520, 563, BMB 502, and BMB 401 or 506, all with an average grade of at least 3.30. A written Honors Thesis and oral defense on the subject of the Honors Research must be presented by the student and approved by a Department Honors Committee.
INTRODUCTION

Every culture and civilization has its classics: those works of art that are seen as the best of their kind, have withstood the test of time, and embody the symbolic values of their society. In the western tradition, the study of 'Classics' has focused upon the literatures and cultures of ancient Greece and Rome, and their impact on the whole subsequent history of the western world.

The significance of the study of Classics to the history of the academy would be difficult to overstate. Indeed the entire notion of a 'university,' from the days of mediaeval Paris, Bologna, Oxford, and Heidelberg on, was founded consciously and explicitly upon the study of Greek and Latin literatures and thought. The discipline has been conceived in unusually broad terms; it is intended to encompass everything that can be known about the ancient Mediterranean world. Because of this, there is room in Classics for the study of areas as disparate as literature, science, sculpture, history, architecture, religion, philosophy, theater, economics, music -- in short, the entire panorama of human endeavor. It is no wonder that the study of Classics has always tended to attract some of the liveliest and most brilliant intellects; and it is equally unsurprising that students majoring in Classics find themselves extremely well-prepared for undertaking practically any type of career, whether that be in politics, law, teaching, commercial publishing, research of all kinds, medicine, journalism, banking, or the corporate world. A degree in Classics marks the UM graduate as a man or woman of superior analytical and critical skills, one who has proved able to cope with the most rigorous academic curriculum, and who is exceptionally broadly educated in the most fundamental aspects of what it means to be human.

EDUCATIONAL OBJECTIVES

The educational objectives of the Department of Classics may be stated in a variety of ways, and on a number of levels. In terms of linguistic competency, students majoring or minoring in Classics are required to reach an appropriate level of fluency in reading ancient Greek or Latin, or both. In terms of cultural literacy, students of the Classics are educated within a rigorous curriculum exposing them to the great literary works and material cultures of ancient Greece and Rome. In terms of critical thinking, students of the Classics are trained to hone the skills of memory, analysis, and synthesis, skills that they will be able to apply for the rest of their lives in any realm of thought whatsoever.

But -- stated in the most philosophical terms -- the goal of an education in Classics is to foster and inculcate an ever-burgeoning awareness of what Cicero referred to as humanitas -- in short, everything it is to be human. It is the mission of Classics to expose its students to the greatest thoughts and endeavors of the human race, and to encourage them to think about what that greatness consists in, and how to enlarge upon it. The profoundest educational objective of the Department of Classics is to preserve and study all that is important or beautiful about the past, in order best to prepare for the future.
DEGREE PROGRAMS

The Department of Classics offers the Major and the Minor in Classics; for details on these, see below.

MAJOR

The undergraduate Major in Classics at UM has four possible tracks. The requirements for each of these are as follows:

Track 1: Greek (30 credits)
GRE 101, 102, 201
Five further courses in Greek (GRE 202 and above)
Two Classics-in-translation (CLA) courses

Track 2: Latin (30 credits)
LAT 101, 102, 201
Five further courses in Latin (LAT 202 and above)
Two Classics-in-translation (CLA) courses

Track 3: Latin and Greek (36 credits)
LAT 101, 102, 201 and GRE 101, 102, 201
Two further courses in Latin (LAT 202 and above) and two further courses in Greek (GRE 202 and above)
Two Classics-in-translation (CLA) courses

Track 4: Classical Civilization (30 credits)
LAT 101, 102, 201 or GRE 101, 102, 201
One further course (202 and above) in either Latin (LAT) or Greek (GRE)
Six Classics-in-translation (CLA) courses

MINOR

Students may instead elect to Minor in Classics at UM. The requirements for this are as follows;

Minor in Classics (five courses -- 15 credits). Courses that qualify for the minor in Classics are taught each semester. A grade of C-minus or better is required in each course taken for the minor, as well as an overall GPA of 2.0 or higher.
3 credits in a Greek (GRE) course or 3 credits in a Latin (LAT) course
12 credits in Greek (GRE), Latin (LAT), or Classics-in-translation (CLA) courses (in any combination desired)
GENERAL EDUCATION RUBRICS

Courses in Classics labeled 'LAT' or 'GRE' and above the 201 level -- that is, LAT 202, GRE 202, and higher -- satisfy General-Education requirements under the 'Literature' requirement of the 'Humanities' rubric. Some courses in Classics labeled CLA satisfy General-Education requirements under the 'Literature' requirement, while others do so under the 'People and Society' requirement. These are as follows:

**LITERATURE**
CLA 220 Greek and Roman Mythology
CLA 223 The Ancient World on Screen
CLA 224 The Heroic Journey
CLA 246 Classical Rhetorical Theory
CLA 310 Survey of Ancient Greek Literature and Culture
CLA 311 Survey of Classical Latin Literature and Culture
CLA 315 The Classical Epic Tradition
CLA 340 Greek Tragedy

**PEOPLE & SOCIETY**
CLA 221 Sports & Society in the Ancient World
CLA 222 Sexuality and Gender in the Ancient World
CLA 232 Ancient Law
CLA 233 Ancient Medicine
CLA 241 Greek Civilization
CLA 242 Roman Civilization
CLA 301 Ancient Greece
CLA 302 The Hellenistic Age
CLA 303 The Roman Republic
CLA 304 The Roman Empire
CLA 323 The Ancient World on Screen
CLA 325 The Vampire in Folklore, Fiction, and Film
CLA 370 Self and Other in the Ancient World

**DEPARTMENTAL HONORS**

Some Classics Majors may qualify to graduate with Departmental Honors in Classics. In order to earn Departmental Honors, the student must maintain a minimum average of 3.5 in all Classics courses (those labeled CLA, GRE, and LAT), plus an overall minimum GPA of 3.5. In addition, they must complete CLA 495 and CLA 496 with a grade of B or higher.

In addition, Classics Majors, Classics Minors, and other students who meet certain academic criteria are eligible for membership in Eta Sigma Phi, the National Honors Society for Classics.

[Classics Course Listing]
INTRODUCTION

The Department of Computer Science offers undergraduate and graduate education in Computer Science, and performs research in various areas of Computer Science. The Department has faculty with strong accomplishments in the fields of algorithm engineering, automated reasoning, bioinformatics, computational complexity, computational geometry & computer graphics, cryptography & network security, data mining, molecular computation, multimedia systems, music information retrieval, robotics, scientific computing, semantic web, and wireless & mobile computing.

EDUCATIONAL OBJECTIVES

The Department of Computer Science educates students in the science of software development: the analysis of domain problems, the development of algorithms and programs, the use of specialist computing techniques, the system-software and hardware platforms, and the production and deployment of efficient and robust computer software. Instruction ranges from introductory programming classes and laboratories, through to research in various areas of computer science.

DEGREE PROGRAMS

The Department of Computer Science offers a Bachelor of Science and a Bachelor of Arts, major in Computer Science. A 5-year Bachelor of Science + Master of Science program is also available.

MAJORS

Bachelor of Science in Computer Science for students in the College of Arts and Sciences

Students must complete the Core, a Track, and the Science & Ethics requirements.

Core

Computer Science (20 credits)

- CSC 120 - Computer Programming I
- CSC 220 - Computer Programming II
- CSC 314 - Computer Organization and Architecture
- CSC 322 - C Programming and UNIX
- CSC 517 - Data Structures and Algorithm Analysis
- CSC 527 - Theory of Computing
- CSC 531 - Introduction to Software Engineering
Mathematics (17 Credits)

- MTH 161 - Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)
- MTH 162 - Calculus II (or equivalent - MTH 172)
- MTH 210 - Introduction to Linear Algebra
- MTH 224 - Introduction to Probability and Statistics
- MTH 309 - Discrete Mathematics I

Comprehensive Track (Available to all students)

- CSC 519 - Program Languages
- CSC 521 - Principles of Computer Operating Systems
- CSC 523 - Database Systems
- CSC 524 - Computer Networks
- At least 5 credits of approved electives

The Comprehensive Track provides coverage of the topics in Computer Science prescribed by the Association of Computing Machinery curriculum and the ABET Computing Accreditation Commission.

Flexible Track (Available to all students)

- At least 17 credits of approved electives

Computational Science Track

(Requires permission of the Director of Undergraduate Studies)

- CSC 210 - Computing for Scientists
- CSC 528 - Introduction to Parallel Computing
- CSC 547 - Computational Geometry
- CSC 548 Bioinformatics Algorithms
- 2 credits from CSC 410 - Computer Science Project Planning-CSC 411 - Computer Science Project Implementation
- MTH 320 - Introduction to Numerical Analysis or
- MTH 520 - Numerical Analysis I
- The courses used to meet the Science requirement must include either
  - BIL150 - General Biology
  - BIL151 - General Biology Laboratory

Cryptography and Security Track

(Requires permission of the Director of Undergraduate Studies)

- CSC 507 - Data Security and Cryptography
- CSC 521 - Principles of Computer Operating Systems
- CSC 524 - Computer Networks
- 3 credits from CSC 410 -Computer Science Project Planning-CSC 411 - Computer Science Project Implementation
- MTH 505 - Theory of Numbers or
- MTH 528 - Combinatorics or
- MTH 561 – Abstract Algebra I or
- MTH 461 - Survey of Modern Algebra
  At least 2 credits of approved electives

**Graphics and Games Track**

(Requires permission of the Director of Undergraduate Studies)

- CSC 329 - Introduction to Game Programming
- CSC 529 - Introduction to Computer Graphics
- CSC 545 - Introduction to Artificial Intelligence
- 3 credits from CSC 410 - Computer Science Project Planning - CSC 411 - Computer Science Project Implementation
- At least 5 credits of approved electives. In addition to the generally approved electives, the following are approved for the Graphics and Games track:
  - EEN 596 – Maya Animation
  - MMI 504 - Audio Analysis & Synthesis
  - MMI 505 - Advanced Audio Signal Processing
- The courses used to meet the Science requirement must include either
  - PHY 101 - College Physics I or
  - PHY 205 - University Physics I

**Science & Ethics Requirement**

The Computer Science major requires 13 credits of Science. The Science courses must include an approved two semester sequence of courses with laboratory. Courses may be taken in Biology, Chemistry, Environmental Science, Geological Science, Marine Science, Physics, and Physical Science. The Science courses must be acceptable for the Natural Science requirements in the College of Arts and Sciences, for Bachelor of Science students. The Computer Science major requires completion of the Ethics course PHI 115.

**Approved Electives**

- Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX (maximally 6 credits from CSC 40X - Computer Science Practicum, and maximally 6 credits from CSC481 - Undergraduate Teaching Assistant Training in Computer Science)
- CIS 360 - Analysis of Information Systems
- CIS 465 - Applied Software Project Development (instead of CSC410/CSC411)
- EEN 414 - Computer Organization and Design
- EEN 417 - Embedded Microprocessor System Design
- EEN 514 - Computer Architecture
- EEN 532 - VLSI Systems
- EEN 542 - Digital Integrated Circuits
- EEN 574 - Agent Technology
- EEN 577 - Data Mining
- MTH 320 - Introduction to Numerical Analysis
- MTH 509 - Discrete Mathematics II
- MTH 520 - Numerical Analysis I
- MTH 521 - Numerical Analysis II
- MTH 524 - Introduction to Probability Theory
- MTH 525 - Introduction to Mathematical Statistics
- MTH 528 - Combinatorics

**Bachelor of Science in Computer Science for students with a Second Major in Science, in the College of Arts and Sciences**
Bachelor of Arts in Computer Science for students in the College of Arts and Sciences

Students must complete the Core and Electives.

Core

Computer Science (17 credits)
- CSC 120 - Computer Programming I
- CSC 220 - Computer Programming II
- CSC 314 - Computer Organization and Architecture
- CSC 322 - C Programming and UNIX
- CSC 531 - Introduction to Software Engineering

Mathematics (7 credits)
- MTH 161 - Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)
- MTH 309 - Discrete Mathematics

Electives

6 approved credits from
- Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX
- CSC 119 - Computers and Society or
- CIS 320 - Introduction to Programming or
  CIS 410 - Information Systems and Technology or
  CVJ 341 - Web Production or
- GEG 199 - Introduction to GIS or
- MSC 321 - Scientific Programming for Atmospheric Sciences
- BIL 552 - Bioinformatics Tools
- CIS 360 - Analysis of Information Systems and
- CIS 423 - Database Management Systems
- CIS 430 - Business Telecommunications
- CIS 465 - Applied Software Project Development (instead of CSC410/CSC411)
- EEN 414 - Computer Organization and Design
- EEN 514 - Computer Architecture
- EEN 368 - Internet Computing I and
  EEN 568 - Internet Computing II or EEN 576 - Internet and Intranet Security
- EEN 567 - Database Design and Management and
  EEN 577 - Data Mining
- MMI505 - Musician-Machine Interfaces (for Music Engineering students only)
5-year Bachelor of Science + Master of Science in Computer Science

The 5-year Bachelor of Science + Master of Science program in Computer Science provides research training for students who wish to work in a computing research lab, or possibly continue to PhD studies.

Students must complete the requirements for a Bachelor of Science in Computer Science, and the requirements for a 30 credit Master of Science in Computer Science with thesis. No credits may be counted towards both requirements.

Students enter the "MS-phase" of the program when they have met the following requirements:

- They have achieved senior status, i.e., earned 89 credits towards their Bachelor of Science in Computer Science.
- Within the requirements for a Bachelor of Science in Computer Science, they have completed the prerequisites for entry into the regular Master of Science program, i.e., CSC120, CSC220, CSC314, CSC517, CSC527, MTH161, MTH224, and MTH309.
- They have completed 3 credits of CSC410/1 in a research-oriented project.
- They have a GPA of at least 3.0 in the CSC courses taken towards their BS in Computer Science.
- They have advised the Director of Graduate Studies of their eligibility for the MS-phase.

Students in the MS-phase must complete 3 further credits of CSC410/1 in a research-oriented project, as part of their Bachelor of Science in Computer Science (this project will normally be the starting point for the Master of Science research). Students in the MS-phase may take 600 level courses that count towards completing the requirements for the Master of Science in Computer Science. When students have completed the requirements for a Bachelor of Science in Computer Science they will be awarded that degree, and when they have completed the requirements for the Master of Science in Computer Science they will be awarded that degree. Students in the MS-phase must submit their GRE scores before they are admitted to graduate student status.

Incoming students can be admitted to the program if their mathematics placement is MTH108 or higher. Existing Bachelor of Science in Computer Science students can switch into the program when they have met the requirements for entering the MS-phase of the program. Students can be removed from the program if they have not met the prerequisites for admission to the MS-phase by the time they have achieved senior status. If a student is removed or decides to withdraw from the program, any 600 level courses taken may be used to fulfill the requirements for a Bachelor of Science in Computer Science.

Computer Science as a Second Major

A second major in Computer Science is available to all students. A second major in Computer Science requires completion of the requirements of either the Bachelor of Science version or the Bachelor of Arts version.
MINOR

A minor in Computer Science requires completion of the following:

Core

- CSC 120 - Computer Programming I
- CSC 220 - Computer Programming II
- CSC 314 - Computer Organization and Architecture

Electives

6 approved credits from

- Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX
- CSC 119 - Computers and Society or
  CIS 320 - Introduction to Programming or
  CIS 410 - Information Systems and Technology or
  CVJ 341 - Web Production or
  GEG 199 – Introduction to GIS or
  MSC 321 – Scientific Programming for Atmospheric Sciences
- BIL 552 - Bioinformatics Tools
- CIS 360 - Analysis of Information Systems and
- CIS 423 - Database Management Systems
- CIS 430 - Business Telecommunications
- CIS 465 - Applied Software Project Development (instead of CSC410/CSC411)

NOTES

- A grade of C- or better is required in all CSC courses in a major, honors, or minor.
- The overall GPA for CSC courses in a major must be 2.5 or better.
- For all Computer Science majors, at least 15 credits of CSC courses must be completed at the University of Miami.
- For the Computer Science minor, at least 9 credits of CSC courses must be completed at the University of Miami.

DEPARTMENTAL HONORS

In addition to the University’s requirements for Departmental Honors, Departmental Honors in Computer Science requires completing a major and 6 additional approved credits (all CSC 4XX and CSC 5XX courses are approved). The major or additional credits must include at least 6 credits from CSC 410 and CSC 411.

Computer Science Course Listing
CRIMINOLOGY
www.as.miami.edu/sociology

INTRODUCTION

The major in Criminology provides a comprehensive understanding of crime and the criminal justice system. The major prepares students to assume roles of leadership in this critical area of modern society. Courses are designed to review theory, research, and applications of knowledge regarding delinquency and crime, as well as to understand the manner in which offenders are processed. Students learn about the nature and extent of crime, different types of crime, and theories to explain crime. In addition, detailed analyses are made of the functions of the law, police, courts, and correctional systems and the ways in which these are linked to broader aspects of society. Students may also minor in Criminology. The Criminology major and minor are administered through the Department of Sociology.

EDUCATIONAL OBJECTIVES

CRIMINOLOGY courses have several broad objectives, including:

1. General education and development of critical thinking skills.
2. Undergraduate preparation for pursuing careers in such fields as law and society, in the local and state criminal justice systems (e.g., juvenile probation officer, pretrial services officer, crime analyst for criminal justice agencies), or in federal agencies (e.g., DEA).
3. Preparation for graduate study in criminology, criminal justice, sociology, or other social and behavioral sciences.
4. Preparation for law school.

DEGREE PROGRAMS

Students may earn a Bachelor of Arts degree in Criminology. The Department of Sociology also offers graduate degrees in Sociology (M.A., Ph.D.) with emphases in criminology and in other areas (race/ethnic relations and medical sociology).

MAJOR

The major in Criminology consists of 31 credit hours, including:

Required courses

SOC 101 Introduction to Sociology (3 credit hours)
SOC 210 Introduction to Social Research\(^1\) (3 credit hours)
SOC 211 Quantitative Methods for Sociologists\(^2\) (3 credit hours)
SOC 212 Quantitative Methods Lab (1 credit hour)
SOC 371 Criminology (3 credit hours)
SOC 470 (Theories of Deviant Behavior) (3 credit hours)
One of the following two courses:

SOC 271 Criminal Justice (3 credit hours)
SOC 370 Juvenile Delinquency (3 credit hours)

Elective courses

Four other courses offered by the Department for a total of 12 credits.

Other Requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of 16 credits must be earned in residency in the Department; thus, only a maximum of 15 credits can be transferred from other institutions as eligible for the CRIMINOLOGY major.

MINOR

A minor in Criminology requires a minimum of 15 credit hours, including:

Required Courses

SOC 101 Introduction to Sociology (3 credit hours)
SOC 371 Criminology (3 credit hours)

Elective Courses

Three other courses offered by the Department, of which one must be 300-level or higher, for a total of 9 credits.

Other requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of 9 credits must be earned in residency in the Department; thus, only a maximum of 6 credits may be transferred from other institutions as eligible credits for the Criminology major.

1 EPS 452 can be substituted for SOC 210 only by students who are also enrolled in the School of Education.
2 PSY 204 can be substituted for SOC 211 and SOC 212 only by students who are also majoring in Psychology.
DEPARTMENTAL HONORS

Graduation with Departmental Honors is available to eligible students who fulfill the following:

1. Students desiring Departmental Honors in Criminology must maintain an overall GPA of 3.3 and a GPA of 3.5 in Criminology. They must also achieve a minimum of B in all Criminology courses. For transfer students, the Department uses the cumulative, combined GPA calculated by the Office of the Registrar.

2. A student seeking Departmental Honors is required to write an independent research paper which is submitted to the Undergraduate Committee in the Department of Sociology. The nature of the independent research project is determined by the faculty member(s) with whom the student works. This project is done in SOC 498 & SOC 499 (Honors I & II). The student should have the same professor for all six credits.

3. Recruitment of eligible students is by departmental invitation at the beginning of a student’s junior year.
ECONOMICS
www.bus.miami.edu

INTRODUCTION

Economics uses the idea of maximizing behavior to provide a unified framework for studying human action. The economics curriculum is designed to give students an understanding of economic theory and its application to a wide range of human behavior. The program provides excellent preparation for careers in business, in government, and in international agencies. It is particularly recommended for students planning graduate study or professional training in fields such as law, business, international studies, public administration, and economics.

MAJOR

The major in economics consists of at least 24 credits, which must include:
ECO211
ECO212
ECO301
ECO302
MTH130 or MTH161 is required of all Economics majors and minors. The calculus course must be completed before enrolling in ECO302.

MINOR

Arts and Sciences students may minor in economics and are required to take ECO211, ECO212, ECO302 and two additional economics courses for a total of 15 credits.

Note: All courses submitted for the major or minor must be completed with a grade of C- or higher and with an overall grade point average of C or higher.

Academically qualified students may elect to take courses from the Departments curriculum for Honors credit.

Economics Course Listing
INTRODUCTION

The undergraduate program in Ecosystem Science and Policy (ECS) is offered by the Leonard and Jayne Abess Center for Ecosystem Science and Policy. The goal of the program is to educate the next generation of environmental leaders. The ECS program provides students with a broad background in environmental issues from a variety of perspectives, along with in-depth education in an area of specialization.

EDUCATIONAL OBJECTIVES

The ECS major offers a series of problem-based learning courses, culminating in a capstone course in the senior year. Courses emphasize integration of science and policy approaches to real-world environmental issues. This preparation gives students both the theoretical background and technical skills to pursue environmental careers in teaching and research, as well as for careers in government and private industries concerned with the environment.

DEGREE PROGRAMS

The Ecosystem Science and Policy program offers two undergraduate degree major programs: a Bachelor of Science (B.S.) and a Bachelor of Arts (B.A.). The ECS degree is a double major program. Students earning a B.S. in ECS must also complete a second major from one of the following disciplines: biology, biochemistry, chemistry, computer science, engineering, geological sciences, mathematics, microbiology, or physics. Students earning a B.A. in ECS must also complete a second major in a non-science area or the B.A. major in either geological sciences or in biology. Students are required to complete either an environmentally related internship or a research project with the Center for Ecosystem Science and Policy or with other UM faculty. Students earning dual degrees, for example from the College of Engineering and College of Arts and Sciences, must complete the ECS major and a minor in another area.

Only those courses passed with a grade of “C-” or better in the ECS core may be applied to the major or minor. All ECS majors are required to maintain an overall cumulative grade point average of 2.5 or better in order to graduate with a double major in ECS.

MAJOR

Bachelor of Science Degree: The B.S. degree is recommended for students intending to attend graduate or professional schools in pursuit of research or academic careers (including secondary or higher education). It is also suitable for those preparing for technical careers in government and private industries concerned with the environment. In addition to the College of Arts and Sciences general education requirements, the B.S. requirements are as follows:
**ECS Core:**
- ECS 111, 112, 113, 201 or 202, 301, 302, 403, **and** either ECS 401 (internship) **or** 402 (research)

In addition, students must take the following courses, which may fulfill the College of Arts and Sciences general education or second major requirements:

**Science Core:**
- Biology: BIL 160, 161 **and** 235
- Chemistry: CHM 111/113, **and** 112/114
- Environmental Pollution: CAE 240
- Geological or Marine Sciences: One of GSC 110/114, **or** GSC 111 **or** MSC 111
- Physics: PHY 101/106 **or** PHY 205, 206/208
  Environmentally-related science or engineering electives to total 6 credits (at least 3 credits of which must be at the 300-level or above).

**Mathematics:**
- As required by the College, all B.S. degree candidates must pass two semesters of calculus (MTH 151-162, MTH 161-162, **or** MTH 171-172) **and** one semester of a statistics course (e.g. ECS 204).

**Social Science Core:**
- Economics ECO 211 and 212 **or** two of Political Science (POL 201, 202 or 203).
  Environmentally-related social science electives to total 3 credits

Students with their second major in the College of Engineering should follow the general education and mathematics requirements of the College of Engineering.
Bachelor of Arts Degree: The B.A. degree is recommended in preparation for careers in law, government and business*, including professional schools and careers in government and private industries concerned with the environment. In addition to the College of Arts and Sciences general education requirements ‡, the B.A. requirements are as follows:

ECS Core:
ECS 111, 112, 113, 201 or 202, 301, 302, 403, and either ECS 401 (internship) or 402 (research)

In addition, students must take the following courses, which may fulfill the College of Arts and Sciences general education or second major requirements:

Science Core:
- Ecology: ECS 232
- Chemistry: CHM 101 or 111/113
- Environmental Pollution: CAE 240
- Geological Sciences: One of GSC 102, 103, 106 or GSC 110/114 or GSC 111
- Marine Science: MSC 101 or 111
- Environmentally-related science elective(s) to total 3 credits.

Mathematics*:
As required by the College, all B.A. degree candidates must satisfactorily complete a MTH course numbered 108, or higher. All ECS majors must complete one semester of a statistics course (e.g., ECS 204).

Social Science Core:
- Economics ECO 211 and 212 or two of Political Science (POL 201 and 202 or 203)
- Environmentally-related social science* electives to total 9 credits (at least 3 credits of which must be at 300 level or above)

* Students with their second major in the School of Business Administration should follow the general education and mathematics requirements of the School of Business Administration. Environmentally-related business electives may be substituted for environmentally-related social science electives. See listing under the School of Business Administration for further information.

† Students with their second major in the School of Communication should follow the general education requirements for the School of Communication.

MINOR

Minor in Ecosystem Science and Policy:
A minor in ECS is 15 credits and includes:
- ECS 111, 113, and 9 more credits in ECS (6 of which are at the 300-level or above)

Ecosystem Science & Policy Course Listing
EDUCATION

INTRODUCTION

Degree in Teacher Education for Elementary and Secondary Schools

The School of Education in conjunction with the College of Arts and Sciences and the School of Music offers a degree program in teacher education. Students majoring in Elementary may choose to earn their degree through the School of Education or the College of Arts and Sciences.

The program in Secondary Education enables a student to teach in a secondary school in the areas of English, Mathematics, Chemistry, Biology, Economics, Geography, History, International Studies or Political Science. Students wishing to earn certification in Secondary Education must complete a Bachelor of Arts or a Bachelor of Science degree in the College of Arts and Sciences with a major in Secondary Education. *

MINOR

TRADITIONAL EDUCATION MINOR

The requirements for a minor in education consist of 15-credits passed with a C or higher, with an overall GPA of 2.5 in courses selected from the list of acceptable TAL departmental courses. A minimum of six credits must be numbered 300 or higher. This minor does not lead to teaching credentials.

PROFESSIONAL TRAINING OPTION CERTIFICATE

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional component, one of the requirements to become a certified teacher in the State of Florida.

The PTO minor ranges from 17- 18-credits. Upon completion of the program participants will receive a Certificate of Completion. UM transcripts will indicate that the student has completed a Florida State approved PTO program. Program completers will be eligible to apply for a Temporary Teaching Certificate in the State of Florida.

* For specific information regarding required coursework, field experiences, and State requirements, please see an academic advisor in the School of Education.
Courses for the PTO minor are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL101</td>
<td>Social and Technological Foundations of Education</td>
</tr>
<tr>
<td>TAL103</td>
<td>Psychological Foundations of Education</td>
</tr>
<tr>
<td>TAL304</td>
<td>Content Area Reading and Learning Strategies</td>
</tr>
<tr>
<td>TAL305</td>
<td>Classroom and Behavior Management</td>
</tr>
<tr>
<td>TAL540</td>
<td>Instruction and Assessment in the Secondary School</td>
</tr>
</tbody>
</table>

One course selected from the following list as appropriate for the subject area

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL506</td>
<td>Issues and Strategies for ESOL</td>
</tr>
<tr>
<td>TAL524</td>
<td>Education and the Arts</td>
</tr>
<tr>
<td>TAL541</td>
<td>Instruction in Secondary English</td>
</tr>
<tr>
<td>TAL542</td>
<td>Instruction in Secondary Mathematics</td>
</tr>
<tr>
<td>TAL543</td>
<td>Instruction in Secondary Science</td>
</tr>
<tr>
<td>TAL544</td>
<td>Instruction in Secondary Social Studies</td>
</tr>
</tbody>
</table>

**OTHER**

All education programs are approved by the State of Florida Department of Education.

* For specific information regarding required coursework, please see an education advisor.
MINOR

The College of Engineering offers the student in the College of Arts and Sciences a variety of 15-credit minors designed to give the student a basic understanding of the technologies that support and shape our civilization. Minors may be elected in Civil, Architectural, Environmental, Electrical, Computer, Industrial, or Mechanical Engineering. The student is given considerable freedom in choosing courses in accordance with the student’s interests.

Faculty in the College are prepared to assist students seeking Engineering minors in the preparation of programs of study.

More detailed descriptions of these minors will be found in the COLLEGE OF ENGINEERING section of this Bulletin.
INTRODUCTION

The English Department offers programs for students interested in a liberal arts education. While many English majors direct their studies toward careers in law, business, creative writing, secondary education, or university teaching and scholarship, an English major is just as valuable to students considering careers in any of the health professions. Students who would like to learn more about any of these programs are encouraged to consult the Director of Undergraduate Studies in the Department of English, Ashe Bldg. 321.

EDUCATIONAL OBJECTIVES

English as a discipline offers an opportunity for a general humanistic education, and it develops skills in communication and analysis essential in most careers. An education in English teaches students to write, to think critically, to weigh values, and to communicate ideas; at the same time, it affords them a sense of beauty and informs them of the heritage of their own culture as well as others.

DEGREE PROGRAMS

The major in English leads to the degree of Bachelor of Arts.

MAJOR

Students majoring in English must earn 30 credits in English courses (36 credits for Departmental Honors) and must meet the requirements for one of the tracks described below:

The English Literature Major,
The Creative Writing Concentration,
The Concentration in British Literary History, or
The Women’s Literature Concentration.

Credits earned for courses in freshman composition (ENG 105, 106, 107, and 208) may not be applied toward the total number of credits required for the major. In each English course, the English major must make a grade of C- or better, with an overall GPA in the major of 2.0.

ENGLISH LITERATURE MAJOR

Requirements for the English Literature Major are as follows:

1. One of the following courses: English 201, 202, 205, 211, 212, 213, 214, 215, 260, 261. (N. B., ENG 210 may not be used toward the fulfillment of this requirement.)

3 credits
2. Four literature courses numbered 300 or above, at least two of which must be numbered 400 or above, distributed as follows: two courses in literature before 1700 and two courses in literature between 1700 and 1900.  

3. Five additional English courses other than freshman composition (i.e., any three courses designated ENG and numbered 200 or above, excluding ENG 208). 

**Total:** 30 credits

**CREATIVE WRITING CONCENTRATION**

Requirements for the Creative Writing Concentration are as follows:

1. Admission to the Creative Writing Concentration is based on a writing sample submitted to the Director of Creative Writing. 
   (For information about the writing sample, see the English Department Web site, [www.as.miami.edu/English](http://www.as.miami.edu/English)).

2. Completion of one of the following workshop tracks:

   **Fiction track:**
   - ENG 290
   - ENG 390
   - ENG 404 (to be taken twice) or ENG 404 (taken once) plus ENG 408

   **Poetry track:**
   - ENG 292
   - ENG 392
   - ENG 406 (to be taken twice) or ENG 406 (taken once) plus ENG 408

3. One of the following courses: English 201, 202, 205, 211, 212, 213, 214, 215, 260, 261. (N. B., ENG 210 may not be used toward the fulfillment of this requirement.)

4. Four more literature courses numbered 300 or higher, at least two of which must cover literature earlier than 1900. Two of the four courses must be 400-level.

5. One more literature course numbered 200 or higher.

**Total:** 30 credits
CONCENTRATION IN BRITISH LITERARY HISTORY
Requirements for the Concentration in British Literary History are as follows:

1. English 211 and 212.  
   6 credits

2. Eight courses numbered 300 or above, at least four of which must be numbered 400 or above, distributed as follows:
   One course on Shakespeare;
   One course on the history of criticism or literary theory;
   Two additional courses in British literature (or a combination of British and other literatures) before 1800;
   Two additional courses in British literature (or a combination of British and other literatures) after 1800;
   Two electives.  
   24 credits

3. Recommended: ancillary courses in Art History, Music, History Philosophy, in consultation with a departmental advisor.  
   Total: 30 credits

WOMEN’S LITERATURE CONCENTRATION
Students considering this concentration may want to take a special Women’s Studies section of English 106 in the freshman year.
Requirements for the Women’s Literature Concentration are as follows:

1. English 215.  
   3 credits

2. Four literature courses numbered 300 or above, at least two of which must be numbered 400 or above, distributed as follows:
   two courses in literature before 1700 and, two courses in literature between 1700 and 1900.  
   12 credits

3. Five additional English courses other than freshman composition (i.e., any two courses designated ENG and numbered 200 or above, excluding ENG 208).  
   15 credits

4. Three of the courses in 2 and 3, above, must be chosen from the following: English 372, 373, 374, 490, 494, or any English course numbered 200 or higher (other than ENG 215) cross-listed with Women’s and Gender Studies.  

5. Recommended: ancillary courses in Women’s and Gender Studies, in consultation with a departmental advisor.  
   Total: 30 credits
MINOR

The student minoring in English completes, with a grade of C- or better in each course and with an overall GPA in the minor of 2.0, at least 15 credits at the 200-level or above beyond the credits earned for freshman composition. The 15 credits must be distributed as follows:

1. One literature course at the 200-level;
2. A second literature course, at either the 200-level or the 300-level;
3. A third literature course, at the 400-level;
4. Two additional English courses other than freshman composition (i.e., any two courses designated ENG and numbered 200 or above, excluding ENG 208).

DEPARTMENTAL HONORS

DEPARTMENTAL HONORS IN LITERATURE

Students interested in seeking Departmental Honors in English should consult the Director of Undergraduate Studies in English, normally before the end of the junior year.

To enter the program a student must have achieved by the end of the junior year a 3.5 average in English courses and a 3.3 average overall. In addition to fulfilling the requirements for the English Literature Major, the candidate for Departmental Honors must:

1. Take at least three literature courses at the 400-level or higher in fulfilling requirement 2 of the English Literature Major.

2. Complete a six-credit Senior Thesis. This thesis is a documented essay of about 10,000 words on a literary subject. The student undertaking a Senior Thesis normally registers in ENG 497, Senior Thesis I for the first semester of the project, and in ENG 498, Senior Thesis II, for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors.  

3. Over the course of this two-semester sequence, students will be expected to participate in 3-4 workshops addressing different aspects of the writing process for independent research projects.

4. Receive for the thesis a recommendation for honors by the director of the Senior Thesis and by one other faculty reader from the Department of English.

5. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credits

DEPARTMENTAL HONORS IN CREATIVE WRITING

To enter the program a student must have achieved by the end of the junior year a 3.5 average in English courses (including courses in creative writing) and a 3.3 average overall. In addition to meeting the requirements for the Creative Writing Concentration, the candidate for Departmental Honors must:

1. Take at least three literature courses at the 400-level or higher in fulfilling requirement 4 of the Creative Writing Concentration.
2. Complete a six-credit Senior Creative Writing Project. The student undertaking this project normally registers in ENG 497, Senior Thesis I, for the first semester of the project, and in ENG 498, Senior Thesis II, for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors.  

6 credits

3. Receive for the project a recommendation for honors by the director of the Senior Creative Writing Project and by one other faculty reader designated by the Director of Creative Writing.

4. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credits

DEPARTMENTAL HONORS IN WOMEN’S LITERATURE
To enter the program a student must have achieved by the end of the junior year a 3.5 average in English courses and a 3.3 average overall. In addition to fulfilling the requirements for the Women’s Literature Concentration, the candidate for Departmental Honors must:

1. Take at least three literature courses at the 400-level or higher in fulfilling requirements 2 and 3 of the Women’s Literature Concentration.

2. Complete a six-credit Senior Thesis. This thesis is a documented essay of about 10,000 words on a literary subject. The student undertaking a Senior Thesis normally registers in ENG 497, Senior Thesis I, for the first semester of the project, and in ENG 498, Senior Thesis II, for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors.  

6 credits

3. Over the course of this two-semester sequence, students will be expected to participate in 3-4 workshops addressing different aspects of the writing process for independent research projects.

4. Receive for the thesis a recommendation for honors by the director of the Senior Thesis and by one other faculty reader from the Department of English.

5. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credits

English Course Listing
GEOGRAPHY AND REGIONAL STUDIES - Dept. Code: GEG
www.as.miami.edu/geography

INTRODUCTION

Geography and Regional Studies is concerned with the spatial or locational dimensions of environmental phenomena and organizational patterns of human activity on the earth’s surface. Concretely, geography deals with the analysis of topics ranging from environmental problems, political boundary disputes, and ethnic conflict to applied and more localized issues such as establishing new voting districts to provide better representation for ethnic minorities, determining where the next freeway link should be built, assessing the location of oil pipelines, or various matters regarding urban planning and governance.

Traditionally, geographers have regional expertise combining topical and geographic fields of knowledge: for example, population issues in the Caribbean, sustainable development in the Amazon basin, economic and political integration in Europe, territorial conflict in the Middle East, or the growth of megacities in South Asia.

Geographers are prepared for positions in teaching, government, private business, urban and regional planning, cartography, geographic information systems (GIS), conservation, and environmental analysis. The University of Miami’s Department of Geography and Regional Studies offers a wide range of specializations that relate to the social sciences at large and especially the field of international studies. Processes of globalization have increased the importance of the geographical analysis of human society and particularly the linkages between global processes and local outcomes and the growing interconnections of places across the globe.

EDUCATIONAL OBJECTIVES

The Department of Geography and Regional Studies offers specializations in areas such as:
- International migration
- Urban geography and international urbanization
- Environmental studies
- International and regional development
- Globalization

In addition, there is a range of courses on world regions such as Europe, the Middle East, Middle America, South America, etc. Finally, the department offers a set of courses that provide training in indispensable skills for everyone entering the present-day labor market:
- Research methodology
- Statistics
- Computer cartography
- Geographic information systems
- Remote sensing of the environment

DEGREE PROGRAMS

The major in Geography and Regional Studies leads to the degree of Bachelor of Arts.
MAJOR

GEOGRAPHY AS A FIRST MAJOR
REQUIREMENTS FOR GEOGRAPHY AND REGIONAL STUDIES
Students in the College of Arts and Sciences who take Geography and Regional Studies as a major must complete the following requirements:

I. Students must take at least 30 credits in geography courses.
II. For a geography course to count towards the major, the student must achieve a grade of C- or higher.
III. The overall GPA in courses toward the major must be 2.00 or higher.
IV. Majors must successfully complete three of the following courses:
    GEG 105
    GEG 110
    GEG 120
    GEG 199
V. Majors are required to take GEG 501 (Place, Nature, and Region) as a capstone course.

GEOGRAPHY AS A SECOND MAJOR
Students who take Geography and Regional Studies as a second major must complete the following requirements:

I. Students must take at least 24 credits in geography courses.
II. For a geography course to count towards the major, the student must achieve a grade of C- or higher.
III. The overall GPA in courses counting toward the major must be 2.00 or higher.
IV. Majors must successfully complete two of the following courses:
    GEG 105
    GEG 110
    GEG 120
    GEG 199
V. Majors are required to take GEG 501 (Place, Nature, and Region) as a capstone course.

MINOR
Students in the College of Arts and Sciences who take Geography as a minor must meet the following requirements:

I. Completion of at least 15 credits in Geography courses.
II. For a Geography course to count towards the minor, the student must achieve a grade of C- or higher.
III. The overall GPA in courses counting toward the minor must be 2.00 or higher.

IV. At least 6 credits must be at the 300-level or higher.

**GIS Certificate Program**

This Certificate Program is designed to benefit students who seek to enhance their skills in geospatial technologies, especially Geographic Information Systems (GIS) and satellite remote sensing. Students will be exposed to standard software tools used in the industry, as well as satellite image data. Students who earn the Certificate will enhance their employment prospects and/or advance their careers in geospatial technology, particularly in job settings that stress the use of satellite remote sensing and vector-based GIS.

The Certificate requires a minimum of 15 credits, including three core courses and two or more electives completed with at least a C grade in each course. Students may also receive up to 6 credits toward the certificate for past course work completed at UM or other accredited colleges and universities within the past 3 years.

**CORE COURSES**

- Introduction to GIS (GEG 199)
- Intermediate GIS (GEG 391)
- Environmental Remote Sensing (GEG 392)

**ELECTIVES**

- Cartographic Design (GEG 280)
- Introduction to Quantitative Methods (GEG 481 or GEG 580)
- GIS and Environmental Modeling (GEG 491)
- Independent Study (GEG 525)
- Internship (GEG 535)
- Advanced Quantitative Methods (GEG 582)
- Introduction to GIS for Graduate Students (GEG 591)
- WebGIS (GEG 595)
- Advanced Spatial Statistics (GEG 681)
- Courses offered under Special Topics in Geography (GEG 545):
  - GIS in Public Health

**OTHER**

**INTERNSHIP CREDIT**

Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center. Upon approval, 3 to 4 credits may be earned with an internship. These credits will be included in the fulfillment of major requirements (GEG 535).

**OVERLAPPING COURSES AMONG DUAL MAJORS**

Of the coursework at the 200-level or higher in Geography and Regional Studies, no more than 6 credits may count double towards the other major.
STUDY ABROAD

Majors are strongly encouraged to study abroad for a summer, a semester, or an entire year. Study abroad at carefully selected institutions will complement the student’s curriculum and area of specialization, will enhance fluency in the foreign language, and will result in heightened affinity for a foreign culture. The study abroad experience need not result in credit overloads or extended time spent in the program.

ACADEMIC STANDING

Only courses in which the grade of C- or better is attained may be counted towards the major or minor, and students must maintain a GPA of 2.00 or better in all required courses.

For more information e-mail terghazar@miami.edu, come by the Department of Geography and Regional Studies at 219 Ferre, or call (305) 284-6679 to make an appointment.

Geography and Regional Studies Course Listing
INTRODUCTION

Geological Sciences is concerned with Planet Earth, its origin, evolution, structure, internal and surface processes, mineral resources, environmental preservation, global dynamics, paleoclimate reconstruction, and life history. Geologists use their knowledge of chemistry, biology, physics and mathematics to solve Earth problems.

EDUCATIONAL OBJECTIVES

Geological Sciences undergraduates are prepared for careers in industry as well as graduate study in geosciences, the environmental sciences, and marine sciences. Career paths include research and teaching, as well as employment in the petroleum and mineral industries and in industries and government organizations concerned with energy resources, geodynamics, the marine environment, conservation, and climate change.

DEGREE PROGRAMS

The Department of Geological Sciences offers three undergraduate degree major programs and two double major programs:

- Bachelor of Science (B.S.)
- Bachelor of Arts (B.A.) in Geological Sciences
- Five-year Master of Science Program (M.S.)
- Geological Sciences/Marine Science (Double Major)
- Geological Science/Ecosystem Science and Policy (Double Major)

For the Geoscience Graduate Program please see the Division of Marine Geology and Geophysics at the RSMAS campus.

MAJOR

BACHELOR OF SCIENCE (B.S.)

The B.S. in Geological Sciences is recommended as preparation for graduate school and careers in professional research and science teaching. As described in sections 3 and 4 below, a B.S. in Geological Science requires a strong foundation in mathematics and several applied sciences.

1. Students must complete a core curriculum of 34 credits (GSC 110 or 120; 114 or 115; 111; 260; 360; 380; 410 or 420; 440; 480, and 482) with a grade of C- or better and with an overall GPA of 2.0.

2. In addition, the B.S. candidates must complete a summer field course (GSC 580 or an approved field course through another university).
The field course (GSC 580 or an approved equivalent at another University) is required for B.S. students and encouraged for others in order to gain practical experience in the skills of observation, interpretation, measuring, sampling, mapping and report writing. This requirement, when completed, has proven to be a strong asset when applying for graduate work or employment.

3. As required by the College, all B.S. degree candidates must pass two semesters of calculus (MTH 161-162 or MTH 171-172) and either (a) one semester of a computer course or (b) a statistics course.

4. Students are also encouraged to take one or more of MTH 210, MTH 211, MTH 224, MTH 311, MTH 312. CHM 111 is required (CHM 112, CHM 113, and CHM 114 are all recommended). Two semesters of college physics (PHY 101-102) are required. Two semesters of university physics (PHY 205-206) are recommended in lieu of college physics.

5. All Geological Sciences majors must also complete the “Required Areas of Study” of the College (see under COLLEGE OF ARTS AND SCIENCES in this Bulletin).

6. B.S. students must choose a minor from the following:
   - Biology
   - Chemistry
   - Computer Science
   - Ecosystem Science and Policy
   - Marine and Atmospheric Science
   - Mathematics
   - Physics

Geological Sciences B.S. students desiring a minor in Ecosystem Science and Policy must take ECS111, ECS112, ECS113, ECS(201 or 202), and 6 other science focused credits in ECS courses at the 300-level or above (ECS301, ECS380 series, and ECS580 series; and ECS372 series with approval of Departmental Chair).

**BACHELOR OF ARTS in GEOLOGICAL SCIENCES**

The B.A. in Geological Sciences is recommended for science oriented students who plan to use an understanding of Earth systems in their professional careers but desire a broader liberal arts education or are pursuing a dual major outside the sciences. B.A. students must complete a core curriculum of 24-27 credits including:

Two courses in the GSC 101, 102 or 111, 103 or 110 or 120 series; GSC 114 or 115; 260; 360; 482; and 8 additional credits at the 300 – 500 level with a grade of C- or better and with an overall GPA of 2.0.

In addition, B.A. students are strongly encouraged to take the summer field course (GSC 580) and/or field courses offered during spring break (GSC 231 or GSC 311).

**FIVE YEAR B.S. / M.S. IN GEOLOGICAL SCIENCES AND MARINE GEOLOGY**

A 5-year B.S. /M.S. in Geological Sciences and Marine Geology allows qualified students to complete a master’s degree in one year of study beyond the B.S.
The B.S. degree in Geological Sciences is offered through the Department of Geological Sciences in the College of Arts and Sciences. The Master of Science (M.S.) degree in Marine Geology and Geophysics is offered through the Division of Marine Geology and Geophysics in the Rosenstiel School of Marine and Atmospheric Science (RSMAS).

Undergraduate requirements are listed under the B.S. degree above with the Honors option. By the beginning of their junior year students should have obtained a graduate faculty advisor, selected an approved topic for research, and begun work on their senior thesis as preparation for the M.S. In the senior year, students will increase their focus on graduate courses and work closely with their graduate faculty advisor. Contact the Geological Sciences chair at the departmental office (305-284-4253) for more information.

**DOUBLE MAJOR**

Double majors are offered in cooperation with the Marine and Atmospheric Science Program and the Ecosystem Science and Policy Program.

1. Marine Science (MSC): This program consists of a major in the Geological Sciences and a major in Marine Science. Interested students should read the information under Marine and Atmospheric Science in this Bulletin and contact the Marine Science office (184 Cox Science or 284-2180) for details.

2. Ecosystem Science and Policy (ECS): This program consists of a major in Geological Sciences and a major in Ecosystem Science and Policy (ECS). Interested students should read the information under ECS in this bulletin and contact the ECS office (058 Cox).

**MINOR**

The minor in Geological Sciences consists of 16 credits in courses numbered 110 or higher. A minimum grade of “C-” must be earned in each course with an overall GPA of 2.0.

**DEPARTMENTAL HONORS**

Honors in Geological Sciences may be earned by students in good standing within the University Honors program. In addition to their general requirements, a student must have an overall GPA of 3.0 or better, and also perform research beginning prior to their senior year, resulting in a written Honor’s Thesis and oral defense approved by the student’s thesis advisor.

[Geological Sciences Course Listing]
HISTORY - Dept. Code: HIS
www.as.miami.edu/history

INTRODUCTION

History is the systematic study of the past. The study of history includes training in how to gather information, how to research issues and problems, how to analyze data and construct arguments, and how to communicate ideas in writing. These are essential skills, tools that are prized in the world beyond the university. A major in history is an excellent beginning and solid stepping stone to professional school and the business world. For goals ranging from law to journalism, and from medicine to the MBA, history serves as a versatile undergraduate major. Multinational businesses demand that their executives understand the peoples and cultures around them, and be able to communicate that understanding effectively. If an occupation demands critical thinking and analysis, a background in history is invaluable.

EDUCATIONAL OBJECTIVES

All history courses expose students to historical interpretation and critical analysis. Courses at the 100 and 200 levels are intended as introductions to broad fields of history and are open to students with no previous college-level history experience. All 300 level history courses are writing intensive, are graded principally through essay examinations and short papers, and count toward the fulfillment of the University of Miami writing across the curriculum requirement. I. Courses at the 400 level are programs of individual directed study. Permission of the instructor is required in each case, and such permission is normally given only to students who have completed a lower-level course with the faculty member in question. Courses at the 500 level require a 300 level history course as prerequisite. All 500 level courses deal extensively with the historiography of their particular subjects, and all require a written research project as a major component of the work of the course.

DEGREE PROGRAMS

The major in History leads to the degree of Bachelor of Arts.

MAJOR

A major in history consists of at least 30 credits in history with a grade of C- or better in each course, and with a cumulative GPA of at least 2.0 in history courses. These credits may include history courses taken for general distribution requirements, and must include at least 18 credits at the 300 level or above, of which at least 6 credits must be taken in the form of 500-level seminars. (HIS599 Independent Research does not count). All courses for majors will be selected by students in consultation with advisors designated by the department.

Credits from other institutions may be counted toward the major or minor, and to general distribution requirements as appropriate, but departmental approval is required in each case. Students who complete the Advanced Placement course in either United States or European history and pass the examination with a grade of 4 or 5 may receive credit in the
appropriate history courses. Students who complete the International Baccalaureate program and pass the higher level history examination with a grade of 6 or higher will receive 3 credits in the appropriate entry-level history course. (However, in some cases students will only receive elective credit). At least 18 credits of the major and at least 9 credits of the minor must be completed at the University of Miami.

The department offers a variety of study abroad options with credit toward the major or minor.

MINOR

A minor in history consists of at least 15 credits in history with a grade of C- or better in each course, and with a cumulative GPA of at least 2.0 in history courses. These credits may include history courses taken for general distribution requirements, and must include at least 9 credits at the 300 level or above. Courses for minors should be selected in consultation with a departmental advisor.

DEPARTMENTAL HONORS

History majors with a cumulative GPA of at least 3.6 in history courses may earn departmental honors by completing a research project of 6 credits judged worthy of honors by a departmental committee, provided that at least 6 courses worth 18 credits have been completed at the University of Miami.

OTHER

For the requirements of the M.A. and Ph.D. degrees in history see the Bulletin of the Graduate School.

History Course Listing
INTERNATIONAL STUDIES - Dept. Code: INS  
http://www.as.miami.edu/international-studies

INTRODUCTION

The International Studies major provides a focused educational experience aimed at familiarizing students with the key structural features and dynamics of the international system and preparing them to enter the growing international job market. Processes of globalization, in part driven by global capital flows, expanding trade and the unrelenting development of communication and information technologies, have affected virtually everyone in every country, often in ways we are just beginning to understand. These developments often pose serious problems for government and other societal institutions, while also creating a demand for individuals who understand international processes. Jobs in virtually all sectors have acquired a decidedly international dimension, whether in trade, tourism, finance, public policy, government, or education. INS Graduates have moved on to the corporate world, the public sector, started their own businesses, or have continued their studies at the graduate level (i.e. Law, Business, and International Studies).

EDUCATIONAL OBJECTIVES

International Studies seeks to provide students with the ability to understand:

- International politics within the context of interstate relations and foreign policy.
- International economics and its sub-discipline international political economy, including such issues as trade and production, money and finance, and development.
- Social science research methods including qualitative, quantitative, comparative case study and formal modeling.

Students are encouraged to explore interdisciplinary options that further their understanding of international studies. This type of coursework can be taken in other disciplines offered at the university or taken outside the institution, either through exchange programs or other inter-institutional options provided by UM. Students will demonstrate the ability to synthesize the various thematic areas of the discipline through required participation in advanced seminars. Seminars will stress analytical participation, oral presentations and the ability to interpret and critique core theoretical readings.

DEGREE PROGRAMS

International Studies provides both a major and minor option for students. The flexibility of the program often allows students to double major without the need to extend their university studies. Students are encouraged to speak with the International Studies advisor to explore such possibilities. The major in International Studies leads to the degree of Bachelor of Arts.
MAJOR

Requirements for the Major in International Studies (30 credits)

The International Studies major consists of three components:
I. Core Requirements
II. Thematic Core
III. INS Electives

I. Core Requirements (12 credits)
INS 101* Global Perspectives – Introduction to International Studies.
INS 102 Global Economics.
INS 201* Globalization and Change in World Politics.
INS 202 Research Methods in International Studies.

* These courses must be completed before taking the Thematic Core courses.

II. Thematic Core (12 credits):
Students should choose at least one course from each of the following four fields. Additional classes will be counted toward the elective portion of the INS major, if taken. Other courses, including classes in other disciplines, may be taken with the approval of the INS Advisor.

International Politics, Foreign Policy and Peace Studies:
INS 341 Nationalism, Ethnicity and Conflict
INS 540 International Peace and Conflict Resolution
INS 542 Drug-Trafficking in the Americas
INS 560 US Foreign Policy
INS 561 Negotiation and Bargaining
INS 566 US-Latin American Relations

Comparative Studies of Politics and Societies in a Globalizing World:
INS 330 Introduction to Comparative Analysis
INS 335 Democratization
INS 533 Transnational Social Movements
INS 534 The Military, State and Society
INS 565 The World Before European Domination
INS 584 Latin American Thought

International Economics, Political Economy and Development:
INS 320 Global Economics II
INS 321 Global Political Economy
INS 322 Economics of Development and Environment
INS 420 Global Trade
INS 520 Environmental Economics and Policy
INS 571 International Development and Human Welfare

International Law, Organizations, and Global Governance:
INS 460 United Nations Seminar
INS 564 International Law
INS 570 Globalization and Health
INS 573 Disasters, Terrorism and Global Public Health
INS 591 The European Union
INS 595 European Social Movements
III. INS Electives and Interdisciplinary Options (6 credits):
Students are required to take a total of 6 additional credits of elective course work from INS
courses at the 300 level or above. With the approval of the INS Advisor, students may take
courses from other departments outside of INS such as Geography and Regional Studies,
History, Anthropology, Sociology, Political Science, Economics, Religion, Art History, Foreign
Languages, Environmental Science, et cetera. Appropriate study abroad courses, an
approved internship (INS 519), or an honors thesis (INS 418 & 419) may also be used to
fulfill elective credit requirements.

Important Advising Notes for all International Studies Majors

1) Double Counting
Of the combined courses in the Thematic Core and the INS Electives, no more than 6 credits
may count double towards a second major. A student may not count any course used to
fulfill the requirements of the INS major toward a minor requirement.

2) Study Abroad
Students are strongly encouraged to study abroad for a summer, a semester, or an entire
year, depending on the program. Study abroad at carefully selected institutions will
complement the student’s curriculum and area of specialization, will enhance fluency in the
foreign language, and will result in heightened affinity for a foreign culture. The study
abroad experience need not result in credit overloads or extended time spent in the
program.

3) Internship Credit
Students are encouraged to find a suitable internship during their undergraduate career.
Upon approval by an advisor in the International Studies Undergraduate Program Office, 3
credits may be earned with an internship (INS 519), either toward the major or as elective
credits (depending on the relevance of the particular internship to the INS major). The
University’s Toppel Career Planning and Placement Center regularly advertises internships.

4) Academic Standing
Only courses in which a grade of C- or better is attained, may be counted towards the
International Studies major and students must maintain a GPA of 2.75 or better in all major
requirements (30 credits).

MINOR

Requirements for the Minor in International Studies (15 credits)
The International Studies Minor consists of two parts: (I) a 6-credit set of introductory
courses; (II) 9 credits in advanced courses.

I. Base (6 credits)
Two of the following core requirements must be taken:
INS 101 — Global Perspectives - Introduction to International Studies
INS 102 — Global Economics
INS 201 — Globalization and Change in World Politics
INS 202 — Research Methods in International Studies
II. Advanced courses (9 credits).
In order to graduate with a minor in International Studies, students must take three INS courses at the 300-level or above. Advanced level courses from other departments may be taken if approved by the INS advisor.

Only courses in which a grade of C- or better is attained may be counted towards the minor in International Studies, and students must maintain a GPA of 2.75 or better in all minor requirements (15 credits).

DEPARTMENTAL HONORS

The Department of International Studies encourages its majors to intensify and deepen their knowledge of the field through its departmental honors program. The program is designed to give students the opportunity to explore various topics and problems in international studies that are of particular interest to them, to work more closely with departmental faculty, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in international studies and related fields.

Minimal requirements for the program are as follows:
1) a cumulative grade point average of at least 3.30;
2) a cumulative grade point average in international studies of at least 3.50; and
3) a thesis that is approved, with a grade of at least B+, by a member of the departmental faculty.

After reaching agreement with a member of the faculty who will serve as the honors thesis advisor, students writing a senior honors thesis will enroll in INS 418 and 419, Honors Thesis, for a total of six credits [the credits may be spread over two semesters or taken in a single semester]. The thesis itself is expected to be an extended, coherent work of scholarship on an issue of relevance in the field of international studies.
THE GEORGE FELDENKREIS PROGRAM IN JUDAIC STUDIES  
Dept. Code: JUS  
www.as.miami.edu/judaic

INTRODUCTION

The George Feldenkreis Program in Judaic Studies is a broad, flexible, non-theological interdisciplinary program designed for undergraduates to gain an understanding of Jewish civilization and its diverse cultural experiences. The program is an academic exploration of the multi-faceted, socio-historical, 4,000-year record of the Jewish people. Courses that are co-/cross-listed with the Program, highlight the variety of cultural, political, social, and religious experiences of Jews in different times and places.

EDUCATIONAL OBJECTIVES

The program is structured to provide a liberal arts education that will constitute a foundation for advanced academic study, professional careers in a variety of fields, and a more complex and rich understanding of the Jewish world. Judaic Studies courses meet distribution requirements for the Humanities and Social Sciences in the College of Arts and Sciences, the College of Engineering, the School of Communication, the School of Business, and the Frost School of Music and can be used to satisfy requirements by majors and non-majors.

MAJOR

THE MAJOR (ten courses – 30 credits):

2. Survey of Jewish Literature (ENG 205).
3. A course in Hebrew at the 200-level or higher (which can be used simultaneously to fulfill the College of Arts and Sciences Language requirement).
4. One course in Ancient Jewish History and Society and one course in Modern Jewish History and Society. Courses will be designated appropriately by the Program Director each semester.
5. 15 more credits (5 courses) in classes listed in or co-/cross-listed with Judaic Studies, 12 credits of which must be completed at the 300-level or higher. Students who complete HEB 202 need only complete 9 credits at the 300-level or higher.

MINOR

THE MINOR (five courses – 15 credits):

Students must complete at least one of the following 3 courses:

- JUS231 (Jewish Civilization: Society, Culture, and Religion)
- ENG205 (Survey of Jewish Literature)
- GEG300 (Jewish Geography)
Students are strongly encouraged to take Hebrew 101, at least one course designated as a “Modern Course,” and at least one course designated as an “Ancient Course.”

A grade of “C-“ or better must be attained in each course with an overall GPA of 2.0.

NOTE: Any student who successfully completes 5 courses in the UGalilee Program shall also be awarded a minor.

DEPARTMENTAL HONORS

Honors in Judaic Studies consists of the items listed above under the Major, plus an Honors Thesis and one additional elective at the 300 level or higher.

OTHER

UGalilee Program

The Judaic Studies Program offers the UGalilee Program - A full semester each Spring at ORT-Braude College in Karmiel, a modern city in the Galilee, Israel (a bus and/or train ride away from Israel’s major centers). Students earn a Judaic Studies Minor while studying in the Galilee, the birthplace of Rabbinic Judaism and Early Christianity. Students take five-six University of Miami courses taught by UM and Israeli scholars for a total of 15-18 UM credits and earn credits in Religion, History, Anthropology, Geography, Philosophy, or Judaic Studies and G.E.R. A pre-med option is in place. Students participate in faculty-led study trips to sites such as Jerusalem, Nazareth, Tel Aviv, the Golan, Caesarea, Sea of Galilee, Haifa, and Masada.

Don’t miss out on this exciting opportunity!

For more information on UGalilee visit our website at http://ugalilee.miami.edu/

Holocaust Survivors Service Internship (JUS 205/206)

Valuable, once-in-a-lifetime opportunity to meet with survivors of the Holocaust who currently reside in South Florida. Students are expected to commit to two semesters of service for 3 credits each semester. Credits may be earned for JUS, APY or Humanities requirements. About one hour a week or two hours every other week of contact is expected.

Students may be eligible, subject to availability of funds, for a Sue Miller Scholarship for the two semesters. Students will also earn a stipend of $250 per semester (to cover any transportation costs).

Students who participate in the program will assist Holocaust survivors as "friendly visitors." Student volunteers will meet six times each semester with a UM faculty member to share their experiences and to participate in enrichment activities.

The program is open to students of all denominations and backgrounds.

Judaic Studies Course Listing
LATIN AMERICAN STUDIES - Dept. Code: LAS
www.as.miami.edu/lasp
www.as.miami.edu/lasp/degrees/filas

INTRODUCTION

Latin American Studies offers an interdisciplinary approach to learning about the politics, economics, cultures, and societies of Latin America and the Caribbean. Undergraduate courses are offered in Africana Studies, American Studies, Anthropology, Architecture, Art and Art History, Biology, Communication, Economics, Geography, History, Journalism, International Studies, Marketing, English, Modern Languages and Literatures, Music, Musicology, Political Science, Religious Studies, Sociology, and Women’s and Gender Studies. The major in Latin American Studies is designed for the student who wants to acquire background knowledge about the area or who is interested in some aspect of Latin American and Caribbean affairs, such as government, law, business, research, journalism, or education. Students are strongly encouraged to spend at least one semester abroad on a program with a Latin American and Caribbean Studies component (see Office of International Education and Exchange Programs, 212 Allen Hall).

EDUCATIONAL OBJECTIVES

The goal of the BA in Latin American Studies is to acquire, advance and disseminate knowledge of the history, literature, culture, politics, economics, and natural and social sciences of the regions within an interdisciplinary framework, while at the same time emphasizing the languages and cultures of Hispanophone, Francophone and Lusophone Americas including the transnational study of Latin Americans, Caribbeans and their descendants in the United States. Students should leave the program with the following:

- the analytical and methodological tools needed to conduct interdisciplinary research;
- the ability to read, write and think critically about primary and secondary sources.
- a general knowledge of the different regions that comprise Latin America, the Caribbean and their Diaspora as well as a critical understanding that the geographic, political, and cultural boundaries that have traditionally defined the "area" as an object of study are not isomorphic and are connected to the interests of European and North American powers;
- a critical understanding of the competing ways in which Latin American and Caribbean peoples have represented themselves paying particular attention to race/ethnicity, class, gender and sexuality, language, religion, migration, transculturation, and other historical, social, economic, and political factors;
- a language competency in French, Spanish, Portuguese, or Haitian Creole at an intermediate level and a beginning competency in a language other than the above or in an indigenous language of Latin America and the Caribbean;
- a "Beyond the Books" experience that will bridge the gap between the university and the surrounding communities, and will help solidify a long-term interest in and commitment to the regions.
DEGREE PROGRAMS

Bachelor of Arts

MAJOR

MAJOR IN LATIN AMERICAN STUDIES (BA)

Program of Study:

1) Gateway Course in LAS (LAS101)  

2) Advanced language proficiency in Spanish, French, Portuguese, or Haitian Creole: This requirement may be met with SPA214, FRE214, POR212, or HAI201 or equivalent.  

3) Secondary language competence in another Latin American or Caribbean Language: This requirement may be met with SPA105, FRE105, POR105, HAI102 or equivalent, or by successfully completing a Latin American, Caribbean, or Indigenous language course in the DILS program.  

4) Six credits in Latin American history  

5) Eighteen (18) credits (six courses) in classes listed in LAS or cross-listed with LAS, 12 credits of which must be completed at the 300-level or higher. Courses that are not co- or cross-listed with LAS but do have a significant focus on Latin America may be taken with the approval of the degree director. A freshman seminar with a significant focus (25% or more) on Latin America or the Caribbean may be counted towards this requirement. SPA214 and FRE214 may be counted towards this requirement.  

6) Senior Seminar (LAS501) or Independent Study (LAS494)  

TOTAL 36 credits

**A C- or better for all major courses, with a GPA of 2.0

MINOR

Latin American Studies Minor

The minor in Latin American Studies may be obtained by completing LAS101 or LAS290 and 12 more credits in Latin American Studies approved courses. At least three of these courses should be taken at the 300 level or above.
FILAS (Fellows in Latin American Studies)

In this highly selective Honors Program, students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities.

Working with UM’s world-class faculty in various academic disciplines, FILAS participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, FILAS students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication, Environmental Studies, Public Health, or History. For broad-based, multi-disciplinary preparation, students choose courses that focus on Latin America and the Caribbean from the following categories (at least ten of these courses must be taken at the Master’s level):

- One gateway seminar in Latin American Studies
- Two History courses
- Two International Studies courses
- Two Economics courses
- Two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)
- Seven courses in Study Abroad
- One course as internship/co-op credits
- Five courses above the 300-level (third-year) in a range of disciplines
- Ten courses in one focus track
- Six thesis credits (LAS710)

150 total credits

FILAS students also write a thesis based on an original research project. In addition, they present their findings in a meeting of the UM Center for Latin American Studies in their final semester.

FILAS ADMISSION REQUIREMENTS

- SAT1 composite score of 1360 or ACT 31.
- Top 10% of high school graduating class.
- Regular Application for Admission to the University of Miami. We recommend students submit their applications by November 15.
- Recommendations from three high school teachers.
- Statement of interest in FILAS, emphasizing prior language or area study
- To continue through the Master’s level, students must maintain at least a 3.4 GPA and they must take the GRE Exam.
DEPARTMENTAL HONORS

Students with an appropriate GPA are encouraged to contact the program to apply for departmental honors.

REQUESTS FOR INFORMATION
For more information, contact:
LAS Degree Programs
University of Miami
1111 Memorial Drive
Coral Gables, FL 33124-2302
(305) 284-8180
FAX (305) 284-2796
lasgrad@miami.edu

Latin American Studies Course Listing
MATHEMATICS - Dept. Code: MTH
www.math.miami.edu

EDUCATIONAL OBJECTIVES

The aim of these degree programs is to provide students with a core knowledge of mathematics essential to the understanding of science and other disciplines. Students should gain substantial problem solving and critical reasoning skills and should develop an understanding of the conceptual underpinnings of mathematics. The knowledge gained through these programs should provide the necessary background in mathematics for those students planning to go on to graduate study in mathematics and related fields. This knowledge should also prepare those students who will be immediately entering careers in science, business, education or other fields which are increasingly making use of mathematics.

DEGREE PROGRAMS

Bachelor of Arts and Bachelor of Science

MAJOR

The requirements of a major in mathematics vary according to the objectives of the student. The seven courses required of all mathematics majors are 161 (or 171), 162 (or 172), 210, 230, 310, 461 (or 561), 433 (or 533). An additional four courses are required, selected from one of the following options:

- **Core Mathematics**: four of 510, 512, 531, 532, 534, 551, 562.
- **Applied Analysis**: 311, 512, 513-514 or 515-516. (Course work in physics is desirable).
- **Computational Mathematics**: 320, 517 (same as CSC 517), 520-521.
- **Probability and Statistics**: 224, 524-525, 542.
- **Secondary School Teaching**: 224, 309, and two of the following: 502, 504, 505 (This option is only for those obtaining a teaching credential.)
- **Mathematical Economics**: MTH 524-525, ECO 512, or and one of the following: ECO 520, ECO 521, ECO 533.

It would be useful for students planning to do graduate study in mathematics to complete the following courses: 531, 532, 533, 534, 561, 562.

Students interested in actuarial science should choose the Probability and Statistics option; for these students a finance minor is recommended.
Transfer students will be permitted to apply up to 14 transfer credits towards the major; however, the courses 461 (or 561) and 433 (or 533) must be completed at the University of Miami.

A grade of C- or better is required for each course applied toward the major; the overall quality point average for University of Miami courses applied toward the major must be 2.5 or above.

MINOR

A minor in mathematics requires three of the following courses which must be taken in the Department of Mathematics, University of Miami: 210, 211 (or 310), 224, 230, 309, 311, 320, 359, 433, 461; selected 500-level mathematics courses with approval of the department chair.

A grade of C- or better is required for each of the three courses applied toward the minor; the quality point average for the three courses must be 2.5 or above.

DEPARTMENTAL HONORS

Requirements for departmental honors in Mathematics:
Three two-course sequences from 513-514, 515-516, 520-521, 524-525, 531-532, 533-534, 561-562; the student must attain at least a B in each course used to fulfill this requirement. In addition, the student must attain at least a 3.5 average over all courses counted toward the mathematics major and an overall (university-wide) average of at least 3.3.

For requirements leading to the Master of Arts, Master of Science, or Doctor of Philosophy degrees, with a major in mathematics, see the Bulletin of the Graduate School.

Mathematics Course Listing
MICROBIOLOGY AND IMMUNOLOGY - Dept. Code: MIC  
http://www.miami.edu/studorgs/microbiology/undergrd/index.htm

INTRODUCTION

Microbiology and Immunology is an ancillary department in the College of Arts and Sciences. Our primary goal is to educate students in their chosen field and instill into them a desire for lifelong learning. Research opportunities and laboratory engagement help create knowledge in our students while preparing them to become active members of the scientific and public communities. A major in Microbiology and Immunology requires thorough preparation in chemistry, biology, biochemistry, physics, and mathematics.

EDUCATIONAL OBJECTIVES

1. To expose students to the various disciplines within the field of Microbiology and Immunology, including virology, parasitology, microbial genetics, immunology and medical bacteriology.
2. To introduce students to special projects and/or research opportunities in laboratories at the School of Medicine.
3. To provide laboratory experience for the development of skills required for the conduct of research.
4. To make students aware of current cutting edge research in the field of Microbiology and Immunology by attending seminars of speakers from within and outside the University.

DEGREE PROGRAMS

A Bachelor’s of Science degree is awarded to all microbiology and immunology majors upon completion of the requirements.

MAJOR

Minimum requirements are:

A. A total of 24 credits are required for the major: MIC 301 or MIC 303/304 and MIC 321 are required of all Microbiology and Immunology majors. The remaining 16 credit hours must be earned from: MIC 322, 323, 434, 436, 441, and 451-456. In addition, [BIL 352 or BIL 554] and/or [BIL 255] and/or [GSC 310 or MSC 465] may also be used. Honors students must take both the MIC 301 or MIC 303/304 and MIC 302.

B. Required courses are: Chemistry 111/113, 112/114, 201/205, 202/206; BIL 150/151, and 160/161; Biochemistry and Molecular Biology 401; Physics 101/106 and 102/108 or PHY 205, 206, 207, 208 and 209; two semesters of calculus including MTH 162 and one computer science or statistics course (CSC 120, CSC 210, MTH 224, PSY 292, SOC 211, EPS 553).
All MIC majors are required to have a minor (science or non-science). Students automatically get a CHM minor provided that they take one year of organic chemistry while in residence at UM.

Transfer students seeking a Microbiology and Immunology major must earn at least 10 credits taken in residence at UM beyond MIC 301 in the courses listed above for majors under A.

**MINOR**

A minor in Microbiology and Immunology consists of 12 credits. Eight for MIC 301 (or MIC 303/304), MIC 321 and at least four additional credit hours in the following courses: MIC 322, 323, 434, 436, and 441.

Variations in the above programs may, in special cases, be approved by the Microbiology and Immunology undergraduate advisor and Director. All courses in Microbiology and Immunology to be credited toward a Microbiology and Immunology major or minor must be completed with a grade of C- or better with an overall GPA of 2.0.

MIC courses 451-456 must have department Director approval before registration.

**DEPARTMENTAL HONORS**

See HONORS PROGRAMS elsewhere in this Bulletin for minimal requirements. In addition to the grade point averages specified in the minimal requirements, the following program constitutes the Microbiology and Immunology Honors Program.

1. Six credits of Special Projects carried out under supervision of a member of the Microbiology and Immunology faculty, culminating in a senior thesis that includes 15 references.

*Microbiology and Immunology Course Listing*
INTRODUCTION

The Army Reserve Officer Training Corps is a college elective that will help students succeed in their desired career, whether civilian or military. Students who complete all ROTC requirements may be commissioned second lieutenants and serve in the Army, Army National Guard or Army Reserve.

The military science department's Reserve Officers Training Corps (ROTC) program of instruction qualifies the student for a commission in the United States Army, Army National Guard, or United States Army Reserve. The curriculum does not provide technical training in a job specialty nor does it emphasize vocational training; rather, it complements and provides a base for normal progression in the commissioned officers' educational program.

Leadership and management objectives are included in academic periods of instruction. Practical leadership experience is gained in a field training environment by attendance at a 31-day summer camp, normally between the junior and senior years. Nursing students may attend a nursing internship at Army hospitals following the normal summer camp. A leadership laboratory also provides experience in a range of leadership positions during the school year. The department offers both a four-year and a two-year program, each with its own special advantages. Students are invited to visit or write the Department of Military Science to obtain additional information.

Core Program

The program requires four years of military science courses which consist of a two-year basic course and a two-year advanced course. Students can begin the four-year program as freshmen or as sophomores.

There is also a two-year ROTC program for those students with only two years of college remaining. The two-year course is designed for junior college and other non-ROTC college transfer students, but may be utilized by students who did not enroll in the basic course outlined below. Graduate students may also qualify for enrollment in the two-year course. Additional information regarding eligibility requirements for the two-year program may be obtained by contacting the Department of Military Science.

Women are encouraged to enroll and will be commissioned as officers in the United States Army upon completion of the ROTC curriculum. Job opportunities for women officers in the Army are the same as those for men, excluding a few combat arms fields.

Basic Course

The basic course is normally taken as an elective subject by students in their freshman and sophomore years. The purpose of this instruction is to qualify students for entry into the advanced course by familiarizing them with the organization of the Army, military skills, and military tradition. Students do not incur any military obligation as a result of enrolling in the basic course. Enrollment in ROTC requires proof of a doctor's physical screening.
Participation in regularly scheduled physical training is required. In addition to classroom instruction, a one and a half hour leadership laboratory period is required every other week.

**Advanced Course**

Instruction in the advanced course includes leadership and management, the exercise of command, military teaching methods, tactics, logistics, administration, history, and military justice. Leadership experience and command experience are provided by assigning advanced course students as cadet officers and noncommissioned officers. Participation in regularly scheduled physical training is a required part of the leadership training. Classroom instruction consists of two one and a quarter hour (75 minutes) periods each week and a two hour (120 minutes) leadership laboratory period every week. Only students who have demonstrated a definite potential for becoming competent officers will be selected for the advanced course.

**Army Nurse Corps Option**

Students enrolled in the School of Nursing curriculum leading to the degree of Bachelor of Science in Nursing may simultaneously qualify for commissions as Second Lieutenants in the Army Nurse Corps. Nursing students qualify for entry into the Officer Development Course through satisfactory completion of the General Military Course, the Basic Camp option or equivalent training. Nursing students participate in a summer Advanced Camp training program and an Army nurse training program. They provide practical and leadership experience in the clinical setting. The focus is to provide nursing cadets an experience which integrates clinical, interpersonal and leadership knowledge and skills. Emphasis is placed on practical experience under the direct supervision of an Army Nurse Corps Officer who acts as the cadet’s preceptor throughout the camp period.

**Professional Military Education**

In addition to basic and advanced ROTC courses, cadets must complete professional military education requirements consisting of one course in each of the following areas: written and oral communication skills, U.S. military history, and computer literacy. Students should consult with the professor of military science to determine those University courses suitable for fulfilling these requirements.

**Monetary Allowances**

Cadets selected for admission into the advanced course qualify for a nontaxable monetary allowance of $450–$500 per month for up to 20 months. Cadets may also qualify for the simultaneous membership program with the United States Army Reserve or National Guard, which can provide approximately $4,800 per semester during the last two years of school. Both the United States Army Reserve and the National Guard offer additional monetary incentives for cadets who join their organizations (drill pay).

**Army ROTC College Scholarship Program**

Financial assistance is available in the form of two- or three-year ROTC academic scholarships for selected students. Under the Army ROTC Scholarship Program, the students/cadets receive FULL Tuition and Fees. Additionally, Army scholarship recipients receive a flat-rate allowance of $1200 per year for textbooks and other expenses and $350–$500 per month stipend for up to 10 months per year. During the 32-day advanced course summer training between the junior and senior years, Army ROTC also pays attending
cadets $27 per day plus room and board. There are also numerous national and organizational scholarships that students may compete for as a member of Army ROTC. Once a student becomes a contracted scholarship recipient, they then become eligible to receive a grant from the University that equals one quarter tuition per year.

**Uniforms and Textbooks**

All uniforms and items of insignia incident to membership in the Army ROTC Program are furnished by the Department of Military Science. Textbooks are provided at no cost to students/cadets enrolled in the basic course.

**Special Activities**

Cadets have the opportunity to join and participate in a number of military affiliated organizations and activities, both on a voluntary and a selective basis. The Color Guard is a voluntary organization that functions as a military unit participating in military ceremonies and presenting the national colors at civic events. Cadets have the opportunity to qualify for and compete with cadets from other universities and colleges in a series of military events termed Ranger Challenge.

**Awards and Decorations**

Awards and decorations made available by national organizations, the University of Miami Army ROTC Alumni Association, and local and national military organizations, are presented to both basic and advanced officer course cadets each year. These plaques, trophies, medals, and ribbons symbolize superior achievement in Army ROTC and other University academic courses, and in outstanding campus and cadet corps leadership.

**Prerequisite for Admission to the Professional Officer Course**

1. Be at least 17 years of age at time of acceptance.
2. Be able to complete the professional officer course and graduate from the University of Miami prior to reaching the age of thirty (30) at the time of commissioning.
3. Selection by the professor of military science and acceptance by the University of Miami.
4. Execute a written agreement with the government to complete the professional officer course and accept an Army ROTC commission.
5. Enlist in the Army Reserve Component-ROTC (terminated upon receiving an Army officer commission).

Those students enrolled in the four-year Army ROTC program must complete the basic course or its equivalent, or have acceptable prior military service. Veterans and students with previous ROTC training are invited to write, visit, or call the Department of Military Science (305) 284-3329 or (305) 348-1619 to discuss their eligibility status.

Students desiring entry into the two-year Army ROTC program should contact the Department of Military Science one semester prior to the semester in which they wish to enroll in the professional officer course. This lead time is required to complete the application and a physical examination prior to enrollment in the professional officer course.
Leadership Laboratory

Leadership laboratory is open to students who are members of the Reserve Officer Training Corps or who are eligible to pursue a commission as determined by the professor of military science. Leadership laboratory is the formalized phase of leadership training conducted by the cadets. It is scheduled for two (120 minutes) hours every week for both the basic and advanced officer courses (non-contracted and contracted). All uniforms and equipment required for cadet activities are furnished.

EDUCATIONAL OBJECTIVES

To provide a base of knowledge in the areas of ethics, leadership, Communication skills, Military Leadership, U.S Military History, Tactics and Team building to include future Officer development.

DEGREE PROGRAMS

Students can receive degrees from the university in addition to being in the Army ROTC program, as well as being eligible (once requirements are met) to receive a minor in Military Science.

Military Science Course Listing
INTRODUCTION

The study of languages is integral to education in a global university. In addition to providing access to various cultural perspectives, multilingualism fosters success in business, economics, law, medicine, education, social sciences, politics, the arts, and humanities. Language study most effectively enriches academic as well as personal experiences when students choose a language based on its relevance to possible careers, to research in particular fields, to personal heritage, or to the understanding of unfamiliar cultures. At the University of Miami, students can choose courses in Arabic, Chinese, French, German, Haitian Creole, Hebrew, Italian, Japanese, Portuguese, and Spanish.

Many students combine advanced modern language study with majors in other fields. Students majoring in a modern language often choose second majors in programs such as International Studies, Communications, History, Political Science (and other pre-law fields), Biology (and other pre-med fields), English, Finance, Latin American Studies, Anthropology, Psychology, Computer Science, Sociology, and Philosophy.

The Department has Undergraduate Advisors for each language. You are encouraged to consult with them for placement, and must consult with them if you plan to major, minor, or study abroad (contact the Department office for names and office hours). If you plan to double major, you must have an advisor from each of your fields.

Students may qualify for a wide range of departmental awards for excellence in linguistic and literary achievement. The Modern Languages and Literatures Awards Reception takes place annually during graduation week. Some awards are conferred through nomination by professors; others require an application. Students may obtain information on specific awards in the Department office. The annual deadline for applications is usually in early March.

PLACEMENT GUIDELINE FOR MLL COURSES

Most students studying a second language can determine their appropriate level by adhering to the following guidelines. However, various factors (i.e., the strength of the program in which the student previously studied the language, how long it has been since the student has used the language, the extent of the student’s exposure to the language at home/in social settings; the student’s knowledge of other languages, etc.) make it such that these are only guidelines and individual cases may differ. For this reason, on the first day of class of each course section, the instructor conducts a diagnostic evaluation of students' abilities. The instructor will then inform students whether that course is indeed the level or track that will benefit him/her the most or, if not, which course he/she must take. For this reason, it is extremely important that students attend their language class on the first day of class for the semester.

Students who wish to study Spanish (as a second language, native language, or heritage language) can get more tailored placement advice through our on-line placement advisor: http://www.as.miami.edu/mll/labs/resources/placement/index.html
The following are MLL’s general placement guidelines:

- If you have not studied Arabic, Chinese, French, German, Hebrew, Italian, Japanese, or Spanish in high school, or have completed one to two years of high school instruction, take 101; for Portuguese, take 105.
- If you have taken 101 or its equivalent at another institution, take 102.
- If you have completed three years of high school instruction in French or Spanish, or scored a 3 on the AP language exam take 105. If you have had three years of high school Arabic, Chinese, German, Hebrew, Italian, or Japanese, take 102.
- If you have taken four years of high school French or Spanish, scored a 4 on the AP exam or a 4 on the IB exam in French or Spanish, or took the equivalent of 102 or 105 at another university, take 211. If you have taken four years of high school German, Italian or Portuguese, take 211. If you have taken four years of Arabic, Chinese, Hebrew, or Japanese, take 201.
- If you had five to six years of high school French, German, Italian, or Spanish, take 212.
- If you have taken the equivalent of 211 at another university, or scored a 5 on the AP exam, you have completed your language requirement. If you wish to continue your studies, take 212.
- If you took the equivalent of 212 in French or Spanish at another university or scored a 4 on the AP literature exam, you have completed your language requirement. If you wish to continue your studies, take 214. If you took the equivalent of 212 in German, Italian or Portuguese at another university, you have completed your language requirement. If you wish to continue your studies, take 301.
- If you scored a 5 on the AP literature exam in French, Italian or Spanish, you have completed your language requirement. If you wish to continue your studies, take 301.

The Department offers courses open to native speakers of French, German, Italian, Portuguese, and Spanish. Native speakers may not enroll in 101, 102, 105, 201, 202, 211, 212, 214, or 301 in their language. If you are a native speaker of French, German, Italian, or Portuguese, and graduated from a high school where that was the official language of instruction, you may take any course above 301 (consult with the respective Undergraduate Advisor). If you are a native speaker of Spanish and graduated from a high school where that was the official language of instruction, your first SPA course at UM must be either SPA 302 or 303 or 343 (which is a prerequisite for most other SPA courses).

The Department of Modern Languages & Literatures identifies as heritage learners of Spanish those students who begin their university studies of the language with little or no prior instruction in Spanish but who, because of family background or social experience, can already understand much casual spoken Spanish and have a passive knowledge of the language (though they may not usually speak the language themselves). In the great majority of cases, they have been born and fully educated in the United States, and may have grown up speaking principally English (or a ‘mix’ of Spanish and English, i.e. ‘Spanglish’) in the home with their grandparents, parents and siblings. Heritage learners may or may not consider themselves as “bilinguals” or “native speakers”, since both of
these terms carry very different connotations—linguistic, social, and psychological—for different individuals. Some state that they “do not really speak Spanish” even though they are able to comprehend much spoken language (i.e., they are “passive bilinguals”). In the great majority of cases, they self-identify as “Hispanic” or “Latino/a”.

**HERITAGE LEARNERS OF SPANISH MUST BE PLACED IN ONE OF THE FOLLOWING FOUR COURSES:**

**SPA 143 Basic Spanish for Heritage Learners** is for those students with little or no prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have a passive knowledge of the language although they do not usually speak the language themselves. Generally, their abilities to read and write Spanish are very weak. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**

**SPA 243 Intermediate Spanish for Heritage Learners** is for those students who have already taken and passed SPA 143 or who have studied Spanish for at least two years in high school. They can understand casual spoken Spanish and have some functional ability in speaking, reading and writing the language. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**

**SPA 244 Advanced Spanish for Heritage Learners** is for those students who have studied Spanish for four years in high school and who have developed functional abilities in speaking, reading and writing the language. Students who earned a score of 5 on the AP Spanish Language Exam should register for this course. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**

**SPA 343 Introduction to Literary Studies for Native/Heritage Speakers** is intended for those students who have completed secondary and/or university studies in a Spanish-speaking country and for those heritage learners who demonstrate an advanced level of productive competence (in the written and spoken modes) in Spanish because of prior formal study of the language. Many heritage learners who place directly into 343 have taken AP Spanish literature in high school and earned a score of 4 or 5.

**>> SPA 101, 102, 105, 211, 212 AND 214 ARE NOT FOR HERITAGE LEARNERS. ANY HERITAGE LEARNER WHO ENROLLS IN ONE OF THESE COURSES WILL BE OBLIGATED TO SWITCH TO A HERITAGE LANGUAGE COURSE (SPA 143, 243, 244 OR 343) DURING THE FIRST WEEK OF CLASS.**

**Arts and Sciences Language Requirement**
The College of Arts and Sciences requires all B.A. and B.S. degree students to show competency in a language other than English by successfully completing an approved college language course at the 200-level or higher. Students wishing to fulfill the language requirement in a language not taught at UM, may request an equivalency evaluation for a course at the appropriate level offered at an accredited institution, complete the approved equivalent course, and transfer the credits. Students requesting such an equivalency evaluation must submit appropriate documentation to the MLL department for approval. For a native speaker of the language in question, a course that transfers at UM’s 300-level will fulfill the language requirement. For a second language learner of the language in question, a course that transfers at UM’s 200-level will fulfill the language requirement.

**Writing Credits: Writing Across the Curriculum**
All of the Department’s 300- and 500-level courses and some 400-level courses offer writing credit. NOTE: Courses may simultaneously fulfill General Education requirements and Writing Credit, or the Foreign Language Requirement and Writing Credit.

**Humanities-Literature** For continuing students, the Department offers a variety of courses that fulfill the Humanities-Literature requirement within the General Education Distribution Requirements. Any literature courses in Arabic Studies, French, German, Italian, Portuguese or Spanish on the 300-level or higher fulfills a Humanities Literature requirement and counts as a writing credit. A course cannot simultaneously fulfill the Humanities-Literature Requirement and the Foreign Language Requirement.

**Cognates**
For those students that are following the new General Education requirements, most of the Department’s courses are part of cognates in one of two Areas of Knowledge: Arts & Humanities, and People & Society. A course cannot simultaneously complete a cognate in an Area of Knowledge and the College of Arts & Sciences’ Foreign Language Requirement.

**DEGREE PROGRAMS**

Students pursuing a single major in Arts and Sciences earn a BA.

**MAJOR**

**Goals of the major:** The major is designed to allow students to gain advanced linguistic, literary and cultural competence in the given language. Students will develop analytical and critical skills. They will learn to build coherent arguments orally and in writing; to develop tools for the interpretation of various texts; to perform research and write critical papers; to find and evaluate sources of information; to heighten their sensitivity to contexts of language, and to appreciate language as art. Students will also acquire a broad, structured knowledge of the history, literature and culture in the target language. Finally, they will learn to carry out cultural comparisons and to view their own culture with new eyes.

You do not have to be a student of the College of Arts and Sciences to major in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students completing a major in a modern language are encouraged to study abroad. The International Education and Exchange Program (IEEP in Allen Hall, room 212) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of study abroad, students should visit IEEP early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit toward the major for courses taken abroad will be determined on an individual basis.
Majors in French, German, and Spanish

A major consists of at least 24 credits beyond 212/243, which must include the following distribution:

- at least 9 credits must be at the 300 level;
- at least 3 credits must be at the 400 level;
- at least 3 credits must be at the 500 level (capstone course);
- Spanish and French majors must take at least one course that focuses on a period prior to the 20th century. That is, Spanish majors must take one of the following: SPA 353, 363, 354, or 364; and French majors must take one of the following: FRE 363, 364, or 365.
- The remaining 6 credits can be taken in any of the 300 or 400-level courses of the respective program.
- Five writing intensive classes (W) in the department are required of all majors.

In consultation with their MLL advisor, students can have up to 1 course (3 credits) from among the MLL courses or the FRE, GER, and SPA courses taught in English (numbered 310-319) count toward their French, German, or Spanish major.

Only one professional Spanish course (SPA 432 or SPA 433) will count towards the Spanish major, although students are free to take both.

Students with transfer credits at the 300-level must take at least 21 graded credits at or above the 300-level at the University of Miami; i.e., up to 9 credits at the 300- and 400-level may be transferred from another institution or a study abroad program not administered by UM. Up to 12 credits taken abroad in a UM-administered program may count towards any of the majors in the Department. Students must earn a grade of C- or higher in every course counting toward the major, and maintain a minimum overall average of 2.5 in the major.

Capstone Courses

The final course in the major is the capstone course (501) which must be taken in residence. This course will:

- Integrate the various skills acquired during the course of study (linguistic, analytical, knowledge-based);
- Incorporate interpretive as well as presentational modes of communication;
- Contain an over-arching and cohesive theme;
- Include an element of collaboration among students.

It will constitute a moment of recapitulation of, synthesis, and reflection on a student’s experience in the major as well as a bridge towards graduate-level studies, should s/he decide to pursue them.

Of the 24 credits required for the major, a minimum of 12 credits must be earned in courses taught by MLL faculty (whether on campus or in faculty-led study-abroad programs). Since we encourage students to study abroad in UM-sponsored programs, up to 12 credits from these programs may be applied toward the major. Up to 6 transfer credits from other institutions may count toward the major; whether these are credits transferred from another U.S. institution or from non-UM study abroad programs, transferred credits must be granted UM equivalency in order to be eligible to count toward the major. Please note,
however, that the total number of combined UM study-abroad (exclusive of MLL faculty-led programs) and transfer credits shall not exceed 12 credits.

For example:

*A student may use 3 transfer credits with UM equivalency and 9 credits from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credits must be earned in courses taught by MLL faculty.

*A student may use 6 transfer credits with UM equivalency and 6 credits from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credits must be earned in courses taught by MLL faculty.

*A student may use 12 credits from a UM-administered study-abroad program not led by MLL faculty and 12 credits in courses taught by MLL faculty to fulfill the major.

Exceptions to this 12-credit rule may be made in cases where a student will participate in a UM-administered study-abroad program for a full academic year.

MINOR

You do not have to be a student of the College of Arts and Sciences to minor in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students completing a minor in a modern language are encouraged to study abroad. The International Education and Exchange Program (IEEP in Allen Hall, room 212) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of study abroad, students should visit IEEP early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit toward the major for courses taken abroad will be determined on an individual basis.

Minors in French, German, Italian, Portuguese, and Spanish

A minor in one modern language consists of a minimum of 12 credits in that language, earned according to the following guidelines: a minimum of 9 credits must be at the 300 and/or 400 level, a minimum of 6 credits must be graded credits taught by UM faculty, a maximum of 3 credits may be transferred from another institution or from a study-abroad program not administered by UM. Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.

Minor in Modern Languages

The minor in two foreign languages consists of at least 24 graded credit hours with 12 credits in one language on any level and 12 credits in any other language, 6 of which must be on the 300-level or above. For example: Arabic 101, 102, 201 and 202 along with Spanish 212, 214, 301 and 322 would constitute a Minor in Modern Languages; so would French 212, 214, 301 and 332 along with Italian 101, 102, 211 and 212. Many other
combinations are possible. This minor must include 6 graded credits per language from the University of Miami. Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.

**Minor in Arabic Studies**

A minor in Arabic Studies consists of a minimum of 15 credits, passed with a "C" or higher. Courses must be distributed as follows: 1) At least 3 credits in a 200-level Arabic language course (ARB201 or ARB202 or the equivalent); 2) At least 3 credits in one of the ARB courses numbered 310 to 318 (Arabic Studies courses taught in English translation); 3) At least 3 additional credits in any ARB course beyond ARB 101 (to reach a total of 9 ARB credits); 4) At least 3 credits, outside of ARB courses, in humanities or social science courses focused on the Middle East, North Africa, Islam, or the Arab world. For example: REL171, ARH260, INS352, GEG242, and POL387, or another relevant course as approved by the program director; 5) 3 additional credits from either an ARB course beyond ARB 101 or any approved course focused on the Middle East, North Africa, Islam, or the Arab world.

Up to 9 credits taken abroad in an Arabic-speaking country are eligible to fulfill the requirements for the minor. Up to 6 transfer credits from an accredited university or 4-year college in another region of the world are eligible to fulfill the requirements for the minor. In all cases, whether the credits are from a UM-affiliated study abroad program or transfer credits from any institution, the credits’ UM equivalency, if any, will be determined by the UM Arabic Studies Program Director; ARB 310 must be taken within the Department of Modern Languages and Literatures at UM; and the student must fulfill the distribution of requirements and other criteria stipulated above.

If a student has studied Modern Standard Arabic (*fusha*) in another setting (e.g., a high school foreign language program or schooling in an Arab country), she/he may request a proficiency evaluation from the Program Director. If the student’s Modern Standard Arabic is equivalent to, or beyond, the Intermediate level, the student may be exempted from the requirement to earn 3 credits in a 200-level Arabic language course; however, the student will still be required to take at least 9 credits of ARB courses and a total of 15 credits, as stipulated above, to complete the minor.

**DEPARTMENTAL HONORS**

Departmental Honors in Modern Languages are possible in the three languages for which the major is offered: French, German and Spanish. In order to request admission to Departmental Honors, candidates must have completed at least twelve credits at the 300 level or above. They must have a GPA of 3.5 in all their major courses and a 3.5 overall average GPA. Both GPAs must be maintained in order to graduate with Departmental Honors.

During their junior year, candidates for honors will identify an honors thesis supervisor and a second reader and request admission to Departmental Honors. Admission to candidacy must also be approved by the Director of Undergraduate Studies for the appropriate language.

In addition to fulfilling the regular major requirements, students must register in their Senior year for FRE or GER or SPA 594-595, Senior Honors Thesis. This is a two-semester, six credit sequence: 594 for research and 595 for the actual writing of the honors thesis.
The honors thesis advisor and the second reader will determine whether the finished thesis merits Departmental Honors.

Modern Languages and Literatures Course Listing

Course Listings for:

Arabic
Chinese
French
German
Haitian
Hebrew
Italian
Japanese
Portuguese
Spanish
NEUROSCIENCE Dept. Code (NEUR)
www.psy.miami.edu
http://biomed.miami.edu/?s=122

INTRODUCTION

Neuroscience is the study of the nervous system (i.e., the brain, spinal cord, and peripheral nerves), the mechanisms of behavior, and the nature of mind and consciousness. The Neuroscience Program is a rigorous, interdisciplinary program between the Department of Psychology, the Department of Biology and the Miller School of Medicine. The neuroscience major provides a broad-based liberal arts background that can be applied to a variety of career fields. It is also excellent preparation for medical school or graduate study in neuroscience, psychology, biology or behavioral medicine.

EDUCATIONAL OBJECTIVES

The neuroscience major seeks to provide students with exposure to and a fundamental understanding of the neural and biobehavioral sciences by delivering an integrative educational experience and promoting interactions among faculty, graduate students, and undergraduate students in basic scientific inquiry, advising, and mentoring.

DEGREE PROGRAMS

All neuroscience majors are required to pursue a Bachelor of Science (B.S.) degree.

MAJOR

The major in neuroscience requires roughly 47 credits in core BIL, NEU, and PSY courses, and roughly 26 credits in auxiliary CHM and PHY courses.

Core Courses

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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIL 150 and BIL 151</td>
<td>4 credits and 1 credit</td>
</tr>
<tr>
<td>BIL 160 and BIL 161</td>
<td>4 credits and 1 credit</td>
</tr>
<tr>
<td>BIL 250</td>
<td>3 credits</td>
</tr>
<tr>
<td>BIL 255</td>
<td>3 credits</td>
</tr>
<tr>
<td>BIL 268</td>
<td>3 credits</td>
</tr>
<tr>
<td>NEU 342</td>
<td>3 credits</td>
</tr>
<tr>
<td>NEU 403</td>
<td>4 credits</td>
</tr>
<tr>
<td>NEU 465 or NEU 440</td>
<td>3 credits</td>
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<tr>
<td>PSY 110</td>
<td>3 credits</td>
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<tr>
<td>PSY 290</td>
<td>3 credits</td>
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<tr>
<td>PSY 291</td>
<td>3 credits</td>
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<tr>
<td>PSY 390</td>
<td>3 credits</td>
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<tr>
<td>One additional BIL elective*</td>
<td>3 credits</td>
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<tr>
<td>One additional BIL elective* or PSY elective**</td>
<td>3 credits</td>
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</tbody>
</table>
Auxiliary Courses

CHM 111 and CHM 113  
CHM 112 and CHM 114  
CHM 201 and CHM 205  
CHM 202 and CHM 206  
One of the following PHY sequences:

1) College Physics
   - PHY 101 and PHY 106  
   - PHY 102 and PHY 108  
2) University Physics
   - PHY 205  
   - PHY 206 and PHY 208  
   - PHY 207 and PHY 209  
3) PRISM Physics
   - PHY 201 and PHY 106  
   - PHY 202 and PHY 108

Other Requirements

- Students must earn a minimum grade of C- in any course that is to count toward the major.
- Students may repeat no more than two courses for the major in which they received a D or an F.
- New freshmen and current students must have a minimum 1300 SAT, 30 ACT, or 3.5 combined, UM, and neuroscience GPA after 24 completed credits at UM to declare the major. Note: At least 7 of these 24 credits must be in the BIL, CHM, or MTH courses required of the major and/or the degree.
- New transfer students must have a minimum 3.8 combined GPA to declare the major, and at least 7 completed credits in the required BIL or CHM courses.
- Students are strongly advised not to continue with the major if they have less than a 2.8 neuroscience GPA after 15 completed credits in the major.
- Students must earn a minimum 2.6 neuroscience GPA to graduate with the major.

Notes

- There are limited seats in the neuroscience major so students may be required to join a waitlist before they are able to declare.
- Neuroscience majors are required to complete 130 total credits to complete their B.S. degree.
- The neuroscience major can only be declared as a first major for students who are enrolled in the College of Arts and Sciences.
- Neuroscience majors may not earn majors or minors in biology or psychology.
- Students who declare the neuroscience major after they complete PSY 292 can use PSY 292 as a substitute for PSY 291.
- The following courses do not count toward the major: NEU 190, NEU 280, NEU 380, NEU 480, NEU 580, NEU 581, PSY 106, PSY 190, PSY 206, and PSY 306.
- All neuroscience majors must complete a minor in Biochemistry, Biology, Chemistry, Computer Science, Engineering, Geological Sciences, Mathematics, Microbiology and Immunology, or Physics.
MINOR

There is no minor available in neuroscience.

DEPARTMENTAL HONORS

Students can earn Departmental Honors in Neuroscience by demonstrating excellence in their coursework and completing a Senior Honors Thesis in Neuroscience.

1) Excellence in Coursework – A minimum 3.3 combined GPA and a minimum 3.5 neuroscience GPA is required.

2) Senior Honors Thesis in Neuroscience – This is an independent empirical research project that is completed across two semesters (i.e., NEU 580 and NEU 581) under the supervision of a faculty mentor in the Neuroscience Program. At least one year of prior research experience with the faculty mentor is highly recommended. Written approval from the faculty mentor and the Director of Undergraduate Academic Services in the Department of Psychology is also required.

ADVISING

The neuroscience major is administered by the Department of Psychology's Undergraduate Academic Services for Psychology (UASP) office. UASP provides comprehensive advising services to all students on a walk-in basis from 9:00 a.m. to 4:30 p.m., Monday through Friday, in Flipse 508. Appointments are only necessary during the official advising period for registration.

Freshmen and Transfer Students

All freshmen neuroscience majors in the College of Arts and Sciences are required to participate in the Department of Psychology’s year-long orientation, advising, and mentoring program, FACT FORUM (Freshmen Advising Contact Term and Faculty Overview of Research and Undergraduate Mentoring). These courses are one credit general electives designed to enable students to take ownership of their education by familiarizing them with the academic rules and regulations of the University of Miami, helping them think critically about their curriculum, providing them with in-depth exposure to research, and preparing them to enter the professional world.
New transfer students are highly encouraged to participate in a similar one semester program called TUMS (Transfer to the University of Miami). This course is specifically designed to ease the transition for new transfer students to the University of Miami.

Students who declare a neuroscience major after matriculation may be required to take part in an advising seminar prior to declaring the major.

**Prerequisites**

Students must adhere to all prerequisites. They are also required to earn a minimum grade of C- in any course that is to serve as a prerequisite for another course in the neuroscience major. Students who enroll in NEU courses without the specified prerequisites may be dropped.

**Research Experience for Course Credit**

Research experience is considered an integral part of the neuroscience major. Students may earn course credit (i.e., NEU 280, NEU 380, and/or NEU 480) by working in the laboratory of a Neuroscience Program faculty mentor. Students can repeat NEU 280, NEU 380, and NEU 480 without penalty. A minimum 2.8 combined and neuroscience GPA is required to earn research credit. Written permission from a faculty mentor and UASP is also required. Note: Students may volunteer in a research laboratory if they are unable to register for research credit.

**Research Participation in PSY 110**

As an introduction to behavioral science, all students enrolled in PSY 110 may be required to participate as subjects in research studies conducted by faculty and/or graduate students, or by reading selected research reports and writing article critiques. Refer to the course syllabus for more details. Note: This introductory research participation requirement is not sufficient for students interested in attending graduate school in neuroscience or psychology.

**Senior Assessment**

As part of the Department of Psychology’s accreditation plan, all senior neuroscience majors will be required to take part in a senior assessment that may last up to four hours. Assessment scores will not affect the students’ graduation status.

**Transfer Courses**

Courses from other colleges or universities may be assigned NEU credit at UM with written approval by UASP.

*BIL electives must be chosen from the following: BIL 210, BIL 215, BIL 241, BIL 261, BIL 265, BIL 330, BIL 341, BIL 345, BIL 355, BIL 360, BIL 361, BIL 365, BIL 369, BIL 455, BIL 511, BIL 520, BIL 530, BIL 540, BMB 260, BMB 401, BMB 506, MIC 301, or MIC 303 and MIC 304; NEU 342, 440, 465, or 468 (Note: NEU courses cannot double count for a BIL elective and another required course within the major).
**PSY electives must be chosen from the following: PSY 240, PSY 320, PSY 345, PSY 391, PSY 426, or PSY 491.

[Neuroscience Course Listing](#)
INTRODUCTION

The Philosophy Department offers a wide range of courses at the undergraduate level which cover every major area of philosophy as well as its history. Students can major or minor in the subject. In addition, the department sponsors two undergraduate philosophy organizations: the Philosophy Club, which is open to all UM undergraduates, and Phi Sigma Tau, a chapter of the National Honor Society in Philosophy. Both groups afford students regular opportunities to meet, eat, and talk philosophy with each other and with graduate students and faculty in the department. All undergraduates who are interested in philosophy are welcome to participate in these philosophical events.

EDUCATIONAL OBJECTIVES

Philosophy is the study of the most basic moral, scientific, legal, aesthetic, religious, and metaphysical concepts and theories by which we understand ourselves and our universe. It is a reasoned pursuit of fundamental truths, a quest for understanding, a study of principles of conduct. It analyzes the basic assumptions and concepts of other disciplines and the norms that govern interpersonal relations and the acquisition of knowledge. It seeks to establish standards of evidence, to provide rational methods of resolving conflicts, and to create techniques for evaluating ideas and arguments. Philosophers are dedicated to developing the following abilities: reasoning clearly, distinguishing between good and bad arguments, thinking through complicated questions, and using reason in situations that are often governed by emotions. Studies have shown that philosophy majors do extremely well on standardized tests, and in careers that require analytical abilities such as the practice of law and software development. But irrespective of career choice, philosophy deepens one's sense of the meaning and varieties of human experience, and enhances self-knowledge, foresight, and sense of direction in life.

DEGREE PROGRAMS

The major in Philosophy leads to the degree of Bachelor of Arts.

MAJOR

A major in philosophy consists of a minimum of ten courses, each passed with a grade of C- or higher, with an overall GPA of 2.0. Elective courses may be chosen to fit individual needs. Required courses for the major are Philosophy 210 or 215, either 271 or 272, twelve credits at the 300 level (including one course from 330-332 and two courses from 340-345), and six credits at the 500 level.

MINOR

A minor in philosophy consists of a minimum of five courses, each passed with a grade of C- or higher with an overall GPA of 2.0. At least three of the courses must be at the 200 level or above, and at least one of these three courses must be at the 300 level or above.
The major and the minor should be planned with the advice of the department.

**PRE-LAW MAJOR AND MINOR TRACKS**

The Department offers major and minor tracks for students wishing to enhance their Pre-Law studies with relevant Philosophy coursework.

A Pre-Law Major Track in Philosophy consists of a minimum of ten courses, each passed with a grade of C- or higher, with an overall GPA of 2.0. Required courses for the track are either 210 (Formal Logic) or 215 (Logic and Law), either 271 or 272 (1 course in history of philosophy), either 330 (Ethics) or 331 (Social and Political Philosophy), either 332 (Philosophy of Law) or 333 (Philosophical Foundations of Criminal Law), two of either 340 (Epistemology), 341 (Philosophy of Language) or 343 (Philosophy of Science), 2 500-level courses, and any 2 additional PHI courses.

A Pre-Law Minor Track in Philosophy consists of a minimum of five courses, each passed with a grade of C- or higher, with an overall GPA of 2.0. Required courses for the track are either 210 or 215, either 330 or 331, either 332 or 333, one of either 340, 341 or 343, and any other PHI course.

**PRE-MED MAJOR AND MINOR TRACKS**

The Department also offers major and minor tracks for students wishing to supplement their Pre-Med work with relevant Philosophy coursework.

A Pre-Med Major Track in Philosophy consists of a minimum of ten courses, each passed with a grade of C- or higher, with an overall GPA of 2.0. Required courses for the track are 210 (logic), either 271 or 272 (1 course in history of philosophy), 330 (Ethics), 334 (Biomedical Ethics), 343 (Philosophy of Science), either 340 (Epistemology) or 344 (Philosophy of Mind), and 546 (Knowledge and Evidence in Medicine). Elective courses consist of one 500-level philosophy course and 2 other philosophy courses not listed above.

A Pre-Med Minor Track in Philosophy consists of a minimum of five courses, each passed with a grade of C- or higher, with an overall GPA of 2.0. Required courses for the track are 210, 334, 343, either 340 or 344, and 546.

**DEPARTMENTAL HONORS**

A program of work toward graduation with Honors in Philosophy is available for qualified students. Interested students should consult the Departmental Director of Undergraduate Studies during their sophomore or junior years. Further information may be found under the section entitled HONORS PROGRAM.

For requirements leading to the Master of Arts and Ph.D. degree, see the Bulletin of the Graduate School.
PHYSICAL SCIENCES - Dept. Code: PSC

INTRODUCTION

Physical Science 101 is an interdisciplinary physical science course designed primarily for the non-science major. It may be used to satisfy a physical science requirement in some degree programs. Students should consult the degree requirements listed elsewhere in the Bulletin as well as their advisors for the appropriateness of this course for their programs. See also under PHYSICS 110.

Physical Sciences Course Listing
PHYSICS - Dept. Code: PHY  
www.physics.miami.edu

INTRODUCTION

The requirements for a major or minor in the Department of Physics are flexible and may be adapted to the needs of the individual student:

MAJOR

1. Pure Physics

This sequence is recommended for those intending to enter a graduate school in Physics. It consists of a minimum of 34 credits in Physics at or above the 200 level, including four credits of laboratory and the courses PHY 205, 206, 207 (or 205, 210); 360, 362; 340, 321; 350, 351; 540, 560. The physics minor consists of University Physics, two credits of laboratory work, PHY 360, another 3-credit physics lecture course (other than PHY 315) at the 300-level or above.

2. Marine Science/Physics

This is one of the interdisciplinary majors offered in conjunction with RSMAS. It includes 31 credits from the core physics courses through PHY 560 together with a group of marine science and other courses detailed in the section of this Bulletin on MARINE SCIENCE.

3. Applied Physics

This sequence is available for those intending careers in applied physics, and consists of 22 credits in Physics plus nine credits of Engineering and Computer Science courses with prior approval of the Department of Physics. The Physics courses must be at or above the 200 level and include three credits of laboratory. The major includes PHY 205, 206, 207 (or 205, 210), 208, 209, 340, 350, 360.

4. Dual Physics Majors

Physics requirements: PHY 205, 206, 207 (or 205, 210), 208, 209, 360 and at least two of the following: PHY 321, 340, 350, 351, 560. In the total of 22 credits of physics, 2 or 3 credits of advanced lab may be included, or another lecture course.

Students will have the full, normal major in Biology or Chemistry and provided that among those courses certain specific ones are included, they will also be able to have the dual major in physics. The specific courses are

**Biology – Physics**

Three of the courses BIL 358, 554, CHM 360, 365

**Chemistry – Physics**

Three of the courses CHM 360, 365, 565, BIL 358.
Note: Depending on the selection of the Physics courses in the Biology and Chemistry dual majors, more mathematics beyond two semesters of calculus is required for most of the physics courses.

5. Students in the College of Engineering who want a dual major in physics should consult the Physics Department Chairman. A major tailored to the student’s needs will be arranged. The minimum number of physics credits is the same as for the Applied Physics major.

In order to complete any Physics major sequence in four years, the student should begin elementary calculus in the first semester. The recommended mathematics sequence is MTH 151 or 161, 162 (or 171, 172); (310 or 211), 311; 210; (230, 433, 461, 510, 512 also recommended).

A grade of C- or better is required in all courses counted toward the major or minor with an overall GPA of 2.0. Any lecture course in the Physics department may be passed by means of a proficiency examination.

Requirements for the Master of Science and Doctor of Philosophy degrees will be found in the Bulletin of the Graduate School.

**MINOR**

The physics minor consists of University Physics, two credits of laboratory work, PHY 360, and another 3 credit physics lecture course (other than PHY 315) at the 300-level or above.

[Physics Course Listing](#)
INTRODUCTION
A political science major prepares students for work in a number of fields including law, politics, public policy, public administration, and international affairs, as well as employment in business and the non-profit sector.

EDUCATIONAL OBJECTIVES
Political science majors gain an understanding of American political and legal life, the workings of other countries’ political and economic systems, the relations among countries in the international arena, and key concepts in both political philosophy and social science methodology.

DEGREE PROGRAMS
Bachelor of Arts in Political Science

Five year program: Bachelor of Arts in Political Science and Masters of Public Administration

A special curriculum for students specializing in public administration enables them to complete the requirements for a Bachelor’s and Master’s degree in five years.

MAJOR
The political science major consists of at least 30 credits. At least 21 credits of these must be earned at the University of Miami.

To count toward the major, each course must be completed with a grade of C- or above, with an overall GPA of 2.0 or above.

1. At least nine credits must be taken in departmental core courses, namely, POL 201 (or POL 199), POL 202, and POL 203. **POL 213 does not count toward the major.**

The remaining credits must meet the following distributional requirements:

2. At least six of the credits must come from 500-level seminar courses offered by the University of Miami. This includes any 500-level seminar offered by the Department of Political Science or cross-listed with Political Science. The following 500 level courses are **not** seminars and do **not** fulfill this requirement:

   - POL 520  Internship
   - POL 521  Public Affairs Internship
   - POL 563  Senior Thesis (I)
   - POL 564  Senior Thesis (II)
POL 599  Directed Readings
(Note that POL 599: Special Topics is a seminar and does fulfill this requirement.)

3. At least one course above the 200-level must be taken in three of the following five principal sub-fields of political science:

American Politics
Comparative Politics
International Relations
Public Administration, Policy, and Law
Political Theory and Methods

These can include courses used to fulfill requirement #1 above. Please note that some courses cover more than one sub-field Students may not, however, use a single class to fill two sub-field requirements

**American Politics:**

POL 309  American Political Thought
POL 311  Conspiracy Theories
POL 313  The Constitution
POL 314  Legislative Process
POL 315  American Presidency
POL 332  Mass Media and Politics
POL 334  Campaigns
POL 335  Local Government
POL 342  State and Local Government and Politics
POL 343  Government in Metropolitan Areas
POL 349  U. S. Defense Policy
POL 351  Public Opinion
POL 352  Political Parties
POL 353  Interest Groups and Lobbying
POL 354  The CIA and the World of Intelligence
POL 360  Congressional Representation
POL 399  Transfer Credits in American Politics
POL 400  The 2012 Election
POL 515  Media Content Analysis
POL 528  Advanced Seminar on Electoral Behavior
POL 529  Conducting U.S. Elections
POL 530  Intelligence and National Security Decision Making
POL 536  U.S. Health Care Crisis: Politics and Policies
POL 540  Problems in American Foreign Policy
POL 542  American Constitutional Development
POL 543  Urban Politics
POL 547  Congressional Representation
POL 548  Civic Participation and Democracy
POL 550  Advanced Seminar on American Politics
POL 552  Politics and Group Perspectives
POL 553  The Environmental Movement: Groups, Beliefs and Values
POL 599  Special Topics in American Politics
Comparative Politics:

- POL 308 Security, Globalization, and Human Rights
- POL 323 Global Warming Politics and the European Union
- POL 344 Gender and Politics
- POL 380 Comparative Political Analysis
- POL 381 West European Government and Politics
- POL 382 Government and Politics of the Federal Republic of Germany
- POL 384 Postcommunist Russian Politics
- POL 385 Politics and Society in Latin America
- POL 386 Democratic Consolidation
- POL 387 Politics of the Middle East
- POL 388 Politics of Israel
- POL 398 Transfer Credits in Comparative Politics
- POL 525 Comparative Public Policy and Administration
- POL 531 Global Environmental Politics
- POL 534 War Crimes Tribunals
- POL 535 Comparative Legal Systems
- POL 579 Ethnicity, Nationalism, and Secession
- POL 580 The Politics of Post-Communist Transitions
- POL 581 Comparative Political Economy of Post-Industrial Democracies
- POL 582 Political Economy Development
- POL 584 Contemporary Latin American Politics
- POL 588 Politics in China
- POL 598 Special Topics in Comparative Politics

International Relations:

- POL 308 Security, Globalization, and Human Rights
- POL 323 Global Warming Politics and the European Union
- POL 337 International Law
- POL 345 The United States and Asia
- POL 346 U. S.-Latin American Relations
- POL 347 American Foreign Policy
- POL 348 United States Relations with the Middle East
- POL 349 U. S. Defense Policy
- POL 354 The CIA and the World of Intelligence
- POL 391 Topics in International Relations
- POL 392 International Terrorism
- POL 397 Transfer Credits in International Relations
- POL 530 Intelligence and National Security Decision Making
- POL 531 Global Environmental Politics
- POL 540 Problems in American Foreign Policy
- POL 544 Chinese Foreign Policy
- POL 570 Uniting States in International Perspective
- POL 577 Security in South Asia
- POL 579 Ethnicity, Nationalism, and Secession
- POL 585 Post-Communist Russian Foreign Policy
- POL 586 Conflict in the Middle East and Africa
- POL 591 Problems in International Politics and Organization
- POL 592 International Political Economy
POL 593  International Relations of the Middle East
POL 599  Special Topics: Counterinsurgency Warfare
POL 599  Special Topics: Security in the Black Sea and the Caspian
POL 599  Special Topics: Security in South Asia
POL 599  Special Topics in International Relations

Public Administration, Policy, and Law:

POL 300  Growth Management
POL 321  Public Policy and Administration
POL 322  Environmental Politics and Policy
POL 336  Politics of Crime
POL 337  International Law
POL 372  Introduction to Criminal Justice
POL 373  Constitutional Law I
POL 374  Constitutional Law II
POL 375  Supreme Court Issues
POL 376  Discrimination and the Law
POL 377  Constitutional Law III
POL 396  Transfer Credits in Public Administration, Policy, and Law
POL 501  Budget and Financial Management and Administration
POL 522  Introduction to Graduate Public Administration
POL 523  Problems in Public and Non-Profit Management
POL 524  Non-Profit Organizations: Law, Policy, and Management
POL 525  Comparative Public Policy and Administration
POL 526  Administrative Law
POL 533  Courts and Controversy
POL 534  War Crimes Tribunals
POL 535  Comparative Legal Systems
POL 536  U.S. Health Care Crisis: Politics and Policies
POL 537  The Law and Politics of Sports
POL 541  Philosophy of Law
POL 542  American Constitutional Development
POL 545  Environmental Policymaking
POL 546  Public Policy
POL 551  Productivity in the Public and Non-Profit Sectors
POL 554  Social Welfare Policy
POL 555  Total Quality Public Service Management: Achieving High Performance Government
POL 556  Political Ethics
POL 557  Ethical Issues in Government
POL 558  Digital Technology and Electronic Government
POL 569  Politics, Law and Sexual Identity
POL 596  Special Topics in Public Policy, Administration, and Law

Political Theory and Methods:

POL 250  Scope and Methods in Political Science
POL 305  Introduction to Political Theory
POL 306  Positive Political Theory
POL 307  Political Ideologies
POL 309  American Political Thought
POL 310  God, Science, and Politics
POL 311  Conspiracy Theories
POL 380  Comparative Political Analysis
POL 395  Transfer Credits in Political Theory and Methods
POL 510  Political Analysis
POL 512  Advanced Political Analysis
POL 513  Models of Politics
POL 514  Art & Politics
POL 515  Media Content Analysis
POL 516  Experiments
POL 541  Philosophy of Law
POL 595 Special Topics in Political Theory and Methods

4. All majors must complete a quiz for graduating seniors (to be used for assessment purposes) during their last semester of coursework.

MINOR

A minor requires 15 credits of political science, three of which must be from POL 201, 202, or 203. To qualify for the minor at least 9 credits must be earned in residence.

To count toward a minor, each course must be completed with a grade of C- or higher, with an overall GPA of 2.0 or higher. **POL 213 does not count toward the minor.**

DEPARTMENTAL HONORS

To earn Departmental Honors a student must:

1. Graduate with an overall GPA of 3.500.
2. Graduate with a political science GPA of at least 3.700.

[Political Science Course Listing](#)
INTRODUCTION

Psychology is the study of how individuals think, behave, feel, and relate to others. Because of its broad and fundamental nature, the psychology major prepares students for graduate study and/or careers in a wide range of people-oriented professions (e.g., psychology, medicine, law, business, communication, etc.). Psychology majors learn about human behavior and gain the analytical and critical thinking skills that are highly-valued in the workforce.

EDUCATIONAL OBJECTIVES

The Department of Psychology seeks to provide students with exposure to and a fundamental understanding of psychological science by delivering an integrative educational experience and promoting interactions among faculty, graduate students, and undergraduate students in basic and applied psychological inquiry, advising, mentoring, and community outreach.

DEGREE PROGRAMS

The Department of Psychology offers a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) degree.

MAJOR

The major in psychology requires 33 credits in PSY courses.

B.A. Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY 110</td>
<td>3</td>
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<tr>
<td>PSY 290</td>
<td>3</td>
</tr>
<tr>
<td>PSY 291</td>
<td>3</td>
</tr>
<tr>
<td>9 additional credits in 200 level PSY courses</td>
<td>9</td>
</tr>
<tr>
<td>9 credits in 300 level PSY courses</td>
<td>9</td>
</tr>
<tr>
<td>6 credits in 400 or 500 level PSY courses</td>
<td>6</td>
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</tbody>
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B.S. Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY 110</td>
<td>3</td>
</tr>
<tr>
<td>PSY 290</td>
<td>3</td>
</tr>
<tr>
<td>PSY 291</td>
<td>3</td>
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</tbody>
</table>
PSY 390 (3 credits)
PSY 490 (3 credits)
9 additional credits in 200 level PSY courses (9 credits)
3 additional credits in 300 level PSY courses (3 credits)
6 additional credits in 400 and 500 level PSY courses (6 credits)

• Note: At least 3 of these credits must be in a 400 level PSY writing course.

Second Majors in Psychology

• Students enrolled in the College of Arts and Sciences who pursue a B.A. degree must follow the “B.A. Departmental Requirements” outlined above.
• Students enrolled in the College of Arts and Sciences who pursue a B.S. degree must follow the “B.S. Departmental Requirements” outlined above.
• Students enrolled in the School of Architecture, School of Business Administration, School of Communication, School of Education and Human Development, and Frost School of Music must follow the “B.A. Departmental Requirements” outlined above.
• Students enrolled in the College of Engineering, Rosenstiel School of Marine and Atmospheric Science, and School of Nursing and Health Studies must follow the “B.S. Departmental Requirements” outlined above.

Other Requirements

• Students must earn a minimum grade of C- in a PSY course to count it toward the major.
• Students must have a minimum 2.8 combined, UM, and psychology GPA to declare the major.
• Students are strongly advised not to continue with the major if they have less than a 2.5 psychology GPA after 15 completed credits in psychology.
• Students must earn a minimum 2.3 psychology GPA to graduate with the major.
• Students must complete all 300, 400, and 500 level psychology courses in residence, and only 6 of these credits may be taken through a UM Study Abroad Program with prior written approval.

Notes

• Students who declare the psychology major after they complete PSY 292 can use PSY 292 as a substitute for PSY 291.
• Only 6 credits of PSY 280, PSY 380, PSY 480, and/or PSY 581 may count toward the major; PSY 580 cannot count toward the major.
• The following courses do not count toward the major: PSY 106, PSY 190, PSY 206, and PSY 306.
• All psychology majors who pursue a B.A. degree in the College of Arts and Sciences must complete a minor from the list of acceptable minors published by the College.
• All psychology majors who pursue a B.S. degree in the College of Arts and Sciences must complete a minor in Biochemistry, Biology, Chemistry, Computer Science, Engineering, Geological Sciences, Mathematics, Microbiology and Immunology, or Physics.
MINOR

The minor in psychology requires 15 credits in PSY courses.

Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY 110</td>
<td>(3 credits)</td>
</tr>
<tr>
<td>PSY 291 or PSY 292</td>
<td>(3 credits)</td>
</tr>
<tr>
<td>9 additional credits in 200 level PSY courses</td>
<td>(9 credits)</td>
</tr>
</tbody>
</table>

Other Requirements

- Students must earn a minimum grade of C- in a PSY course to count it toward the minor.
- Students must earn a minimum 2.0 psychology GPA to graduate with the minor.
- Students must complete at least 9 of the 15 minor credits in residence, and only 3 of these credits may be taken through a UM Study Abroad Program with prior written approval.

Notes

- Only 3 credits of PSY 280, PSY 380, and/or PSY 480 may count toward the minor.
- The following courses do not count toward the minor: PSY 106, PSY 190, PSY 206, and PSY 306.

DEPARTMENTAL HONORS

Students can earn departmental Honors in Psychology by demonstrating excellence in their coursework and completing Senior Honors Thesis in Psychology.

1) Excellence in Coursework – A minimum 3.3 combined GPA and a minimum 3.5 psychology GPA is required.

2) Senior Honors Thesis in Psychology – This is an independent empirical research project that is completed across two semesters (i.e., PSY 580 and PSY 581) under the supervision of a faculty mentor in the Department of Psychology. At least one year of prior research experience with the faculty mentor is highly recommended. Written approval from the faculty mentor and the Director of Undergraduate Academic Services is also required.

ADVISING

The office of Undergraduate Services for Psychology (UASP) provides comprehensive advising services to all students on a walk-in basis from 9:00 a.m. to 4:30 p.m., Monday through Friday, in Flipse 508. Appointments are only necessary during the official advising period for registration.

Freshmen and Transfer Students

All freshmen psychology majors in the College of Arts and Sciences are required to
participate in the Department of Psychology’s year-long orientation, advising, and mentoring program, FACT FORUM (Freshmen Advising Contact Term and Faculty Overview of Research and Undergraduate Mentoring). These courses are one credit general electives designed to enable students to take ownership of their education by familiarizing them with the academic rules and regulations of the University of Miami, helping them think critically about their curriculum, providing them with in-depth exposure to research, and preparing them to enter the professional world.

New transfer students are highly encouraged to participate in a similar one semester program called TUMS (Transfer to the University of Miami). This course is specifically designed to ease the transition for new transfer students to the University of Miami.

Students who declare a psychology major after matriculation may be required to take part in an advising seminar prior to declaring the major.

Prerequisites

Students must adhere to all prerequisites. They are also required to earn a minimum grade of C- in any PSY course that is to serve as a prerequisite. Students who enroll in PSY courses without the specified prerequisites may be dropped.

Research Experience for Course Credit

Research experience is considered an integral part of the psychology major. Students may earn course credit (i.e., PSY 280, PSY 380, and/or PSY 480) by working in the laboratory of a Department of Psychology faculty mentor. Students can repeat PSY 280, PSY 380, and PSY 480 without penalty. A minimum 2.8 combined and psychology GPA is required to earn research credit. Written permission from a faculty mentor and UASP is also required. Note: Students may volunteer in a research laboratory if they are unable to register for research credit.

Research Participation in PSY 110

As an introduction to behavioral science, all students enrolled in PSY 110 may be required to participate as subjects in research studies conducted by faculty and/or graduate students, or by reading selected research reports and writing article critiques. Refer to the course syllabus for more details. Note: This introductory research participation requirement is not sufficient for students interested in attending graduate school in psychology.

Senior Assessment

As part of the Department of Psychology’s accreditation plan, all seniors will be required to take part in a senior assessment that may last up to four hours. Assessment scores will not affect the students’ graduation status.

Transfer Courses

Courses from other colleges or universities may be assigned PSY credit at UM with written approval by UASP.

Psychology Course Listing
RELIGIOUS STUDIES - Dept. Code: REL  
www.as.miami.edu/religion

INTRODUCTION

The University regards the academic study of religion as an integral part of liberal, humane learning and seeks to assist students in understanding the role religion plays in human existence and culture. Instruction in the Department of Religious Studies is non-sectarian and seeks an open analysis of all points of view. Courses are designed to provide a general orientation to the academic study of religion for the undergraduate student, as well as more advanced exposure for those who wish to pursue professional careers where a study of religious ideas and institutions would be helpful, such as in psychology, sociology, history, journalism, teaching, law, medicine, the fine arts, religious education, the ministry, and the rabbinate.

The Department sponsors a wide variety of speakers and events each year, including a Religious Studies Colloquium series and a Forum on Religion and Public Life. It has enriched the existing curriculum by bringing to the campus such outstanding scholars as Elizabeth Kuebler-Ross, Joachim Jeremias, Alvin Plantinga, Harry M. Orlinsky, Anson Rainey, Abraham J. Malherbe, Alan Segal, William May, Robert Segal, Douglas Allen, Marvin Sweeney, Martin Hengel, Martin E. Marty, and Juergen Moltmann.

EDUCATIONAL OBJECTIVES

The general educational objectives of the Department are (1) to explore texts, histories, and ways in which humans from various cultures have understood their world including the beliefs, ethics, rituals, artifacts, and organizations of religions; (2) to understand the changing relationship between religion and elements of the wider culture including the dynamics of politics, art, economics, literature, and society and their relationship to religions; (3) to become familiar with the theories and methods used in the study of religion.

DEGREE PROGRAMS

The Department offers two tracks by which students may earn a major or a minor. The first track is Religious Studies, which is designed for students who are seeking a broad and comprehensive understanding of the world’s major religions and the cultures in which they are practiced. The second track is Religion and Health Care, which is designed for students who are interested in any aspect of health care or who wish to supplement their pre-med concentration with coursework in the field of Religious Studies.

MAJORS

The Religious Studies Major

A major in Religious Studies leading toward the B.A. degree requires 24 credits in Religious Studies, passed with a grade of C- or higher, and a GPA in the major of 2.0. At
least 12 credits must be earned in courses numbered 300 or above, and at least three credits must be taken in each of the three following subject areas: 1) Religious Texts; 2) Historical Traditions; 3) Contemporary Issues. REL 101 or 102 or 103 is required of all majors. A major must earn writing credit (W) in at least one course in the department and must take the majors/minors seminar, REL 499.

Transfer students who major in Religious Studies must complete at least 12 credits in departmental courses numbered 300 or above in residence at the Coral Gables Campus.

The Religion and Health Care Major

A major in Religion and Health Care leading toward the B.A. degree requires 24 credits in Religious Studies, passed with a grade of C- or higher, and a GPA in the major of 2.0. At least 12 credits must be earned in courses numbered 300 or above, and a major must earn writing credit (W) in at least one course in the department. Students must complete four Religion and Health Care courses and are required to take the following: REL 101 or 102 or 103; REL 499; one course from Area 1, and one course from area 2. At least 12 credits must be earned in courses numbered 300 or above.

Transfer students who major in Religion and Health Care must complete at least 12 credits in departmental courses numbered 300 or above in residence at the Coral Gables campus.

MINORS

The Religious Studies Minor

An undergraduate minor requires 12 credits, passed with a grade of C- or higher, and a GPA in the minor of 2.0. At least six credits must be earned in courses numbered 300 or above, and at least three credits must be taken in each of two of the three subject areas: 1) Religious Texts; 2) Historical Traditions; 3) Contemporary Issues. REL 101 or 102 or 103 is required of all minors. Religious Studies minors are strongly encouraged to take the majors/minors seminar, REL 499, but are not required to do so.

Transfers who minor in Religious Studies must complete at least 6 credits in departmental courses numbered 300 or above in residence at the Coral Gables campus.

The Religion and Health Care Minor

An undergraduate minor in Religion and Health Care requires 12 credits, passed with a grade of C- or higher, and a GPA in the minor of 2.0. At least six credits must be earned in courses numbered 300 or above. The Religion and Health Care minor consists of REL 101, or 102 or 103; two Religion and Health Care courses; and one of the following: one course in Religious Texts, or one course in Historical Traditions, or the majors/minors seminar, REL 499.

Transfers who minor in Religion and Health Care must complete at least 6 credits in departmental courses numbered 300 or above in residence at the Coral Gables campus.
DEPARTMENTAL HONORS

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Theta Alpha Kappa, the National Honor Society for Religious Studies and Theology. Theta Alpha Kappa sponsors events that enhance the academic and social life of the department.

In keeping with its emphasis on a global approach to the study of religion and society, the Department sponsors a study abroad program known as URome. This semester-on-location program, which is open to all qualified University of Miami undergraduate students, is offered each spring semester in collaboration with the American University of Rome. A limited amount of scholarship support for the URome program is available for qualified Religious Studies majors and minors.

Religious Studies Course Listing
INTRODUCTION

The Department of Sociology offers two majors—sociology and criminology.

Course work in SOCIOLOGY is designed to provide scientific training for understanding the organization and fluid nature of contemporary society, patterns of social change, and the mutual influence between macro structures and processes (society and culture) on one hand, and the micro level (individuals and groups) on the other. Increasingly, sociologists are also focused on understanding the processes of globalization that are currently transforming contemporary societies.

Courses for both majors are designated SOC; see course list below. For information on Criminology please see the CRIMINOLOGY section of the Bulletin.

Students majoring in Sociology or Criminology may not minor in the reciprocal discipline.

EDUCATIONAL OBJECTIVES

The undergraduate program in Sociology has as its main objective to provide students with:

1. A strong component of a liberal arts education, training in analytical and statistical skills that are highly valued by potential employers;
2. A valuable undergraduate preparation for pursuing careers in such fields as journalism, politics, public relations, business or public administration and in other—fields that involve investigative or analytical skills or working with diverse groups;
3. An excellent and comprehensive training program for students wishing to pursue graduate work in programs leading to academic positions, research expertise, or work in the field of applied sociology.

DEGREE PROGRAMS

Students may earn a Bachelor of Arts degree in Sociology. The Department of Sociology also offers graduate programs leading to M.A. and Ph.D. degrees in the areas of:

- Medical sociology
- Race and ethnic relations
- Criminology

MAJOR

A major in SOCIOLOGY requires: a minimum of 31 credits, including:
Required Courses

SOC 101 Introduction to Sociology (3 credits)
SOC 210 Introduction to Social Research\(^1\) (3 credits)
SOC 211 Quantitative Methods for Sociologists\(^2\) (3 credits)
SOC 212 Quantitative Methods Lab (1 credit)
SOC 401 Sociological Theory (3 credits)

Two of the following three courses:
SOC 301 Social Organization (3 credits)
SOC 302 Social Psychology (3 credits)
SOC 303 Social Inequalities (3 credits)

Elective Courses

Four other courses offered by the Department for a total of 12 credits.

Other requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of **16 credits must be earned in residency** in the Department; thus, only a maximum of 15 credits can be transferred from other institutions as eligible credits for the SOCIOLOGY major

MINOR

A minor in **SOCIOLOGY** requires a minimum of 15 credits, including:

Required Courses

SOC 101 Introduction to Sociology (3 credits)

Elective Courses

Four other courses offered by the Department, **two of which must be 300 level or higher**, for a total of 12 credits.

Other requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of 9 credits must be earned in residency in the Department; thus, only a maximum of 6 credits can be transferred from other institutions as eligible credits for the SOCIOLOGY minor.

\(^1\)EPS 452 can be substituted for SOC 210 only by students who are also enrolled in the School of Education.
\(^2\)PSY 204 can be substituted for SOC 211 and SOC 212 only by students who are also majoring in Psychology.
DEPARTMENTAL HONORS

Graduation with Departmental Honors is available to eligible students who fulfill the following:

1. Students desiring Departmental Honors in Sociology or Criminology must maintain an overall GPA of 3.3 and a GPA of 3.5 in Sociology or Criminology. They must also achieve a minimum of B in all Sociology/Criminology courses. For transfer students, the Department uses the cumulative, combined GPA calculated by the Office of the Registrar.

2. A student seeking Departmental Honors is required to write an independent research paper which is submitted to the Undergraduate Committee. The nature of the independent research project is determined by the faculty member(s) with whom the student works. This project is done in SOC 498 & SOC 499 (Honors I & II). The student should have the same professor(s) for all six credits.

3. Recruitment of eligible students is by department invitation at the beginning of a student’s junior year.

Sociology Course Listing
THEATRE ARTS - Dept. Code: THA
www.as.miami.edu/theatrearts

INTRODUCTION

The University of Miami Department of Theatre Arts offers two distinct undergraduate degrees: a liberal arts program leading to a Bachelor of Arts degree in theatre and a pre-professional conservatory-based theatre training program leading to a Bachelor of Fine Arts degree in either Acting, Musical theatre, Stage Management, Theatre Management, or Design/Production.

The Department also produces a season of plays and musicals at the Jerry Herman Ring Theatre as well as workshops and student projects in the Studio Theatre.

EDUCATIONAL OBJECTIVES

The mission of the University of Miami’s Department of Theatre Arts is to equip students to work in professional theatre, film and television or to gain admission to the best professional graduate programs.

Our graduates will be capable of applying theatrical techniques without guidance and will be capable of making independent creative judgment. Our broad aim in theatre training is professional excellence combined with depth of human understanding, freedom of expression and imagination in communication for all practitioners of the art and craft of theatre.

DEGREE PROGRAMS

THE BACHELOR OF ARTS DEGREE
THE BACHELOR OF FINE ARTS DEGREE

MAJOR

THE BACHELOR OF ARTS DEGREE
All students seeking a Bachelor of Arts degree in Theatre Arts must take the following courses with a grade of C- or higher in all Theatre Arts classes and an overall GPA of 2.0 or above. All classes listed as THA (with the exception of THA 101) are eligible to be counted towards the BA Theatre Arts degree. The student needs a minimum of 36 credits drawn from the requirements listed below.

All Bachelor of Arts Candidates have 18 credits of core classes that must be completed. The Core Classes are:
THA 105 or 106 (only one will be counted), 141/143, 142/144, 381, 481, and 482.

Additionally, students must complete 18 more credits of elective classes:
9 credits at the 200 level or higher level
6 credits at the 300 level or higher level
3 credits at the 400 level
Transfer students have a residency requirement of 18 Theatre Arts credits on campus.

Please note THA 101 (Intro to Theatre) is NOT for Theatre Arts MAJORS.

The State of Florida recognizes the Bachelor of Arts and Bachelor of Fine Arts Degrees as meeting the Theatre Arts subject area requirements for teaching at the secondary level. In addition to earning the BA or BFA degree in Theatre, students desiring to teach in the field of Theatre Arts should complete the required education credits in order to be certified by the state.

THE BACHELOR OF FINE ARTS DEGREE
In addition to the general requirements for admission to the University, the student seeking admission to the BFA program must meet the following requirements of the Department of Theatre Arts:

1. Submission of a special supplementary application to the Department of Theatre Arts. (This form is located on the Department of Theatre Arts website under “Prospective Students.”)

2. An audition or interview/portfolio review to determine acceptance into the program. These audition/reviews will be held three times on the University of Miami campus as well as in major cities throughout the United States.

3. Design/technical production, stage management and theatre management students will be accepted into these programs on a probationary basis following an interview/portfolio review. Permanent acceptance into these programs will be made at the end of the first year by a thorough examination of the student’s portfolio.

Transfer students must follow the same entering procedures as freshmen and should realize that placement into the program will be determined by the Theatre Arts faculty. Candidates cannot transfer into the design/technical production, stage management and theatre management BFA degree program beyond their sophomore year, unless approved by the head of the appropriate program. Transfer students are not allowed into the performance or musical BFA degree programs unless they are willing to begin on the freshman level in their conservatory curriculum.

The candidates for the degree of Bachelor of Fine Arts must satisfy the College of Arts and Sciences distribution requirements.

Each BFA student will be evaluated by the faculty at the end of each semester. This evaluation will determine if the student is invited to continue in the program. Additional evaluations will take place each time a student is involved in a project.

In Theatre Arts Department courses a cumulative 2.7 grade point average is required to remain in the BFA program. A Theatre Arts major must maintain a minimum grade of C- or higher in each required course outside the theatre. Failure to maintain satisfactory academic standing may result in the student being placed on academic probation by the Department and eventually to dismissal from the program.

Theatre Arts courses are progressive in nature and students must successfully complete each course in sequence. Failure to pass the requirements of any particular class in the conservatory may result in the student’s dismissal from the program.
Production activities and discipline within the Department will be governed by a student handbook, available on the Department website ([www.miami.edu/tha](http://www.miami.edu/tha)).

Musical Theatre and Acting Majors will be admitted to the Bachelor of Fine Arts degree program only in the fall of each academic year. The following pages specify the course requirements for each area of the BFA program.

### DESIGN/TECHNICAL PRODUCTION CURRICULUM

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<tr>
<td>THA 141 Intro to Scene Design/Stage Craft (Lecture)</td>
<td>THA 144 Introduction to Theatre Crafts II (Lab)</td>
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<tr>
<td>THA 143 Introduction to Theatre Crafts I (Lab)</td>
<td>ENG 106 English Composition II</td>
</tr>
<tr>
<td>ART 101 Intro to Drawing I</td>
<td>Art 105 Figure Drawing</td>
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<tr>
<td>THA 365 Principles of Stage Management</td>
<td>Liberal Arts/Math</td>
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<tr>
<td>CIS 150 Business Analytics</td>
<td>THA 364 Introduction to Producing and Managing Theatre</td>
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<td>THA 386 History of Fashion</td>
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<td>THA 243 Intro to Drawing for the Theatre</td>
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| Theatre Elective                                   | Theatre Elective                                     |
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|                                                   | Theatre Elective                                     |
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<tr>
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<td>THA 242 Drafting for the Theatre</td>
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<td>THA 386 History of Fashion</td>
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<tr>
<td>THA 243 Intro to Drawing for the Theatre</td>
<td>THA 244 Play Analysis II</td>
</tr>
<tr>
<td>Liberal Arts /Math</td>
<td>Liberal Arts</td>
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</table>
| Liberal Arts                                      |                                                      | 15
| COS 211 Public Speaking                           |                                                      |
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### JUNIOR YEAR

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<tr>
<td>THA 401 Internship</td>
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</tbody>
</table>
| Liberal Arts                                      |                                                      | 3
| Theatre Elective                                   | Theatre Elective                                     |
|                                                   | Theatre Elective                                     |
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|                                                   | Theatre Elective                                     |
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|                                                   | Theatre Elective                                     |
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### SENIOR YEAR

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<tbody>
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<td>THA 442 Design Studio II</td>
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<tr>
<td>THA 401 Internship</td>
<td>THA 402 Internship</td>
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<td>Theatre Elective</td>
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</table>
| Liberal Arts                                      |                                                      | 3
| Theatre Elective                                   | Theatre Elective                                     |
|                                                   | Theatre Elective                                     |
|                                                   |                                                      | 3
|                                                   | Theatre Elective                                     |
|                                                   |                                                      | 3

#### Notes:

1. THA 441 Design Studio I can be taken twice for a maximum of 6 credits.
2. THA 442 Design Studio II can be taken twice for a maximum of 6 credits.
3. Theatre Elective – must be a 200 level or above course.
4. ART 107 is highly recommended.
# MUSICAL THEATRE CURRICULUM

## FRESHMAN YEAR

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<th></th>
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<tbody>
<tr>
<td>THA 111 Acting I-A</td>
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<td>THA 112 Acting I-B (Script Analysis)</td>
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<tr>
<td>THA 113 Movement I-A</td>
<td>2</td>
<td>THA 114 Movement I-B</td>
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<tr>
<td>THA 116 Dance I-A</td>
<td>2</td>
<td>THA 117 Dance I-B</td>
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<tr>
<td>THA 120 Freshman Studio I</td>
<td>1</td>
<td>THA 121 Freshman Studio II</td>
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<tr>
<td>THA 131 Musical Theatre Skills I</td>
<td>2</td>
<td>THA 132 Musical Theatre Skills II</td>
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<tr>
<td>THA 141 Intro to Scene Design/Stage Craft (Lecture)</td>
<td>2</td>
<td>THA 142 Intro to Costume/Lighting Design (Lecture)</td>
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<tr>
<td>THA 143 Introduction to Theatre Crafts I (Lab)</td>
<td>1</td>
<td>THA 144 Introduction to Theatre Crafts II (Lab)</td>
</tr>
<tr>
<td>THA 198 Voice and Speech</td>
<td>2</td>
<td>THA 197 Singing for the Stage I-B</td>
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<tr>
<td>THA 196 Singing for the Stage I-A</td>
<td>1</td>
<td>THA 199 Voice and Speech</td>
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<tr>
<td>THA 191 Intro Applied Musical Theatre Voice I</td>
<td>1</td>
<td>THA 192 Intro Applied Musical Theatre Voice II</td>
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<th>First Semester</th>
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<tr>
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<td>2</td>
<td>THA 212 Acting II-B</td>
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<tr>
<td>THA 216 Dance II-A</td>
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<td>THA 217 Dance II-B</td>
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<tr>
<td>THA 296 Singing for the Stage II-A</td>
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<td>THA 297 Singing for the Stage II-B</td>
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<td>THA 298 Voice and Speech II-A</td>
<td>1</td>
<td>THA 299 Voice and Speech II-B</td>
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<td>THA 292 Beg. Applied Music Theatre Voice II</td>
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<tr>
<td>THA 291 Beg. Applied Music Theatre Voice I</td>
<td>2</td>
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<tr>
<td>ENG 105 English Composition I</td>
<td>3</td>
<td>MTH 101 Algebra for College Students</td>
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<tr>
<td>THA 200 Advanced Musical Skills I</td>
<td>2</td>
<td>THA 300 Advanced Musical Skills II</td>
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## JUNIOR YEAR

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<tr>
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<th>First Semester</th>
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<tbody>
<tr>
<td>THA 311 Acting III-A</td>
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<tr>
<td>THA 313 Movement III-A</td>
<td>1</td>
<td>THA 314 Movement III-B</td>
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<tr>
<td>THA 316 Dance III-A</td>
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<td>THA 317 Dance III-B</td>
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<tr>
<td>THA 396 Singing for the Stage III-A</td>
<td>1</td>
<td>THA 399 Voice and Speech III-B</td>
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<td>THA 398 Voice and Speech III-A</td>
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<td>THA 482 Theatre History II</td>
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<td>THA 481 Theatre History I</td>
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<td>THA 316 Auditioning I</td>
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<td>Liberal Arts</td>
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<tr>
<td>Liberal Arts</td>
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<td>Liberal Arts</td>
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<tr>
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<tr>
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<tr>
<td>THA 491 Adv. Applied Music Theatre Voice I</td>
<td>2</td>
<td>Liberal Arts or THA 400 Acting for the Camera</td>
</tr>
<tr>
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<td>3</td>
<td>Electives</td>
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<tr>
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* optional but recommended
*+: Acting for the Camera is required and must be taken in the Senior Year

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# ACTING CURRICULUM

## FRESHMAN YEAR

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<td>THA 112 Acting I-B (Script Analysis)</td>
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<td>THA 116 Dance I-A</td>
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<td>THA 120 Freshman Studio I</td>
<td>THA 121 Freshman Studio II</td>
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<td>THA 143 Introduction to Theatre Crafts I (Lab)</td>
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<td>ENG 105 English Composition I</td>
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<tr>
<td>THA 311 Acting III-A</td>
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<td>THA 313 Movement III-A</td>
<td>THA 314 Movement III-B</td>
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<tr>
<td>THA 398 Voice and Speech III-A</td>
<td>THA 399 Voice and Speech III-B</td>
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<tr>
<td>THA 481 Theatre History I</td>
<td>THA 315 Auditioning I</td>
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<tr>
<td>Theatre Requirement or Theatre Elective</td>
<td>THA 482 Theatre History II</td>
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<tr>
<td>Liberal Arts</td>
<td>Theatre Requirement or Theatre Elective</td>
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## SENIOR YEAR

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<tr>
<td>THA 411 Acting IV-A</td>
<td>THA 412 Acting IV-B</td>
</tr>
<tr>
<td>THA 413 Movement III-A (Stage Combat)</td>
<td>THA 414 Movement III-B</td>
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<tr>
<td>THA 416 Auditioning-II</td>
<td>THA 420 Senior Studio</td>
</tr>
<tr>
<td>THA 461 Play Direction I</td>
<td>Theatre Requirement or Elective</td>
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<td>Liberal Arts</td>
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<td>Theatre Elective</td>
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<td>16-18</td>
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Acting Majors must complete 4 additional Requirement Courses and 6 Elective Courses

## REQUIREMENTS

- THA 294 Singing for Actors                        2  
- CBR 233 Television Performance                    3  
- THA 400 Acting for the Camera                     3  
- Another approved singing Class                    1-3*  
- THA 356 Improvisational Acting                    3  
- THA 364 The Theatre Industry                      3

## ELECTIVES

- THA 116 Beginning Dance and/or Other approved dancing class 1-3*  
- THA 195 Singing for Actors I                       2  
- THA 251 and/or 252 Scene Study                     3*  
- THA or MVP 295 Singing for Actors II-B1            2  
- THA 352 Singing for the Musical Theatre            3*  
- OR THA 431 Musical Theatre Styles I                2  
- THA 432 Musical Theatre Styles II                  2  
- THA 455 Acting for the Camera                      3  
- THA 462 Directing for the Stage                    3*  
- THA 466 Theatrical Unions                          3  
- THA 375 Playwriting                                3*  
- THA 365 Principles of Stage Management             3  
- CBR 592 Special Topics in Broadcasting             3  
- OR Other approved courses
### STAGE MANAGEMENT CURRICULUM

#### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>THA 365 Principles of Stage Management</td>
<td>THA 105 Introduction to Acting</td>
</tr>
<tr>
<td>THA 141 Introduction to Theatre Crafts I (Lecture)</td>
<td>THA 142 Intro to Costume/Lighting Design (Lecture)</td>
</tr>
<tr>
<td>THA 143 Introduction to Theatre Crafts I (Lab)</td>
<td>THA 144 Introduction to Theatre Crafts II (Lab)</td>
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<tr>
<td>ENG 105 English Composition I</td>
<td>ENG 106 English Composition II</td>
</tr>
<tr>
<td>MTC 109 Music Theory Skills I</td>
<td>CIS 150 Business Analytics</td>
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#### SOPHOMORE YEAR

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<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>THA 243 Intro to Drawing for the Theatre</td>
<td>THA 463 Advanced Stage Management I</td>
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<tr>
<td>THA 364 The Theatre Industry</td>
<td>THA 242 Drafting for the Theatre</td>
</tr>
<tr>
<td>THA 381 Play Analysis I</td>
<td>THA 382 Play Analysis II</td>
</tr>
<tr>
<td>Liberal Arts/Math</td>
<td>COS 112 Interpersonal Communication</td>
</tr>
<tr>
<td>Liberal Arts/Social Sciences</td>
<td>Liberal Arts/Social Sciences</td>
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<tr>
<td>MVP 210 Score Reading for SM Major</td>
<td>Liberal Arts/Humanities</td>
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#### JUNIOR YEAR

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<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>THA 459 Stage Management Practicum</td>
<td>THA 464 Advanced Stage Management II</td>
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<tr>
<td>THA 241 Advanced Theatre Crafts</td>
<td>THA 462 Play Direction II</td>
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<tr>
<td>THA 481 Theatre History I</td>
<td>THA 482 Theatre History II</td>
</tr>
<tr>
<td>THA 344 Lighting Design</td>
<td>COS 211 Public Speaking</td>
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<td>Theatre Elective</td>
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#### SENIOR YEAR

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<tr>
<td>THA 459 Stage Management Practicum</td>
<td>THA 420 Senior Studio</td>
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<td>THA 466 Theatre Management II (Unions)</td>
<td>THA 401 Internship</td>
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<td>Liberal Arts/Natural Sciences</td>
<td>THA 402 Internship</td>
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<td>THA Elective</td>
<td>Theatre Elective</td>
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<td>KIN 145 Responding to Emergencies (1st Aid)</td>
<td>MGT 304 Organizational Behavior</td>
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**NOTE:**

1. All Stage Management majors are required to participate in a production capacity in one show per semester for all eight semesters.

2. All Stage Management majors are required to stage manage or assistant stage manage one show in each year in their Sophomore, Junior and Senior year. This management assignment doubles as their production assignment for that particular semester.

3. THA 459 Stage Management Practicum can be repeated for a maximum of 18 credits.

4. THA Elective must be a 200 level or above course unless otherwise approved by Stage Management Faculty.
### THEATRE MANAGEMENT CURRICULUM

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>THA 141 Intro to Scene Design/Stage Craft (Lecture) 2</td>
<td>THA 142 Intro to Costume/Lighting Design (Lecture) 2</td>
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<td>THA 143 Introduction to Theatre Crafts I (Lab) 1</td>
<td>THA 144 Introduction to Theatre Crafts II (Lab) 1</td>
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<td>THA 364 The Theatre Industry 3</td>
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<tr>
<td>ENG 105 English Composition I 3</td>
<td>ENG 106 English Composition II 3</td>
</tr>
<tr>
<td>CAP 116 Introduction to Public Relations in Society 3</td>
<td>THA 244 Drawing for the Theatre II 3</td>
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<tr>
<td>CIS 150 Introduction to Computer Information Systems 3</td>
<td>MTH 101 Algebra for College Students 3</td>
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<td>CAP 232 Promotional Writing 3</td>
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**SECOND SEMESTER**

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<tbody>
<tr>
<td>THA 142 Intro to Costume/Lighting Design (Lecture) 2</td>
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<td>THA 143 Introduction to Theatre Crafts I (Lab) 1</td>
<td>THA 364 The Theatre Industry 3</td>
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<td>THA 365 Principles of Stage Management 3</td>
<td>ENG 106 English Composition II 3</td>
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<td>CAP 116 Introduction to Public Relations in Society 3</td>
<td>THA 244 Drawing for the Theatre II 3</td>
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<td>CIS 150 Introduction to Computer Information Systems 3</td>
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<td>CAP 232 Promotional Writing 3</td>
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### SOPHOMORE YEAR

**First Semester**

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<tr>
<td>THA 105 Introduction to Acting 3</td>
<td>THA 367 Theatre Management Practicum 3</td>
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<tr>
<td>THA 366 Theatre Management Practicum 3</td>
<td>THA 382 Play Analysis II 3</td>
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<td>THA 381 Play Analysis I 3</td>
<td>BSL 212 Introduction to Business Law 3</td>
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<tr>
<td>ACC 211 Principles of Financial Accounting 3</td>
<td>CIS 316 Microcomputer Business Applications 3</td>
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<tr>
<td>CAP 202 Graphics for Promotional Media 3</td>
<td>ECO 211 Economic Principles and Problems 3</td>
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**SECOND SEMESTER**

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<td>THA 366 Theatre Management Practicum 3</td>
<td>BSL 212 Introduction to Business Law 3</td>
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<td>THA 381 Play Analysis I 3</td>
<td>CIS 316 Microcomputer Business Applications 3</td>
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<tr>
<td>ACC 211 Principles of Financial Accounting 3</td>
<td>ECO 211 Economic Principles and Problems 3</td>
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<tr>
<td>CAP 202 Graphics for Promotional Media 3</td>
<td>Liberal Arts 3</td>
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### JUNIOR YEAR

**First Semester**

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<tbody>
<tr>
<td>THA 401 Internship 3</td>
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<td>THA 461 Play Direction I 3</td>
<td>THA 467 Theatre Management III 3</td>
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<td>THA 465 Theatre Management I 3</td>
<td>MGT 301 Marketing Foundations 3</td>
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<td>COS 333 Business Communication 3</td>
<td>MGT 307 Advanced Organizational Behavior 3</td>
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**SECOND SEMESTER**

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<tbody>
<tr>
<td>THA 402 Internship 3</td>
<td>THA 404 Internship 3</td>
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<tr>
<td>THA 467 Theatre Management III 3</td>
<td>THA 482 Theatre History II 3</td>
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<td>MGT 301 Marketing Foundations 3</td>
<td>THA 468 Theatre Management IV 3</td>
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<td>MGT 307 Advanced Organizational Behavior 3</td>
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### SENIOR YEAR

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<td>THA 482 Theatre History II 3</td>
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<td>THA 466 Theatre Management II 3</td>
<td>THA 468 Theatre Management IV 3</td>
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<td>THA 481 Theatre History I 3</td>
<td>MGT 353 The Organization and Operation of the Small Business 3</td>
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<td>MGT 302 Human Resource Management 3</td>
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<tr>
<td>THA 482 Theatre History II 3</td>
<td>THA 468 Theatre Management IV 3</td>
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<tr>
<td>MGT 353 The Organization and Operation of the Small Business 3</td>
<td>Small Business 3</td>
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<td>Liberal Arts 3</td>
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### MINOR

**MINOR IN THEATRE ARTS**

A minor in Theatre Arts consists of 15 credits of Theatre Arts classes with a minimum grade of C- in each course and an overall GPA of 2.0 or above.

[Theatre Arts Course Listing](#)
URBAN STUDIES
http://www.as.miami.edu/urb

INTRODUCTION

The minor in Urban Studies provides undergraduate students with a flexible concentration in interdisciplinary studies of cities, urbanism, and urbanity. Urban Studies is a long established academic field, especially prominent in major cities in the United States. Course work combines a practical focus on Metropolitan Miami with more general attention to urban theory and globalization from a global perspective.

The minor has a liberal arts orientation and includes perspectives from the social sciences, architecture, and history. It is a useful complement to majors such as Geography, History, Sociology, Anthropology, Literature, International Studies, Economics, Political Science, and others. The minor is also of particular interest to students in Architecture Communication and Business. Courses in the Minor are taught in the College of Arts & Sciences and the School of Architecture. Note that there are slightly different requirements for ARC students.

MINOR

Requirements:

- Students must complete **15 credits** (five courses);
- In all five courses, students must achieve a **minimum grade of C- with a 2.0 overall GPA**;
- All minors are required to take **two core courses**:
  - URB 201 Metropolitan Miami, 3 cr.
  - URB 301 Cities in Time and Space, 3 cr.
- In addition, students must select **three courses from the list of Optional Courses, below.** All are 3-credit courses. ARC students may select no more than one ARC course while Non-ARC students must select at least one ARC course. Note that URB 201 or URB 301 will suffice as prerequisites for any of these courses.
  - AMS 350 History and Culture of South Florida
  - ARC 390/590 History of Cities
  - ARC 541 Seminar on Town Design
  - ARC 546 Studies of Havana
  - ARC 554 Architecture of South Florida
  - ARC 584 Special Topics: On-Site Survey of European Architecture and Urbanism
  - APY 420 Archaeology, Architecture, and the City
  - ENG 395 Latino/a Metropolis
  - FIN 340 Real Estate Principles
  - GEG 430 World Cities
  - GEG 511 Spaces of Hope
  - GEG 522 Urbanization in the Developing World
  - GEG 523 Seminar in Urban Management
  - INS 504 Human Security and Urban Violence
  - SOC 304 Dynamics of Poverty in the United States
  - SOC 368 Violence in America
- SOC 386 US Immigration
- HIS 369 Introduction to Urban America
- HIS 371 Immigration, Race, and Ethnicity in American History
- POL 343 Government in Metropolitan Areas

Other courses may be approved upon request; please consult the program Director, Dr. Richard Grant: rgrant@miami.edu

Urban Studies Course Listing
INTRODUCTION

The Program in Women's and Gender Studies at the University of Miami seeks to encourage the rigorous investigation of gender as a significant issue in all areas of human experience. It reaches across disciplines to draw on a range of methods, theories, and perspectives that help us to understand how ideas and structures based on gender shape our lives. The program's core objective is to foster the examination, open discussion, and lively debate of gender issues among faculty and students from all fields of study, enriching the undergraduate curriculum and the university's academic mission through greater communication across disciplines and colleges. Its aim is to broaden, deepen, and transform the learning community at UM and beyond.

EDUCATIONAL OBJECTIVES

The undergraduate curriculum in Women's and Gender Studies explores the ways in which ideas about gender and sexuality shape social roles and identities, as well as the ways in which race, ethnicity, class, and nationhood influence the perception and experience of gender and sexuality within particular cultures. The curriculum is informed by recent scholarship that recognizes gender and sexuality as crucial components of human experience in social, cultural, economic, political, religious, and legal contexts. It includes courses that introduce students to feminist theory and scholarship, engaging ethical and political issues of equality and justice. The program encourages students to question their assumptions about the possible meanings of female and male through the comparative study of how different societies and historical periods have viewed manhood, womanhood, and relations between women and men. Courses in Women's and Gender Studies enable students to acquire critical and analytical skills that they can then apply in other aspects of their educational experience at UM and beyond the university in their careers and personal development.

MAJOR

A major in Women's and Gender Studies consists of at least 30 credits in Women's and Gender Studies courses (core, co-listed, and cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in WGS courses. These credits must include at least 18 at the 300 level or above. All majors must complete WGS 201: Introduction to Women's and Gender Studies, WGS 301: Feminist Inquiries, and at least two other WGS core courses.

All majors must complete WGS 501: Senior Research Project, which will take the form of an individual research project with a faculty member of the student's choice; the student is responsible for finding an appropriate faculty member who is available to supervise the project and then must seek formal approval from the program director before proceeding with the project. The student must produce a substantial written report or research paper, the format of which will vary according to the nature of the project.
MINOR

1. A minor in Women's and Gender Studies consists of at least 15 credits in Women's and Gender Studies courses (core, co-listed, and cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in WGS courses. These credits must include at least 9 at the 300 level or above. All minors must complete WGS 201: Introduction to Women's and Gender Studies, WGS 301: Feminist Inquiries and at least one other WGS core course.

2. New Minor

I. Overview of the Program: LGBTQ (Lesbian/Gay/Bisexual/Transgender/Queer) Studies

The LGBTQ Studies minor is designed to allow students to explore sexuality and sexual minorities from a variety of perspectives. The course will provide students with an introduction to a broad array of LGBTQ issues including visual and performing arts, literature, languages, history, social science, various theories, public policy and the law, families and other types of intimate relationships, crime, popular culture, and LGBTQ identities and communities. This widely interdisciplinary field addresses work in a broad range of scholarly disciplines including biological and cultural studies, in literature and anthropology, in the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of popular culture to investigations into the development and social construction of sexual identity.

II. Requirements for the Minor:

MINOR IN LESBIAN/GAY/BISEXUAL/TRANSGENDER/QUEER (LGBTQ) STUDIES

A minor in LGBTQ Studies consists of at least 15 credits in LGBTQ Studies courses (requirements, core, and related courses, co-listed and cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in LGBTQ courses. All minors must complete WGS 202: Introduction to LGBTQ Studies and WGS 201: Introduction to Women's and Gender Studies. The remaining course work must include at least 9 credit hours at the 300 level or above and no more than 6 credit hours in any one department or program or more than 3 credit hours of individual studies without the approval of the program director.

REQUIREMENTS

WGS 202: INTRODUCTION TO LGBTQ STUDIES
An introductory examination of lesbian, gay, bisexual, transgender and queer issues from an interdisciplinary perspective. (3 credits).

WGS 201: INTRODUCTION TO WOMEN'S AND GENDER STUDIES How are our lives shaped by gender? This course introduces students to the ways in which Women's and Gender Studies as an interdisciplinary field examines conceptions of masculinity and femininity; gender relations; gender inequalities; the intersections of gender with other categories of identity such as class, race, sexuality, and stages in the life cycle; and the broad impact of gender on society (including political, legal, economic, and religious arenas). (3 credits).

CORE COURSES (SELECT AT LEAST 6 CREDITS) WGS 210: POPULAR REPRESENTATIONS OF QUEER SEXUALITIES (3 credits).
WGS 210: POPULAR REPRESENTATIONS OF QUEER SEXUALITIES (3 credits).
WGS 350: SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES (3 credits).
WGS 450: SPECIAL TOPICS IN LGBTQ STUDIES (3 credits).
WGS 499: INDEPENDENT STUDY
WGS 501: SENIOR RESEARCH PROJECT

All minors may choose to complete an individual research project with a faculty member of the student’s choice; the student is responsible for finding an appropriate faculty member who is available to supervise the project and then must seek formal approval from the written report or research paper, the format of which will vary according to the nature of the project.

POL569: POLITICS, LAW AND SEXUAL IDENTITY (3 credits).
This course considers sexual politics by looking in depth at several issues including; restrictions on marriage, adoption, employment, military service, housing, and intimacy based on sexuality and/or gender identity. For each issue, we shall consider how the debate is constructed by politicians, academics, the media, LGBT activist organizations and law/legal theory. We will also contemplate the state and national politics at work within these issues. Finally, we will consider the topics from a comparative view as well as address the international implications arising out of that comparative consideration. In general, the goal is to learn about the current state of the politics of sexual identity in the United States and abroad. Moreover, students will engage frameworks through which politics might be assessed and determine the generalizability of the logics of politics. PREREQUISITE: POL 211 AND 212. POL 373 AND 374 RECOMMENDED.

SOC 335: SOCIOLOGY OF LGBTQ COMMUNITIES AND IDENTITIES (3 credits).
This course examines the history, methods, theory and concepts of social science research on LGBTQ topics from the last half century to the present. Prerequisite: SOC 101.

WGS 305: QUEER STUDIES (3 credits).
This course examines gay, lesbian, bisexual, transgender, transsexual, and queer identities as they shape daily lives and experiences; the construction of alternative family structures; queer theory and its implications for our understanding of key issues across a range of disciplines; and current debates over the meaning and validity of sexuality as a way of understanding human sexual desire, emotions, and behavior.

RELATED COURSES:

STUDENTS SELECT TWO APPROPRIATE AND RELEVANT COURSES IN ANY DEPARTMENT, IN CONSULTATION WITH THE DIRECTOR OF WGS.

PLEASE NOTE: Only WGS 201 (Introduction to Women's and Gender Studies) may count for BOTH the major in WGS AND the minor in LGBTQ Studies.

DEPARTMENTAL HONORS

Women's and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing WGS 505: Honors Thesis instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. The format and length of the thesis will
vary according to the nature of the project. Most students writing an honors thesis as part of their WGS major will take WGS 505 twice (for a total of 6 credits).

Women’s and Gender Studies Course Listing
INTRODUCTION

The School of Business Administration offers courses leading to the degrees of Bachelor of Business Administration (BBA) and Bachelor of Science in Business Administration (BSBA). Undergraduate degrees in business are administered by the Vice Dean, Undergraduate Business Education.

MISSION

Our mission is to develop innovative ideas and principled leaders that transform global business and society.

ACCREDITATION

The Bachelor of Science in Business Administration and the Bachelor and Master of Business Administration as well as the undergraduate and graduate Accounting programs are fully accredited by The Association to Advance Collegiate Schools of Business, International (AACSB – International).

ACADEMIC POLICIES

Student Responsibilities

- Students in the School of Business Administration are responsible for planning their own programs and for meeting degree requirements;
- It is the student’s responsibility to understand fully, and to comply with all the provisions of this Bulletin and written changes to their program of study;
- Students are provided assistance by academic advisors and faculty members;
- Requests for exceptions to policy from department, program, or school requirements are granted only by written approval from the appropriate Vice Dean;
- Information regarding appeal procedures and special requests relative to academic matters is available in Merrick 104, School of Business Administration, Office of Undergraduate Business Education.
Students who are in violation of the provisions of this Bulletin may be withdrawn unilaterally from classes, dismissed as Business students, and/or have an electronic “STOP” placed upon their future enrollment;

Students who are deemed to be disruptive in class, as determined by assigned faculty and the appropriate Vice Dean, shall be dropped from the class.

Admission to the School of Business Administration

Admission to the University for undergraduate study as a freshman business student is sufficient to be granted admission to the School of Business Administration. However, strong quantitative skills are typically needed for success. Admitted students may select an intended major or majors and optional minor(s). Students who do not state an intended major are initially listed as Undeclared in business.

Transfer Student Admission

The transfer applicant from outside the University of Miami must submit a satisfactory academic record in compliance with the standards of the University of Miami Office of Admission. The applicant must be in good academic standing at all institutions previously attended with a minimum cumulative grade point average of 3.0. All transfer applicants to the School of Business Administration must have earned a grade of “B” or better and received college credit for a calculus course equivalent to MTH 161. The calculus course must be evaluated by submitting the syllabus and textbook title for review by the Department of Mathematics and Office of Undergraduate Business Education.

For credit to be awarded, all transfer coursework must be from an accredited institution and reflect a minimum grade of “C” (2.0). Any business course that is from a non-AACSB accredited institution will be accepted as an elective toward the degree requirements. An applicant may appeal the decision by submitting the syllabus and textbook title to the appropriate department for review. All grades earned in transfer courses shall be used to determine the overall cumulative grade point average. This includes repeated courses under any forgiveness policy at a previous institution.

Further, transfer coursework must meet specific curriculum requirements as determined by the Office of Undergraduate Business Education. Note that transfer students must complete 50 percent of the total Business Foundation and Professional Business Core and 50 percent of all major and all minor courses at the University of Miami. In addition, transfer students must comply with the Residency Requirement set out below.

It is strongly recommended that transfer applicants meet the following requirements at the time of transfer application:

- One semester of microeconomics (ECO 211 or its equivalent as determined by the Department of Economics), which may also be fulfilled by:
  - A score of “4” on the AP Microeconomics exam;
  - A score of “5” on the IB Higher Level Economics exam.

- One semester of macroeconomics (ECO 212 or its equivalent as determined by the Department of Economics).
• One semester of financial accounting (ACC211 or its equivalent as determined by the Department of Accounting).

It is strongly recommended that transfer applicants with 60 semester hours or more meet the following requirements at the time of transfer application:
• Two semesters of introductory economics, Micro and Macro (ECO211 and ECO212), which may also be fulfilled by:
  o A score of “4” on the AP Micro and/or Macroeconomics exam;
  o A score of “5” on the IB Higher Level Economics exam awards credit in Microeconomics;
  o A score of “6” on the IB Higher Level Economics exam awards credit in Micro- and Macroeconomics;
  o A course or courses equivalent to Microeconomics and Macroeconomics, as determined by the Department of Economics.

• One semester of managerial accounting (ACC212 or its equivalent as determined by the Department of Accounting).

• One semester of statistics, which may also be fulfilled by:
  o A score of “4” on the AP Statistics exam;
  o A course equivalent to Introduction to Business Statistics (MAS 201) as determined by the Department of Management Science.

Academic Progress and Probation
• The School of Business Administration will review each student’s record at the end of each semester;

• When a student’s semester or cumulative average is less than 2.0, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with the University’s or School of Business Administration’s policies and procedures;

• Full-time business students who are not completing sufficient coursework to graduate after ten regular semesters of enrollment are deemed not to be making satisfactory academic progress;

• The extent to which a student’s record is below a 2.0 average determines the severity of the sanction, i.e., warning, academic probation, or dismissal;

• Students on probation are not permitted to enroll in more than 13 semester hours and may have an electronic “STOP” placed upon their future enrollment until grades for work-in-progress are reviewed.
Academic Dismissal

- Business students may be dismissed in accordance with the University’s or the School of Business Administration’s dismissal standards;

- Additionally, a student in the School of Business Administration whose grade point average or progress toward degree completion is unsatisfactory may be dismissed;

- Students shall be precluded from continuing their studies in a major or in particular courses if they do not have the specified grade point average or grades for the major or particular courses;

- A student who is dismissed due to failure to satisfactorily complete the required business foundation courses, failure to make progress toward the degree, or failure to maintain a high enough grade point average is not automatically dismissed from the University. Accordingly, such a student may apply to another School or College, and if accepted, may continue as an undergraduate student at the University of Miami. For such a student who is not accepted by another School or College, dismissal from the School of Business may have the incidental effect of dismissal from the University of Miami as well.

Freshman Repeat Rule (FRR)

The Freshman Repeat Rule (FRR) allows a student who receives a "D" or an "F" in a course taken at the University of Miami within the student's first thirty semester hours or first two regular semesters of college work, to repeat up to two such courses within the following two semesters. After the course has been repeated, only the second grade earned will be used in the computation of the student’s cumulative grade point average. However, the initial grade remains on the record, although the initial grade does not count as credits attempted or earned at the University of Miami.

The following policy is applied specifically to business students using the University’s Freshman Repeat Rule (FRR):

- The student’s academic standing is based upon the current grades being counted as credits attempted or earned;

- Students who repeat a course not under the provisions of the FRR are administered using the University General Repeat Rule;

- Students desiring to take advantage of the policy must complete the FRR Request Form which is available in the School of Business Administration, Office of Undergraduate Business Education;

- The summer sessions are not counted as a semester in computing the two semesters in which a student may elect to repeat a course with a “D” or “F” grade. Additionally, a student who initially enters the University in the spring semester may repeat courses with a “D” or “F” grade taken in the summer sessions following initial enrollment without having the summer sessions count as one of the first two semesters;

- For additional information about the FRR, consult an Undergraduate Business Academic Advisor.
Readmission

The requirements for readmission may be viewed in the General Information section of this Bulletin. The following special conditions are in effect for the School of Business Administration:

- Students requesting readmission who were previously dismissed for academic reasons or who had below a 2.0 cumulative grade point average must present adequate evidence that the conditions and/or factors that caused their prior poor academic performance have changed sufficiently, and that there is a reasonable expectation of satisfactory performance if they are permitted to resume their course of study in the School of Business Administration;

- Additionally, students with prior unsatisfactory academic records who are readmitted may have conditions placed upon their readmission;

- Students requesting readmission who have earned 30 or more credits, unless otherwise specified, must have completed a college calculus course with a grade of C or higher.

- Failure to satisfactorily accomplish the stated conditions may result in the student not being permitted to register for future semesters.

Changes to Academic Requirements

The School of Business Administration reserves the right to change academic requirements including course offerings, grades, and required grade point averages, to ensure that students are receiving the latest knowledge and are maintaining standards necessary to be professionally competitive. Changes are communicated to students either by written or electronic notice, or personally by their academic advisors.

REQUIREMENTS FOR GRADUATION

Residency Requirements

A candidate for the BBA or BSBA degree must complete the last 45 semester hours consecutively and exclusively in degree-seeking status in residence at the School of Business Administration, University of Miami, as well as meet the graduation requirements as listed in Degree Programs. Credit by examination may not be used to meet the residency requirement. In addition, a minimum of 120 semester hours is required for graduation, not including ENG103, TAL191, MTH099, or any UMI Internship course. The last 56 semester hours must be taken at a four-year institution.

Age of Credits

Credits more than 12 years old are not recognized for degree purposes.
Grade Point Average

Students must earn a cumulative grade point average of at least 2.0 in all undergraduate courses and a grade point average of at least 2.0 in all undergraduate courses taken at the University of Miami. Some majors require a higher grade point average. It is the student’s responsibility to be familiar with the grade point requirement for their respective major.

Percentage of Credits at UM required

At least fifty percent of the total semester hours required in the Business Foundation, Professional Business Core, and the major and minor must be completed at the University of Miami. Considered separately, fifty percent of the semester hours required in the major only and/or minor only must be completed at the University of Miami.

DEGREE PROGRAMS

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

All BBA students must complete areas A, B, C, D, E, and F as listed below. All courses except area E must be taken for graded credit.

A. University of Miami’s General Education Requirements

The School of Business Administration participates in the University’s General Education requirements. See descriptions in the General University Information section of this Bulletin.

All students must satisfy the University’s general education Areas of Proficiency: English composition (ENG 105* and ENG 106*), writing (five courses designated “W” for writing credit), and mathematics. In addition, all undergraduate students must satisfy the University’s general education distribution requirements in three Areas of Knowledge. Every BBA student must complete a cognate designated Arts & Humanities (A&H). As each major and minor fulfills the cognate requirement in one Area of Knowledge, depending on the Area of Knowledge of the student’s major(s) and any minor, an additional cognate in either People & Society (P&S), or Science, Technology, Engineering, and Mathematics (STEM) may also be required of the BBA student.

Three of the five required writing proficiency courses are provided within the BBA degree requirements by the completion of BSL212, ENG230 (or an equivalent), and MGT401. Two additional writing courses, taken within the School of Business or in another School or College, are needed to complete the University Writing Across the Curriculum requirement.

The University mathematics proficiency requirement is satisfied within the BBA degree requirements upon completion of the MAS 110/201/202 sequence.

B. BUSINESS FOUNDATION (33 Semester Hours)

ACC211* Principles of Financial Accounting
ACC212  Managerial Accounting
BSL212  Introduction to Business Law
CIS150*  Business Analytics
ECO211*  Economic Principles and Problems – Microeconomics
ECO212  Economic Principles and Problems – Macroeconomics
MAS110*  Quantitative Applications in Business (Business Calculus)
MAS201*  Introduction to Business Statistics
MAS202  Intermediate Business Statistics
MKT100*  F.I.R.S.T. Step
MKT201  Fundamentals of Marketing

*ENG 105 and *ENG 106, or their equivalents, and ALL other courses marked with an asterisk must be completed BEFORE enrolling in the Professional Business Core courses.

ENG 105 and ENG 106, or their equivalents, and ALL Business Foundation courses must be completed BEFORE enrolling in any business major and/or minor course work.

Unless otherwise specified, MAS110 and MAS201 must be completed with a “C-” or better.

C.  PROFESSIONAL BUSINESS CORE (24 Semester Hours)
ENG230  Advanced Business Writing (or designated equivalent)
CIS410  Information Systems and Technology
ECO302  Micro Economic Theory
FIN302  Fundamentals of Finance
MGT303  Operations Management
MGT304  Organizational Behavior
MGT401  Strategic Management (must be taken in final semester)
CORE ELECTIVE  Any course at 300 level or higher from the School of Business Administration or any course at the 300 level or higher in a modern language.

D. MAJOR AND MINOR REQUIREMENTS
All students must complete the requirements for at least one major in one of the areas of specialization. Additionally, students may elect to complete a minor in an area of specialization distinct from their major. The minor may be in an area of specialization offered by the School of Business Administration or by another school or college of the University. The major and minor requirements are specified by each department. All specialization (major/minor) requirements must be taken for a grade and completed with a grade of “C-” or higher with an overall grade point average in all major and minor courses attempted of at least a 2.0 unless a higher grade or grade point average is prescribed for a specific major or minor.

Dual Business Majors in distinct areas of specialization are also possible, assuming proper sequencing and scheduling. The only specialized courses that can be counted toward both majors or a major and a minor are those courses specifically listed by number as required for both majors and/or minors. The courses of choice required
for one major or minor may not be utilized to satisfy requirements for a second major or minor.

Business students may choose to pursue a second major (also referred to as a co-major) from the College of Arts and Sciences. No courses used to satisfy a co-major may be used to satisfy a business major or minor. Courses used to satisfy a co-major may, however, also be used to satisfy a cognate.

Students in other colleges and schools desiring a major in the School of Business Administration must complete all requirements for both degrees and majors. A student in another School or College at the University of Miami pursuing a business degree as a “dual degree,” must meet the requirements for inter-transfer to the School of Business.

Students are required to declare their majors and minors with the Office of Undergraduate Business Education prior to the start of their senior year. Students are advised that it often takes more than the minimum 120 degree credit hours to complete a minor or second major.

### Majors and Minors for the BBA Degree

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#### Minor Areas of Specialization (Area of Knowledge) Responsible Department

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### Minors offered by other colleges and schools
Please see the relevant college, school, or department section in this Bulletin.

E. ELECTIVES (as needed to meet the minimum 120 semester hours)
All undergraduate courses offered by the University may be used as free electives with the following exceptions:

- Not more than eight semester hours in applied music including band may be used.

- ENG103 - Basic Writing Skills, TAL 191 – Teaching and Learning Study Skills, MTH099 - Intermediate Algebra, and UMI 105-UMI 410 – Internship, are offered for credit but do not count toward degree requirements. However, the grade, if any, earned in the course is included in the student’s cumulative grade point average, and credit for the course is included in the student’s overall credits earned. Therefore, these courses will serve to increase the total number of credits required to graduate.

- Any science course taken as an elective and used for preparing for entrance to medical school must be taken for a grade.

F. INTERNATIONAL FOCUS WITHIN THE CURRICULUM
At least one course with an international focus must be completed within the degree requirements. The acceptability of the course is determined by the academic advisor.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION (BSBA)
The BSBA degree in the School of Business Administration emphasizes quantitative foundation courses. All BSBA students in the School of Business must complete areas A, B, C, D, E, and F as listed below. All courses except area E must be taken for graded credit.

A. University of Miami’s General Education Requirements
The School of Business Administration participates in the University’s General Education Requirements. See descriptions in the General University Information section of this Bulletin.

All students must satisfy the University’s general education Areas of Proficiency: English composition (ENG 105* and ENG 106*), writing (five courses designated “W” for writing credit), and mathematics. In addition, all undergraduate students must satisfy the University’s general education distribution requirements in three Areas of Knowledge. Every BSBA student must complete a cognate designated Arts & Humanities (A&H). As each major and minor fulfills the cognate requirement in one Area of Knowledge, depending on the Area of Knowledge of the student’s major(s) and any minor, an additional cognate in either People & Society (P&S), or Science, Technology, Engineering, and Mathematics (STEM) may also be required of the BSBA student.

Three of the five required writing proficiency courses are provided within the BSBA degree requirements by the completion of BSL212, ENG230 (or an equivalent), and
MGT401. Two additional writing courses, taken within the School of Business or in another School or College, are needed to complete the University Writing Across the Curriculum requirement.

The University mathematics requirement is satisfied within the BSBA degree requirements upon completion of MTH 161.

B. BUSINESS FOUNDATION (38 Semester Hours)

ACC211* Principles of Financial Accounting
ACC212 Managerial Accounting
BSL212 Introduction to Business Law
CIS150* Business Analytics
ECO211* Economic Principles and Problems – Microeconomics
ECO212 Economic Principles and Problems – Macroeconomics
MAS311* Applied Probability and Statistics
MAS312 Statistical Methods and Quality Control
MTH161* Calculus I
MTH162* Calculus II
MGT100* F.I.R.S.T. Step
MKT201 Foundations of Marketing

*ENG 105 and *ENG 106, or their equivalents, and ALL other courses marked with an asterisk must be completed before entering the Professional Business Core courses.

ENG 105 and ENG 106, or their equivalents, and ALL Business Foundation courses must be completed before entering business major course work.

C. PROFESSIONAL BUSINESS CORE (27 Semester Hours)

ENG230 Advanced Business Writing (or designated equivalent)
CIS320 Introduction to Programming (or any other programming course)
ECO302 Micro Economic Theory
ECO430 Applied Econometrics
FIN302 Fundamentals of Finance
MGT303 Operations Management
MGT304 Organizational Behavior
MGT401 Strategic Management (must be taken in final semester)
CORE ELECTIVE Any course at 300 level or higher from the School of Business Administration or any modern language course at the 300 level or higher.

D. MAJOR AND MINOR REQUIREMENTS

All students must complete the requirements for at least one major in one of the areas of specialization. Additionally, students may elect to complete a minor in an area of specialization distinct from their major. The minor may be in an area of specialization offered by the School of Business Administration or by another school or college of the University. The major and minor requirements are specified by each department. All specialization (major/minor) requirements must be taken for a grade and completed with a grade of “C-” or higher with an overall grade point average in all major and minor courses attempted of at least 2.0 unless a higher grade or grade point average is prescribed for a specific major or minor.
Dual Business Majors in distinct areas of specialization are also possible, assuming proper sequencing and scheduling. The only specialized courses that can be counted toward both majors or a major and a minor are those courses specifically listed by number as required for both majors and/or minors. The courses of choice required for one major or minor may not be utilized to satisfy requirements for a second major or minor.

Business students may choose to pursue a second major (also referred to as a co-major) from the College of Arts and Sciences. No courses used to satisfy a co-major may be used to satisfy a business major or minor. Courses used to satisfy a co-major may be used, however, to satisfy a cognate.

Students in other colleges and schools desiring a major in the School of Business Administration must complete all requirements for both degrees and majors. A student in another School or College at the University of Miami pursuing a business degree as a “dual degree,” must meet the requirements for inter-transfer to the School of Business.

Students are required to declare their majors and minors with the Office of Undergraduate Business Education prior to the start of their senior year. Students are advised that it often takes more than the minimum 120 degree credit hours to complete a minor or second major.

### Majors and Minors for the BSBA Degree

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**Minor Areas of Specialization**

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Minors offered by other colleges and schools
Please see the college, school, or department section within the Bulletin.

E. ELECTIVES (as needed to meet the minimum 120 semester hours)
All undergraduate courses offered by the University may be used as free electives with the following exceptions:

- Not more than eight semester hours in applied music including band can be used.

- ENG103 - Basic Writing Skills, TAL 191 – Teaching and Learning Study Skills, MTH099 - Intermediate Algebra, and UMI 105-UMI 410 – Internship, are offered for credit but do not count toward degree requirements. However, the grade, if any, earned in the course is included in the student’s cumulative grade point average, and credit for the course is included in the student’s overall credits earned. Therefore, these courses will serve to increase the total number of credits required to graduate.

- Any science course taken as an elective and used for preparing for entrance to medical school must be taken for a grade.

F. INTERNATIONAL FOCUS WITHIN THE CURRICULUM
At least one course with an international focus must be completed within the degree requirements. The acceptability of the course is determined by the academic advisor.

INTERNATIONAL BUSINESS MINOR

IBUB MINOR
The International Business minor provides business students an interdisciplinary perspective of international business to augment their studies in other areas of specialization. The IBUB minor may not be taken by students pursuing the IFM major.

The International Business minor consists of 12 semester hours as follows:

Core Courses - Choose two, three, or four courses from the following:
ACC523
FIN330
MGT349
MGT459
MKT360
Breadth Elective Courses - Choose one or two courses to equal 12 total semester hours for the IBUB minor from:

BSL412  ECO442  POL346  POL381  POL392
ECO351  FIN431  POL347  POL384  POL544  POL591
ECO371  MGT359  POL348  POL385  POL582  POL593
ECO441  MKT469  POL380  POL387  POL588

Students must complete all prerequisite courses before enrolling in required IBUB courses.

MINORS FOR NON-BUSINESS MAJORS (12-15 Credit Hours)
The School of Business Administration offers students in other schools and colleges of the University minors in:

**Minor Areas of Specialization (Area of Knowledge) Responsible Department**
- Business Law P&S  Business Law
- Computer Information Systems (STEM)  Computer Information Systems
- Economics (P&S)  Economics
- Entrepreneurship (P&S)  Management
- Finance (STEM)  Finance
- Health Sector Management and Policy (P&S)  Management
- Management (P&S)  Management
- Marketing (P&S)  Marketing

The International Business minor, the Accounting minor, and the Management Science minor (BSBA degree only) are offered only to BBA and BSBA students in the School of Business Administration.

Students interested in completing a minor offered by the School of Business Administration should consult with an academic advisor in the school or college of their major. All courses within the minor must be taken for a grade and completed with a grade of “C-” or higher and with an overall grade point average of at least 2.0 in all minor courses, unless a higher grade or grade point average is prescribed by the department offering the minor. All courses in the minor completed by the student are included in the grade point average in the minor.

For a listing of the courses required to complete a particular minor, consult the Bulletin section for the department that offers the minor.

COGNATE FOR NON-BUSINESS MAJORS (9 credit hours)
The School of Business offers a general business cognate to non-business majors, beginning with the Class of 2017. The business cognate consists of the following courses:

Group 1 (course must be taken by all students pursuing the business cognate before taking any other courses in the cognate):

BUS200  Introduction to Business

Group 2 (choose any two courses, to be taken after completing BUS 200)
Completion of the business cognate fulfills the University’s General Education requirement of a cognate in the Area of Knowledge known as People & Society.

HONORS

DEPARTMENTAL HONORS IN BUSINESS

Graduation with Departmental Business Honors requires:

- A 3.9 g.p.a. in Business School courses at the end of the junior year
- Completion of a 3-credit research project during the entire senior year on a topic that is of interest to both the faculty member supervising the research and the student responsible for completing it. The depth of the project must be consistent with the time requirements of a 3-credit upper-level class in the supervising department.
- A 3.9 g.p.a. in all Business School courses at graduation.

Students who double major can complete their research project in either major department. Students in interdisciplinary business majors (ENT, HSMP, IFM, REA) can complete their research project in any department within the major. Students who have a minor can complete their research project in either their major or minor departments.

The 3-credit research project class is taken for credit only and will not count towards the 120 hours required for graduation. Students who begin a research project but do not complete it will be retroactively withdrawn from the research course. Students receive credit for the project only if the work is deemed to be of exceptional quality, consistent with the workload of a 3-credit upper-level independent study course, and worthy of a designation that is only open to the top 1% of Business School undergraduates.

Deadlines and procedures for the projects are available in the Office of Undergraduate Education and in department offices.

GENERAL HONORS PROGRAM, UNIVERSITY OF MIAMI

Eligible students are invited to join the University’s General Honors Program. A total of 24 semester hours of designated honors credits is required. A 3.5 cumulative grade point average must also be maintained in all honors courses.

For details, consult an academic advisor in the Office of Undergraduate Business Education and the University Honors Program Office.
GRADUATION HONORS

- Students who qualify based on their cumulative grade point average and class rank will graduate with *cum laude, magna cum laude* or *summa cum laude* honors.

- For details consult an academic advisor in the Office of Undergraduate Business Education and the [University Honors Program Office](#).

BUSINESS HONORS SOCIETIES

Students may be nominated for or elected into an honors society based on specific departmental criteria. Contact the department for additional information.

Beta Gamma Sigma (Undergraduate Business Education)
Beta Alpha Psi (Department of Accounting)

OTHER HONORS

Omicron Delta Epsilon (Department of Economics)
INTRODUCTION

The School of Communication houses four departments that offer courses in eight majors leading to the Bachelor of Science in Communication degree. The departments are: Cinema and Interactive Media (Motion Pictures), Communication Studies (Communication Studies), Journalism and Media Management (Broadcast Journalism, Electronic Media, Journalism, Media Management), and Strategic Communication (Advertising, Public Relations). In addition, the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees are offered in the School.

Students engage with a diverse faculty of communication scholars, artists and professionals in a variety of hands-on learning experiences embracing research, writing, production, creative problem-solving and multimedia storytelling. On-campus television and radio facilities, motion picture studios and multimedia labs are available for academic and extra-curricular student projects. Students utilize contemporary digital imaging technology and learn skills that cut across a variety of media platforms. Digital editing, recording and mixing facilities are available. New media technology is incorporated throughout the curriculum and the School has several computer labs and digitally “smart” classrooms.

Two video-conference centers with broadcast-quality interactive capability for remote interviews and programming support the School’s mission. The School also houses three television studios, including a fiber-optic linked studio allowing real-time, broadcast-quality transmissions to sites around the world. Under Communication faculty supervision, student-produced programming is distributed through the University’s cable facility and carried throughout the community by the local cable operator and is available through online streaming. The School operates several online sites that afford students outlets for multimedia, interactive and cross-platform writing, research, reporting and creative work.

The University’s FM radio station, and student online and print newspapers and magazines, offer additional opportunities for career development. The Bill Cosford Cinema, a 240-seat movie theatre, supports the Motion Picture Program and offers film programming for the Miami community. The School’s Norton Herrick Center for Motion Picture Studies is dedicated to research into the history and aesthetics of motion pictures and their social and cultural impact.

The School’s Communication, Culture, and Change Center is the hub for research in the School and the heart of its Ph.D. program. The Center’s focus is on promoting positive social and behavioral change through communication research.

The School supports student chapters of the American Advertising Association, the Public Relations Society of America, the Society of Professional Journalists, the National Broadcasting Society, the University Film and Video Association and other professional organizations. In addition, the School sponsors a nationally competitive intercollegiate debate team, which annually produces several members of the All American Debate Team.

Internships in professional settings are available to Communication students at the sophomore, junior and senior levels. Professionals at daily and weekly newspapers, magazines, news bureaus, cable systems, radio and television stations and networks, production houses and motion picture studios cooperate in the faculty-supervised
internships. Executives of city and county governments, advertising agencies, public relations firms and other business and nonprofit organizations join in providing internship opportunities. Summer and semester-length study abroad opportunities are available.

MISSION

The School of Communication is dedicated to a global educational perspective and is committed to providing a socially responsible and ethically grounded learning environment guided by a diverse faculty of scholars, artists and professionals. The School is committed to quality undergraduate and graduate programs in communication that emphasize the relationship between theory and practice. We believe in freedom of expression and creativity, and encourage both collaboration and independent thinking as we prepare future scholars, professionals and leaders for a lifetime of service and learning.

ACCREDITATION

The University of Miami is accredited by the Southern Association of Colleges and Schools, 1866 Southern Lane, Decatur, GA 30033-4097.

ACADEMIC POLICIES

Internal Transfer into the School of Communication

A student enrolled at the University of Miami in a School or College other than the School of Communication may apply for admission into the School. Applications are accepted throughout the year. A minimum overall grade point average of 2.5 is necessary for consideration. Applications are available in the Admissions, Academic & Alumni Services Office of the School of Communication (2037 Wolfson Building) and must be submitted prior to the end of each semester. Admission decisions will be made promptly after semester grades are final. Students will be notified in writing of the School’s decision.

Transfer Students

A transfer student must complete in residence a minimum of 18 credits toward a Communication major or a minimum of 9 credits toward a Communication minor. Courses taken elsewhere in Communication or related disciplines are not automatically accepted toward a major or minor at the University of Miami. Students who have obtained the written approval of the Chair of a Communication major to use transfer credit to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major. Students should consult a School of Communication advisor to determine whether the transfer of Communication courses will increase beyond 120 the total number of credits required for a degree. In general, transfer credit will not be accepted to satisfy requirements for any course in any major or minor at the 300-level or above. Student petitions to transfer credit will be considered on an individual basis.

Transfer credit may not be used to satisfy requirements for any major or minor in Communication without the written approval of the Chair of the program concerned.
Academic Progress & Probation/Dismissal

Students must maintain a quality point average (QPA) of 2.5 or higher in courses taken in residence and submitted for their School of Communication major. Following the first semester in which any student’s QPA in the major falls below a 2.5, the School may issue a warning to that student that his or her work does not meet School expectations. Should that student’s QPA in the major be below a 2.5 in any subsequent semester, he or she may be placed on Academic Probation. The School may dismiss from the University any student who is on probation a total of two semesters (not necessarily consecutive.) A student who has been dismissed from the School may apply for admission to one of the other Schools or Colleges within the University, but will not be readmitted to the School of Communication. Those who wish to appeal their probation or dismissal must do so in writing to the Dean within 30 days of the notice of probation or dismissal. See also GOOD ACADEMIC STANDING, WARNING, PROBATION, AND DISMISSAL, in this Bulletin.

Internship Credit

All programs allow students to complete multiple internships for academic credit. Students should consult with their faculty advisor or the School’s academic advising office for their department’s specific internship credit policies.

Credit Hours and Advanced Placement Credit

Credits may be earned through Advanced Placement, IB, CLEP Examinations, and Advanced Placement by Proficiency Examinations. These credits may be applied to the appropriate General Education Required Areas of Study or as electives except: (1) where prohibited by the University or a specific program area; or (2) if the course is remedial (e.g., ENG 103, MTH 099). To earn credit, each student must pay a recording fee and have exempted course credits entered on his or her University transcript. An exemption may be granted for ENG 105 by the Department of English, but this exemption will not earn credit toward the 120 University credits required for graduation.

Quality Point Average

A candidate for the B.S. in Communication must complete the credit hours and achieve the quality point average specified for students in the University at large as stated in the section titled ACADEMIC PROCEDURES AND INFORMATION, subject to additional requirements specified in School and Program sections of this Bulletin.

General Education Required Areas of Study

In applying these requirements to his or her course of study, each student must carefully read School of Communication program and major requirements that follow. In many cases, these requirements will be more restrictive and more specific in describing how each of these General Education Required Areas of Study is to be satisfied.
DEGREE PROGRAMS

The School of Communication offers courses in eight programs of study leading to the degree Bachelor of Science in Communication. The programs are Advertising, Public Relations, Communication Studies, Electronic Media, Broadcast Journalism, Journalism, Media Management, and Motion Pictures.

MINORS

The School of Communication offers minors in its eight programs of study and a general minor in Communication (COM). School of Communication students may complete a minor in a specific program of study, but are not eligible for the general minor in Communication.

CONCENTRATIONS

Most degree programs offer concentrations or tracks of study in specialty areas. See the individual program sections for details on these concentrations.

REQUIREMENTS FOR GRADUATION

BACHELOR of SCIENCE DEGREE in COMMUNICATION

Required University General Education Requirements

The General Education Requirements provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently. The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor.

All School of Communication students must complete the University’s General Education Requirements. These requirements can be found in the General Education Requirements section of this bulletin. Note that the General Education Requirements differ for incoming freshman and transfer students.

Completion of each School of Communication major or minor fulfills one of the three cognate areas required by the University: People & Society, Arts & Humanities, STEM. (See individual program descriptions below identifying the specific cognate area covered.)

Students completing a second major or minor in the School which fulfills a cognate area different from the first major, and offered in a different department, may apply the second major or minor toward the second cognate area. No course submitted toward a School of Communication major or minor used to fulfill a University cognate may be applied toward
any other cognate area. No more than two cognate areas may be completed in the School of Communication.

A course listed under the Additional Requirements of a student’s major may be used to satisfy any cognate requirement except when the course is submitted as part of a major or minor for which the student is granted cognate credit.

Students should meet with their advisors for assistance in completing all University and School requirements.

Major/Minor Requirements

In addition to completing a major in the School of Communication, students must also complete a minor (or a second major) in either a second Program of Study within the School or in an academic program outside of the School. Students completing majors and/or minors in the School must complete all School of Communication courses with grades of C or higher (a grade of C- or lower is not acceptable.) Students may not enroll in a School of Communication course without grades of C or higher in prerequisite courses. Students completing a minor or second major outside the School of Communication should consult this Bulletin for minimum grade requirements.

The Major in the School of Communication 36 to 45 credits

Majors in the School of Communication leading to a Bachelor of Science in Communication require between 36 and 45 credits in School of Communication courses specified in Program Statements (below). Courses within each major must be completed with a grade of C or higher (a grade of C- or lower is not acceptable.) In addition, students must maintain a quality point average of 2.5 or higher in courses taken in residence and submitted for their School of Communication majors.

The Minor 12 to 20 credits

Each Communication student, in addition to completing requirements for a Communication major (below), must complete a minor field in either a second Program of Study within the School or in an academic program outside the School. Each course submitted for a minor offered in the School of Communication must be completed with a grade of C or higher (a grade of C- or lower is not acceptable). To find the requirements for a given minor, students should consult this Bulletin and confer with the appropriate department representative. School of Communication advisors will aid students in identifying appropriate minors. The candidate for a Communication degree may choose from among any of the disciplines offering minors at the University for which they may qualify. The choice of a minor should be made no later than the beginning of the junior year and must be approved by the discipline concerned. Each Communication student will be required by the time he or she has earned 60 credits to submit to his or her Communication advisor a statement of courses and other requirements for the chosen minor. This statement must be signed by the Department Chair or the Chair’s designated representative of the selected minor area.

The Second Major Option

Students may choose to complete a second major, either within the School or in an academic program outside the School, in place of the minor requirement. Some second majors are impractical within the minimum 120 credit degree program. Students should
consult with a Communication advisor before selecting a second major. The choice of a second major should be made no later than the beginning of the junior year and must be approved by the discipline concerned. Each Communication student will be required, by the time he or she has earned 60 credits, to submit to his or her Communication advisor a statement of courses and other requirements for a second major. This statement must be signed by the Chair or by the Chair’s designated representative of the selected second major.

**Double Counting**

Students completing a major and a minor in the School of Communication, or two majors within the School of Communication, may count only COM 101 and COM 250 toward both Programs of Study. No other course duplication is allowed. Students should consult with the Department Chair of the minor or second major for acceptable course substitutions where appropriate.

**Additional Program Requirements**

Most programs in the School require a student to complete specified courses in addition to the 12 to 15 courses that comprise the majors to obtain the School’s Bachelor of Science degree. These courses may, in some cases, be used to fulfill the University’s cognate requirement or be applied towards a minor or second major outside the School, or may be general electives in the University.

**The General Communication Minor**

In addition to School of Communication minors offered by individual Programs of Study, the School offers a General Communication minor for students in Schools or Colleges outside the School of Communication. Students majoring in the School of Communication may not use the General Communication Minor to complete their minor requirement.

- A student seeking a minor in the general area of Communication must complete 15 credits, at least six of which must be at the 300-level or above.
- Courses taken for this minor must be approved in advance through the School’s office of Admissions, Academic & Alumni Services.
- Other minors are offered in Advertising; Public Relations; Communication Studies; Electronic Media; Broadcast Journalism; Journalism; Media Management; and Motion Pictures; see Program Statements.
- Each course submitted for a Communication minor must be completed with a grade of C or higher (a grade of C- or lower is not acceptable.)

**Upper Division Credits**

In earning a Bachelor of Science in Communication, each School of Communication student must complete a minimum of 36 credits of course work at the 300-level or above. Upper division transfer credits also apply if completed at a four-year institution and if approved by the Department Chair.
Electives

Only Free Elective courses may be taken under the University’s Credit Only option (see CREDIT ONLY OPTION in this Bulletin). Free Electives are defined as courses not taken to fulfill the requirements of the major within the School of Communication, of the second major or minor, or of the School’s General Education Requirements. Free Electives are courses that are not taken to meet any of the above requirements or their prerequisites, but taken solely to meet the requirement of a minimum total of 120 credits for the degree.

General Electives Sufficient to fulfill a minimum of 120 credits

A sufficient number of University electives must be completed to fulfill a minimum total of 120 credits. Electives may be chosen from any course offered by the University except certain unapproved courses such as Dance 101, 102, 103, 104, and activity courses offered by the School of Education. Students should consult a School of Communication advisor before selecting elective courses. Because specific courses are required in some School of Communication majors, students are advised to read Program Statements carefully and seek the advice of a School of Communication advisor prior to taking general University electives.

Schedules

Fifteen or sixteen credits constitute a normal semester schedule in the School of Communication. Students who wish to register for more than sixteen credits must obtain prior approval from the Academic Services Office. Students who are on academic probation will be limited to a maximum of thirteen credits.

HONORS

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School’s Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details about the School of Communication Honors Program.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.
UNDERGRADUATE ACADEMIC PROGRAMS

DEPARTMENT OF CINEMA AND INTERACTIVE MEDIA

The Department of Cinema and Interactive Media offers a major and a minor in Motion Pictures (CMP).

Major Cognate Area: Arts and Humanities
Minor Cognate Area: Arts and Humanities

MOTION PICTURES - Dept. Code: CMP
http://com.miami.edu/programs

INTRODUCTION

The Motion Picture Program offers a complete curriculum for a new generation of media specialists, providing historical context and embracing the moving image creative process from writing and development, through production and post-production, to all forms of exhibition.

Visual storytelling requires technical skill, historical perspective and the ability to think critically in cinematic terms. The undergraduate Motion Pictures major provides the practical, collaborative and analytical skills required in today’s global and complex media environments.

The accomplished faculty is dedicated to engaging students in the discovery and development of their talents. Students are trained in innovation, creativity, critical thinking, adaptability, and the capacity to integrate theory and practice, technology and art. They are also well-equipped to understand the business and legal environments in which media industries operate.

Facilities in the Motion Picture Program include digital cameras; grip and electrical equipment; a soundstage; digital post-production image and sound facilities; and a digital animation lab. The School also operates the Bill Cosford Cinema, a state-of-the-art theater that exhibits first-run alternative, foreign and classic films. The Cosford Cinema provides an on-campus venue for various film festivals, including the annual Canes Film Festival featuring UM undergraduate and graduate work. A professional showcase screening of the best student work is held annually in Los Angeles.

The Motion Picture Program offers special summer programs in Prague (FAMU), Greece, and Los Angeles (LA Experience).
DEGREE PROGRAMS

The Bachelor of Science in Communication is offered in the Motion Pictures Program.

MAJOR

A major is offered in Motion Pictures.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School’s General Education Required Areas of Study. Motion Pictures majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Motion Picture major

Before admission as a Motion Picture (CMP) major, a student must:

A) Achieve sophomore standing;

B) Complete the five Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable.)

Students who have obtained the written approval of the Chair of Cinema and Interactive Media to use transfer credit to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.

Upon completion of a student’s first 45 University credits while enrolled in the School of Communication, all University credits earned toward the major will be used in computing a student’s major cumulative quality point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.

A student who has completed 45 credits while enrolled in the School of Communication but who has not been admitted to one of the Communication majors may be dismissed from the School. A student who has completed 60 University credits while enrolled in the School but who has not been admitted to one of the Communication majors will be dismissed from the School. See PROBATION AND DISMISSAL.

THE MOTION PICTURES MAJOR

Students majoring in Motion Pictures are required to choose one of the following five areas of concentration: General, Production, Screenwriting, Business or Critical Studies.

GENERAL MOTION PICTURES CONCENTRATION

CORE COURSES

CMP 103 Survey of Motion Pictures
CMP 126 Introduction to Screenwriting
CMP 151 Introduction to Digital Production
CMP 204 History of International Cinema I
COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

CMP 205 History of International Cinema II
CMP 251 Motion Picture Workshop: Storytelling

Select one of the following:

CMP 326 Intermediate Screenwriting
CMP 351 Introduction to Film Production
CMP 364 Business of Motion Pictures

Select three courses (9 credits) of the following:

CMP 310 Introduction to Game Design
CMP 329 Writing for Series Television
CMP 353 Post Production Sound Editing and Design
CMP 356 Cinematography
CMP 357 Editing

CMP 386 Online Screenwriting
CMP 395 Directing Techniques I
CMP 458 Documentary Production
CMP 462 Motion Picture Marketing and Distribution

CMP 494 Motion Picture Internship
CMP 499 Projects and Directed Research
CMP 507 Legal Aspects of Motion Pictures
CMP 550 Motion Graphics and Compositing
CMP 570 Producing the Motion Picture

Select two courses (6 credits) of the following:

CMP 401 Nonfiction Film and Digital Media
CMP 403 Film Directors
CMP 404 Aspects of Contemporary Cinema
CMP 406 Genres
CMP 407 National Cinemas
CMP 408 Women, Media and Popular Culture

Two additional Motion Picture electives (6 credits) must be selected.

Electives outside the Motion Picture major (but within the School of Communication) must be approved by the Chair.

MOTION PICTURES PRODUCTION CONCENTRATION

CORE COURSES

CMP 103 Survey of Motion Pictures
CMP 126 Introduction to Screenwriting
CMP 151 Introduction to Digital Production
CMP 204 History of International Cinema I
COM 250 Freedom of Expression and Communication Ethics

**OTHER REQUIRED COURSES**

CMP 205 History of International Cinema II
CMP 251 Motion Picture Workshop: Storytelling
CMP 351 Introduction to Film Production

**Select two courses (6 credits) of the following:**

CMP 353 Post Production Sound Editing and Design
CMP 356 Cinematography
CMP 357 Editing

CMP 364 Business of Motion Pictures
CMP 395 Directing Techniques I
CMP 550 Motion Graphics and Compositing

**Select two courses (6 credits) of the following:**

CMP 310 Introduction to Game Design
CMP 451 Motion Picture Practicum
CMP 456 Advanced Cinematography
CMP 457 Advanced Editing
CMP 458 Documentary Production

CMP 494 Motion Picture Internship
CMP 551 Advanced Motion Graphics and Compositing
CMP 595 Directing Techniques

**Select one course (3 credits) of the following:**

CMP 401 Nonfiction Film and Digital Media
CMP 403 Film Directors
CMP 404 Aspects of Contemporary Cinema
CMP 406 Genres
CMP 407 National Cinemas
CMP 408 Women, Media, and Popular Culture

**Two additional Motion Picture electives (6 credits) must be selected.**

Electives outside the Motion Picture major (but within the School of Communication) must be approved by the Chair.

**MOTION PICTURES SCREENWRITING CONCENTRATION**

**CORE COURSES**

CMP 103 Survey of Motion Pictures
CMP 126 Introduction to Screenwriting
CMP 151 Introduction to Digital Production
CMP 204 History of International Cinema I
COM 250 Freedom of Expression and Communication Ethics
OTHER REQUIRED COURSES

CMP 205 History of International Cinema II
CMP 251 Motion Picture Workshop: Storytelling
CMP 326 Intermediate Screenwriting

Select four courses (12 credit hours) of the following:

CMP 329 Writing for Series Television
CMP 386 Online Screenwriting
CMP 426 Advanced Screenwriting
CMP 429 Advanced Television Writing
CMP 489 Projects in Screenwriting

Select one course (3 credits) of the following:

CMP 310 Introduction to Game Design
CMP 401 Nonfiction Film and Digital Media
CMP 403 Film Directors
CMP 404 Aspects of Contemporary Cinema
CMP 406 Genres
CMP 407 National Cinemas
CMP 408 Women, Media, and Popular Culture

Two additional Motion Picture electives (6 credits) must be selected.

Electives outside the Motion Picture major (but within the School of Communication) must be approved by the Chair.

MOTION PICTURES BUSINESS CONCENTRATION

CORE COURSES

CMP 103 Survey of Motion Pictures
CMP 126 Introduction to Screenwriting
CMP 151 Introduction to Digital Production
CMP 204 History of International Cinema I
COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

CMP 205 History of International Cinema II
CMP 251 Motion Picture Workshop: Storytelling
CMP 364 Business of Motion Pictures

Select four courses (12 credits) of the following:

CMP 351 Introduction to Film Production
CMP 462 Motion Picture Marketing and Distribution

CMP 494 Motion Picture Internship
CMP 499 Projects and Directed Research
CMP 507 Legal Aspects of Motion Pictures
CMP 570 Producing the Motion Picture
Select one course (3 credits) of the following:

CMP 310 Introduction to Game Design
CMP 401 Nonfiction Film and Digital Media
CMP 403 Film Directors
CMP 404 Aspects of Contemporary Cinema
CMP 406 Genres
CMP 407 National Cinemas
CMP 408 Women, Media, and Popular Culture

Two additional Motion Picture electives (6 credits) must be selected.

Electives outside the Motion Picture major (but within the School of Communication) must be approved by the Chair.

MOTION PICTURES CRITICAL STUDIES CONCENTRATION

CORE COURSES

CMP 103 Survey of Motion Pictures
CMP 126 Introduction to Screenwriting
CMP 151 Introduction to Digital Production
CMP 204 History of International Cinema I
COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

CMP 205 History of International Cinema II
CMP 251 Motion Picture Workshop: Storytelling

Select five courses (15 credits) of the following:

CMP 401 Nonfiction Film and Digital Media
CMP 403 Film Directors
CMP 404 Aspects of Contemporary Cinema
CMP 406 Genres
CMP 407 National Cinemas
CMP 408 Women, Media, and Popular Culture

Three additional Motion Picture electives (9 credits) must be selected.

Electives outside the Motion Picture major (but within the School of Communication) must be approved by the Chair.

MINOR

A Minor is offered in Motion Pictures.

The minor in Motion Pictures requires a grade of C or higher in the following courses (a C- is not acceptable.)

REQUIRED COURSES

CMP 103 Survey of Motion Pictures
Four additional Motion Picture electives (12 credits) with the approval of the Chair must be selected. A minimum of 6 credits at the 300-level or above is required.

DEPARTMENT HONORS

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School’s Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details. Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.

Motion Pictures Course Listing

DEPARTMENT OF COMMUNICATION STUDIES

The Department of Communication Studies offers a major and a minor in Communication Studies (COS)

Major Cognate Area: People and Society
Minor Cognate Area: People and Society

COMMUNICATION STUDIES - Dept. Code: COS
http://com.miami.edu/programs

INTRODUCTION

The major in Communication Studies empowers students to acquire advanced skills in many areas involving human interaction, cross-cultural and international communication, advocacy, argumentation, relationship building, leadership, presentation (oral and written), critical thinking, research and writing. Students become familiar with the rich tradition of communication theory and research, investigate emerging knowledge about communication, and contribute to the growth of new understanding by developing and applying their research capabilities. Students also are challenged to employ their communication understanding and skills in meaningful ways through experiential learning, professional and community involvement. Communication Studies blends a broad-based theoretical understanding of communication principles with specific and concrete applications to particular contexts. Students are prepared for a variety of career options in health communication, business and the professions, politics and public advocacy, education, training and media, as well as further graduate and professional study in communication, law and other areas.
DEGREE PROGRAMS

The Bachelor of Science in Communication degree is offered in Communication Studies.

MAJOR

A major is offered in Communication Studies.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School’s General Education Required Areas of Study. Communication Studies majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Communication Studies major

Before admission as a Communication Studies (COS) major, a student must:

A) Achieve sophomore standing;

B) Complete the four Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable.)

Students who have obtained the written approval of the Chair of Communication Studies to use transfer credit to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.

Upon completion of a student’s first 45 University credits while enrolled in the School of Communication, all University credits earned toward the major will be used in computing a student’s major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.

A student who has completed 45 credits while enrolled in the School of Communication but who has not been admitted to one of the Communication majors may be dismissed from the School. A student who has completed 60 University credits while enrolled in the School but who has not been admitted to one of the Communication majors will be dismissed from the School. See PROBATION AND DISMISSAL.

THE COMMUNICATION STUDIES MAJOR

All majors are required to complete Core Courses (12 credits), Area of Concentration (15 credits), and Other Required Courses (9 credits). A minimum of 15 credits at the 300-level or above is required within the 36-credit major.

CORE COURSES

Students majoring in Communication Studies must complete the following courses (12 credits):
COM 110 Communication Theory
COM 250 Freedom of Expression and Communication Ethics
COS 112 Interpersonal Communication
COS 210 Writing for Communication Studies

AREAS OF CONCENTRATION

Students majoring in Communication Studies are required to choose one of the following areas of concentration (15 credits): General Communication Studies, Intercultural Communication, Organizational Communication, or Public Advocacy.

CONCENTRATION IN GENERAL COMMUNICATION STUDIES

15 elective credits in Communication Studies chosen with prior approval of a COS faculty advisor.

CONCENTRATION IN INTERCULTURAL COMMUNICATION

COS 318 Nonverbal Communication
COS 343 Introduction to Intercultural Communication
COS 545 Intercultural Communication: International Perspectives
COS 546 Intercultural Communication: Domestic Perspectives
3 Elective Credits in Communication Studies chosen with prior approval of a COS Advisor

CONCENTRATION IN ORGANIZATIONAL COMMUNICATION

COS 316 Small Group Communication
COS 333 Business Communication
COS 418 Organizational Communication
COS 498 Communication Studies Internship
3 Elective Credits in Communication Studies chosen with prior approval of a COS Advisor

CONCENTRATION IN PUBLIC ADVOCACY

COS 211 Public Speaking
COS 472 Persuasion
COS 560 The Executive Communicator

Select one of the following courses:

COS 304 Intercollegiate Debate Theory and Practice (complete 3 credits)
COS 377 Argumentation and Critical Thinking

Select one of the following courses:

COS 316 Small Group Communication
COS 318 Nonverbal Communication
COS 336 Political Communication

OTHER REQUIRED COURSES
Students majoring in Communication Studies with a concentration in General Communication Studies, Intercultural Communication, or Organizational Communication must complete the following courses (9 credits):

COS 351 Qualitative Research Methods
COS 353 Quantitative Communication Research Methods and Analyses
COS 479 Capstone for Communication Studies

Students majoring in Communication Studies with a concentration in Public Advocacy must complete the following courses (9 credits):

COS 352 Critical Research in Communication
COS 354 Action Research in Communication
COS 477 Capstone for Engaged Communication Studies

MINOR

The minor in Communication Studies requires COM 110, plus twelve additional credits in Communication Studies, at least six of which must be at the 300-level or above. The additional credits must be chosen with prior approval of a Communication Studies faculty advisor. A grade of C or higher is required in all courses (a C- is not acceptable.)

DEPARTMENT HONORS

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School’s Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.

Communication Studies Course Listing
DEPARTMENT OF JOURNALISM AND MEDIA MANAGEMENT

The Department of Journalism and Media Management offers majors and minors in Broadcast Journalism (CEM), Electronic Media (CEM), Media Management (CEM), and Journalism (CNJ).

Major Cognate Area: People and Society (all dep’t. majors)
Minor Cognate Area: People and Society (all dep’t. minors)

ELECTRONIC MEDIA, BROADCAST JOURNALISM AND MEDIA MANAGEMENT - Dept. Code: CEM
http://com.miami.edu/programs

INTRODUCTION

The School of Communication’s Electronic Media Program is designed for students who intend to pursue professional work in the arts, crafts and businesses of electronic mass communication and its allied fields.

Majors study all aspects of television, radio, cable, broadband, digital and mobile operations in preparation for careers as electronic media professionals. Three majors and three minors are offered in the Electronic Media Program. The program emphasizes hands-on learning within a multicultural, international context. Students consistently win first place awards in regional and national competitions.

All Electronic Media students are encouraged to become involved in UMTV (the campus cable television channel available to the community, the UM campus and over the web) and the student-run radio station, WVUM-FM, serving South Florida.

The School's facilities include state-of-the-art, all-digital television and radio studios, digital post-production stations and related capabilities.

DEGREE PROGRAMS

The Bachelor of Science in Communication is offered in Electronic Media, Broadcast Journalism, and Media Management.

MAJOR

Majors are offered in Electronic Media, Broadcast Journalism and Media Management.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School’s General Education Required Areas of Study. Electronic Media, Broadcast Journalism and Media Management majors must also complete a separate minor or second major. Broadcast Journalism students may not minor in Journalism.
Admission to the Electronic Media, Broadcast Journalism and Media Management majors

Before admission as an Electronic Media, Broadcast Journalism, or Media Management major, a student must:

A) Achieve sophomore standing;

B) Complete the Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable.)

Students who have obtained the written approval of the Chair of Journalism and Media Management to use transfer credit to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.

Upon completion of a student’s first 45 University credits while enrolled in the School of Communication, all University credits earned toward the major will be used in computing a student’s major cumulative quality point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.

A student who has completed 45 credits while enrolled in the School of Communication but who has not been admitted to one of the Communication majors may be dismissed from the School. A student who has completed 60 University credits while enrolled in the School but who has not been admitted to one of the Communication majors will be dismissed from the School. See PROBATION AND DISMISSAL.

THE ELECTRONIC MEDIA MAJOR

CORE COURSES

CEM 102  Introduction to Electronic Media
CEM 245  Introduction to Electronic Media Production
CNJ 108  Writing for the Digital Age
COM 250  Freedom of Expression and Communication Ethics
CVJ 106  Visual Design

OTHER REQUIRED COURSES

CEM 301 Media Research and Analysis

Select one of the following courses:

CNJ 208  Fundamentals of Newsgathering
CMP 126 Introduction to Scriptwriting
CPR 232  Writing for Public Relations

Select one of the following courses:

COS 211 Public Speaking
COS 333 Business Communication

Three credits at the 200-level or above.

Twelve credits at the 300-level or above.

Six credits at the 400-level or above.

All courses selected for the Electronic Media major must be approved by an Electronic Media faculty advisor.

ADDITIONAL REQUIREMENTS FOR THE ELECTRONIC MEDIA MAJOR

All Electronic Media majors are also required to complete a minor, chosen with the approval of a faculty advisor.

MINOR

The minor in Electronic Media requires:

CEM 102 - Introduction to Electronic Media, and twelve additional credits chosen with the prior approval of an Electronic Media faculty advisor. At least six of those credits must be at the 300-level or above. A grade of C or higher is required in all courses (a C- is not acceptable.)

THE BROADCAST JOURNALISM MAJOR

CORE COURSES

CNJ 108 Writing for the Digital Age
CNJ 208 Fundamentals of Newsgathering
COM 250 Freedom of Expression and Communication Ethics
CEM 245 Introduction to Electronic Media Production
CVJ 106 Visual Design

OTHER REQUIRED COURSES

CEM 102 Introduction to Electronic Media

Select one of the following courses:

CEM 301 Media Research and Analysis
CVJ 309 Data Journalism

Select one of the following courses:

CVJ 331 Information Graphics and Visualization
CVJ 341 Web Design

CEM 317 Broadcast Journalism
CEM 345 Intermediate Electronic Media Production
CEM 517 Television News Reporting

Select one of the following courses:
COS 211 Public Speaking
COS 333 Business Communication
CEM 233 Television Performance

Nine additional credits in School of Communication courses, chosen with the prior approval of a Broadcast Journalism faculty advisor.

ADDITIONAL REQUIREMENTS FOR THE BROADCAST JOURNALISM MAJOR

Students majoring in Broadcast Journalism are required to complete a minor or second major. Broadcast Journalism students may not minor in Journalism.

MINOR

The minor in Broadcast Journalism requires:

CEM 102 Introduction to Electronic Media
CNJ 108 Writing for the Digital Age
CNJ 208 Fundamentals of Newsgathering
CEM 245 Introduction to Electronic Media Production
CEM 317 Broadcast Journalism
Three additional credits at the 300-level or above, chosen with the prior approval of a Broadcast Journalism faculty advisor. A grade of C or higher is required in all courses (a C- is not acceptable.)

THE MEDIA MANAGEMENT MAJOR

CORE COURSES

COM 101 Mass Media Communication in Society
CEM 102 Introduction to Electronic Media
COM 250 Freedom of Expression and Communication Ethics

Select one of the following courses:

CNJ 108 Writing for the Digital Age
ENG 230 Advanced Business Communication

OTHER REQUIRED COURSES

CEM 301 Media Research and Analysis
CEM 305 Legal Issues in Media Management
CEM 314 Media Programming
CEM 435 Media Technology
CEM 403 Media Economics
CEM 402 Strategic Media Management
COS 418 Organizational Communication
Select one of the following courses:

COS 211 Public Speaking
COS 333 Business Communication

Nine additional credits in School of Communication courses chosen with the prior approval of a Media Management faculty advisor.

**ADDITIONAL REQUIREMENTS FOR THE MEDIA MANAGEMENT MAJOR**

Media Management students must complete ECO 211.

Media Management students must also complete MKT 301 plus six additional credits in the School of Business Administration chosen with the prior approval of a School of Communication advisor. Three of these six credits must be at the 300-level or above.

Students seeking a Marketing Minor from the School of Business Administration must complete MKT 301 with a grade of B or higher, plus three of the following: MKT 310, MKT 320, MKT 340, and MKT 360. Students must earn a cumulative quality point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration section of this Bulletin.

Students seeking a General Business Minor from the School of Business Administration must complete MKT 301, ACC 211, FIN 300 and MGT 304 with a cumulative quality point average of 2.0 or higher. Consult the School of Business Administration section of this Bulletin.

**MINOR**

The minor in Media Management requires:

CEM 102 Introduction to Electronic Media
CEM 301 Media Research and Analysis
CEM 314 Media Programming

Six additional credits chosen with the prior approval of a Media Management faculty advisor, at least three of which must be at the 300-level or above.

A grade of C or higher is required in all courses (a C- is not acceptable.)

**DEPARTMENT HONORS**

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School’s Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.
INTRODUCTION

The program in Journalism prepares students to be writers, editors and designers for a variety of media from mainstream and alternative newspapers and magazines to web-based and online media, emphasizing effective storytelling through writing, audio and video recording, and photography. Reporting skills and writing in the context of news, commentary and features are stressed in this area of study. The program enables students to gather information, evaluate and organize that information, and then communicate it through appropriate media. As a result, the program attracts students interested in other fields in which research, analysis and writing are important, such as students planning to apply to law school or other professional or graduate schools.

Students are encouraged to work for The Miami Hurricane, UM's award-winning, student-run newspaper published twice weekly in print and online; Distraction magazine; Ibis, UM's yearbook; Communiqué, the School of Communication's online newspaper; and hyper-local news sites such as Gables Home Page.

Students choose from a range of newspapers, magazines, newsletters and websites published in the Greater Miami-Fort Lauderdale area for internships and part-time employment. Competitive internships from The Washington Post, the Los Angeles Times, Tribune Newspapers, McClatchy Newspapers and the Poynter Institute have been awarded to Journalism students.

DEGREE PROGRAMS

The Bachelor of Science in Communication degree is offered in the Journalism Program.

MAJOR

A major is offered in Journalism.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. Journalism majors must also complete a separate minor or second major. Journalism majors may not minor in Broadcast Journalism.

Admission to the Journalism major

Before admission as a Journalism (CNJ) major, a student must:

A) Achieve sophomore standing;
B) Complete the Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable.)

Students who have obtained the written approval of the Chair of Journalism and Media Management to use transfer credit to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.

Upon completion of a student’s first 45 University credits while enrolled in the School of Communication, all University credits earned toward the major will be used in computing a student’s major cumulative quality point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.

A student who has completed 45 credits while enrolled in the School of Communication but who has not been admitted to one of the Communication majors may be dismissed from the School. A student who has completed 60 University credits while enrolled in the School but who has not been admitted to one of the Communication majors will be dismissed from the School. See PROBATION AND DISMISSAL.

THE JOURNALISM MAJOR

CORE COURSES

CNJ 108 Writing for the Digital Age
CNJ 208 Fundamentals of Newsgathering
COM 250 Freedom of Expression and Communication Ethics
CEM 245 Introduction to Electronic Media Production
CVJ 106 Visual Design

OTHER REQUIRED COURSES

CNJ 303 Communication Law and Policy
CVJ 341 Web Design

Select one of the following courses:

CVJ 221 Introduction to Documentary Photography
CVJ 331 Information Graphics and Visualization

Select one of the following courses:

CEM 301 Media Research and Analysis
CVJ 309 Data Journalism

Select one of the following courses:

CNJ 444 Public Affairs Reporting
CEM 317 Broadcast Journalism

Fifteen additional credits in School of Communication courses, chosen with the approval of a Journalism faculty advisor. Six of these credits must be at the 400-level or above.
ADDITIONAL REQUIREMENTS FOR THE JOURNALISM MAJOR

Students majoring in Journalism must complete a minor or second major. Journalism students may not minor in Broadcast Journalism.

MINOR

The 15 credit minor in Journalism requires:

CNJ 108 Writing for the Digital Age
CNJ 208 Fundamentals of Newsgathering
CNJ 303 Communication Law and Policy

Six additional credits in Journalism chosen with the approval of a Journalism faculty advisor.

A grade of C or higher is required in all courses (a C- is not acceptable.)

Any waiver of these requirements must be approved in writing by both the Chair and the Academic Services Office of the School of Communication.

DEPARTMENT HONORS

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School’s Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.

Journalism Course Listing
DEPARTMENT OF STRATEGIC COMMUNICATION

The Department of Strategic Communication offers a major and a minor in Advertising (CAD) and a major and a minor in Public Relations (CPR).

Major Cognate Area:
- General Advertising Track: People and Society
- Advertising Management Track: People and Society
- Advertising Creative Track: People and Society or Arts and Humanities
- Public Relations: People and Society

Minor Cognate Area:
- Advertising Business Minor: People and Society
- Public Relations Minor: People and Society or Arts and Humanities
- Advertising Creative Minor: People and Society or Arts and Humanities

ADVERTISING - Dept. Code: CAD
http://com.miami.edu/programs

INTRODUCTION

Students majoring in Advertising learn the art, craft and business of how to promote brands from an integrated marketing perspective. The program gives students a well-rounded education in advertising that emphasizes strategy building, data gathering and analysis, creative development, and media planning skills. Both a major and a minor are offered in Advertising.

The program includes practical and theoretical approaches to the world of professional advertising, both domestically and internationally.

The curriculum is hands-on and students learn how to create an advertising campaign that meets their client's goals.

Qualified students may elect to participate in the internship program, which provides an opportunity to work in the professional community of the Greater Miami area or other regions. The School's Advertising Program also has an active alliance with the American Advertising Federation.
DEGREE PROGRAMS

The Bachelor of Science in Communication is offered in the Advertising Program.

MAJOR

A major is offered in Advertising.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School’s General Education Required Areas of Study. Advertising majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Advertising major

Before admission as an Advertising (CAD) major, a student must:

A) Achieve sophomore standing;

B) Complete the five Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).

Students who have obtained the written approval of the Chair of Strategic Communication to use transfer credit to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.

Upon completion of a student’s first 45 University credits while enrolled in the School of Communication, all University credits earned toward the major will be used in computing a student’s major cumulative quality point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.

A student who has completed 45 credits while enrolled in the School of Communication but who has not been admitted to one of the Communication majors may be dismissed from the School. A student who has completed 60 University credits while enrolled in the School but who has not been admitted to one of the Communication majors will be dismissed from the School. See PROBATION AND DISMISSAL.

THE ADVERTISING MAJOR

Students majoring in advertising will choose one of the following three tracks: General Advertising Track, Advertising Management Track, or Advertising Creative Track.

THE GENERAL ADVERTISING TRACK

CORE COURSES

CAD 102 Graphic Design for Advertising I
CNJ 108 Writing for the Digital Age
CAD 114 Principles of Advertising
CAD 201 Advertising Strategy Development
COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

Students must complete both of the following writing courses:

CAD 231 Advertising Copywriting and Concept
CAD 233 Writing for Account Management

Students must also complete:

CAD 312 Research Methods for Advertising
CAD 388 Media Planning
CAD 434 Advertising Campaigns

Five additional advertising electives (15 credits) must be selected. Electives outside the advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.

THE ADVERTISING MANAGEMENT TRACK

CORE COURSES

CAD 102 Graphic Design for Advertising I
CNJ 108 Writing for the Digital Age
CAD 114 Principles of Advertising
CAD 201 Advertising Strategy Development
COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

CAD 233 Writing for Account Management
CAD 312 Research Methods for Advertising
CAD 388 Media Planning
CAD 434 Advertising Campaigns
CAD 491 The Business of Account Management
CAD 495 Advertising Management

Four additional advertising electives (12 credits) must be selected. Electives outside the advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.
THE ADVERTISING CREATIVE TRACK

CORE COURSES

- CAD 102 Graphic Design for Advertising I
- CNJ 108 Writing for the Digital Age
- CAD 114 Principles of Advertising
- CAD 201 Advertising Strategy Development
- COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

- CAD 202 Graphic Design for Advertising II
- CAD 231 Advertising Copywriting and Concept
- CAD 331 Advanced Copywriting or CAD 390 Art Direction
- CAD 384 Advertising Creative Strategy and Execution

- CAD 434 Advertising Campaigns
- CAD 496 Portfolio Development

Four additional advertising electives (12 credits) must be selected. Electives outside the Advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.

ADDITIONAL REQUIREMENTS FOR THE ADVERTISING MAJOR: ALL TRACKS

Students must complete ECO 211 and POL 201.

Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: CAD 350, MKT 360, CPR 582, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor.

Students must complete COS 211, MKT 301, and MKT 310.

MINOR

The Advertising Program offers minors in Advertising Business and Advertising Creative.

Both 18-credit minors in Advertising require a grade of C or higher in all courses (a C- is not acceptable.)

Required courses for the Advertising Business minor:

- CAD 114 Principles of Advertising
- CAD 201 Advertising Strategy Development
- CAD 233 Writing for Account Management
- CAD 312 Research Methods for Advertising
- CAD 388 Media Planning
- CAD 434 Advertising Campaigns
Required courses for the Advertising Creative minor:

CAD 102 Graphic Design for Advertising I
CAD 114 Principles of Advertising
CAD 202 Graphic Design for Advertising II
CAD 231 Advertising Copywriting and Concept
CAD 384 Advertising Creative Strategy and Execution
CAD 434 Advertising Campaigns

Students seeking a Marketing minor from the School of Business Administration must complete MKT 301 with a grade of B or higher, MKT 310, plus two additional courses in Marketing (except for MKT 386). Students must earn a cumulative quality point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration section of this Bulletin.

Students seeking a General Business minor from the School of Business Administration must complete MKT 301, ACC 211, FIN 300 and MGT 304 with a cumulative quality point average of 2.0 or higher. Consult the School of Business Administration section of this Bulletin.

DEPARTMENT HONORS

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School's Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.
PUBLIC RELATIONS - Dept. Code: CPR
http://com.miami.edu/programs

INTRODUCTION

Students majoring in Public Relations learn how to promote a client's business, image, product or service. Public relations is a strategic communication process that builds mutually beneficial relationships between organizations (business, government, nonprofit, individual) and their publics. PR practitioners develop and deliver key messages through traditional and social media channels. The Program provides a well-rounded education in public relations that emphasizes research and analysis, creative development and the relationship of all media to PR in both public and private sectors.

The hands-on curriculum reflects the importance of strategic critical thinking, researching and understanding target audiences, and writing and design expertise and creativity. Students create and execute a PR campaign in a senior-level capstone course that serves a client organization in the community.

Demand for PR interns is high, and qualified students may elect to participate in the internship program to acquire professional experience in South Florida and other regions. The Public Relations Program has ties to the Public Relations Society of America and maintains a PRSA-affiliated chapter of the Public Relations Student Society of America.

DEGREE PROGRAMS

The Bachelor of Science in Communication degree is offered in the Public Relations Program.

MAJOR

A major is offered in Public Relations.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School’s General Education Required Areas of Study. Public Relations majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Public Relations major

Before admission as a Public Relations (CPR) major, a student must:

A) Achieve sophomore standing;

B) Complete the six Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable.)

Students who have obtained the written approval of the Chair of Strategic Communication to use transfer credit to satisfy one or more requirements of that major may be required to
complete additional courses in residence at the University before being admitted to that major.

Upon completion of a student’s first 45 University credits while enrolled in the School of Communication, all University credits earned toward the major will be used in computing a student’s major cumulative quality point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.

A student who has completed 45 credits while enrolled in the School of Communication but who has not been admitted to one of the Communication majors may be dismissed from the School. A student who has completed 60 University credits while enrolled in the School but who has not been admitted to one of the Communication majors will be dismissed from the School. See PROBATION AND DISMISSAL.

THE PUBLIC RELATIONS MAJOR

CORE COURSES

CAD 102 Graphic Design for Advertising I
CPR 103 Statistical Reasoning for Strategic Communication
CNJ 108 Writing for the Digital Age
CPR 116 Principles of Public Relations
CPR 201 Public Relations Strategy Development

COM 250 Freedom of Expression and Communication Ethics

OTHER REQUIRED COURSES

CPR 202 Graphic Design for Public Relations
CPR232 Writing for Public Relations

CPR 311 Public Relations Research
CPR 346 Public Relations Message Development and Execution
CPR 436 Public Relations Campaigns

Five additional courses (15 credits) in a concentration at the 300-level or higher must be selected, with the prior approval of a Public Relations faculty advisor. Courses chosen should lead to professional orientation and practice. Examples of such concentrations include corporate communication, sports promotion, health communication, public affairs, international public relations, and travel and tourism.

ADDITIONAL REQUIREMENTS FOR THE PUBLIC RELATIONS COMMUNICATION MAJOR

Students must complete POL 201 and ECO 211.

Students must ensure that among their courses there is at least one course with an international or intercultural focus. Courses that meet this requirement include CPR 582, CPR 546, CAD 350, COS 343, COS 545, and MKT 360. Other courses may be used to fulfill this requirement with the approval of a public relations faculty advisor.

Students must complete COS 211, MKT 301, and one additional 300-level or above course (3 credits) in the School of Business Administration.
Students seeking a Marketing minor from the School of Business Administration must complete MKT 301 with a grade of B or higher, plus three additional courses in Marketing. Students must earn a cumulative quality point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration section of this Bulletin.

Students seeking a General Business minor from the School of Business Administration must complete MKT 301, ACC 211, FIN 300 and MGT 304 with a cumulative quality point average of 2.0 or higher. Consult the School of Business Administration section of this Bulletin.

MINOR

The Public Relations minor requires a minimum of six public relations courses (18 credits) – four required courses and two electives – with a grade of C or higher in each (a C- is not acceptable).

Required courses for the Public Relations minor:

CPR 116 Principles of Public Relations  
CAD 102 Graphic Design for Advertising I  
CPR 201 Public Relations Strategy Development  
CPR 232 Writing for Public Relations

Elective courses for the Public Relations minor (choose 2):

CPR 202 Graphic Design for Public Relations  
CPR 346 Public Relations Message Development and Execution (note: CPR 202 is a prerequisite)  
CPR 103 Statistical Reasoning for Strategic Communication  
CPR 311 Public Relations Research (note: CPR 103 is a prerequisite)  
CPR 330 Travel & Tourism  
CPR 501 Crisis Communication & Management  
CPR 517 Media Relations  
CPR 546 Religion, Communication, and Culture  
CPR 582 International Public Relations  
Or another CPR course with prior approval of a PR faculty advisor.

Note: It is possible for a Public Relations minor to take one or more of the following courses, with the approval of a PR faculty advisor:  
CPR 581 Public Relations Experience Program (PREP)  
CPR 436 Public Relations Campaigns (note: CPR 311 and CPR 346 are prerequisites)  
CPR 590: Special Topics in Public Relations
DEPARTMENT HONORS

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students should contact the School’s Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS in this Bulletin.
DIVISION OF CONTINUING AND INTERNATIONAL EDUCATION (DCIE)
www.educationmiami.com

The mission of the DCIE is to provide educational programs to meet the needs of non-traditional students, including adults, pre-college students, part-time students and international students.

Our primary goal is to promote the academic excellence of the University of Miami and the expertise of the faculty through outreach programs. By developing, marketing, and administering short courses, seminars, workshops, lectures, and special events, Continuing and International Education is able to provide access to the public at large as well as to degree seeking students. In addition, Continuing and International Education coordinates weekend credit courses and provides advising services for returning adult students. Continuing and International Education is an agent for University outreach in the community and serves the corporate world with professional certificates, continuing education and workforce training.

Allen Hall, on the Coral Gables Campus is the administrative headquarters for the DCIE and the location for the Intensive English Program, the Intensive Language Institute, and programs for adults returning to school and preparing for career advancement.
BACHELOR OF GENERAL STUDIES DEGREE PROGRAM

Introduction

Under the leadership of Collegiate Studies, the DCIE offers the Bachelor of General Studies (BGS) degree program, which provides a solid and rigorous, interdisciplinary academic experience for adult, part-time students. It is designed specifically for adults who have previously attended college but have not yet completed their undergraduate degrees, as well as for those who have never had the opportunity to pursue post-secondary studies. You are eligible for admission if you graduated from high school at least four years ago, have not attended the University of Miami during the past calendar year, have a minimum of 2.2 grade-point average on previous college work, and are a U.S. citizen or permanent resident.

The BGS curriculum allows an individual the flexibility to design an area of concentration to enhance professional or personal goals. The core of the BGS is its interdisciplinary colloquia. Designed to strengthen critical thinking and writing skills of the students, each course is taught by exceptional University of Miami faculty who are committed to the adult student.

Advisors offer personalized attention in career exploration and academic advising and discuss educational alternatives with potential students. Every effort is made to ensure that the process - from admission to registration - is efficient and convenient. Students may attend day, evening, or weekend classes to complete their educational goals.

To underscore its commitment to the adults in our community, the University offers a special tuition to students in the Bachelor of General Studies program which enables the adult, part-time student to pursue this degree at an affordable tuition rate.

The admission process takes into consideration that one’s grade-point average, while significant, is only one factor in determining an applicant’s qualification for acceptance. Therefore, an admissions interview with an advisor from the DCIE will be scheduled to supplement the information you provide on the BGS application form, which may be obtained by calling Collegiate Studies at (305) 284-2727 or at www.miami.edu/bgsdegree.

Requirements for Graduation

I. Candidates for the Bachelor of General Studies (BGS) degree must complete the required credit hours and achieve the quality point average specified for students in the University at large as stated in the section Academic Regulations and Procedures. Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

A. Advanced Standing and Placement (Credit Granted);
B. Credit by Examination;
C. Advanced Placement (by proficiency examination);

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the hours for that subject as a general requirement for graduation, toward the 120 credits required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for English 105, but these credits may not be applied towards the 120 required for graduation.
III. Credit Only
Only free electives may be taken under this option. Courses which satisfy the major, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Required Areas of Study

A. **English Composition**  3-6 credits
Students must take English 105 and 106 (or their equivalent) during the first year of enrollment in the School.

**Foreign Languages**  3-9 credits
Students must earn at least 3 credits of foreign language at the 200 course level or higher.

B. **People and Society (History/Social Sciences)**  15 credits
BGS degree candidates must earn 6 credits in a single two-semester History survey sequence. In addition, BGS degree candidates must earn 9 credits in courses taught by at least two of the following disciplines: African American Studies, American Studies in Social Science, Anthropology, Communication, Economics, Education and Psychological Studies, Geography, Judaic Studies, Political Science, Psychology and Sociology.

C. **Arts and Humanities**  21 credits
Credits must be earned in each of the following disciplines: Art History, Literature, Philosophy and Religious Studies.

In addition, BGS degree candidates must earn 9 credits in any of the following disciplines: American Studies in Humanities, Art, Art History, Communications (Motion Pictures), Dance, Theatre Arts, Musicology, English, Italian, German, Portuguese, Spanish or French Literature, Philosophy, Religion or Women’s Studies in Humanities.

D. **Mathematics/Computer Information Systems**  9 credits
Math 101 or an acceptable score on the math placement test is required. In addition, students must take either Math 103 (finite mathematics) or a math course approved by the advisor. Finally, a 3-credit course in computer information systems is also mandatory.

E. **Natural World (Natural Sciences)**  6 credits
BGS degree candidates may fulfill the Natural Sciences requirement by taking 6 credits in one or more of the following disciplines: Biology, Chemistry, Geological Sciences, Environmental Science, Marine Sciences, Physics and Physical Sciences.

V. **Area of Concentration**  30 Credits
Every candidate for a degree must select an area of concentration. The candidate designs an area of concentration that meets his/her professional and personal goals. The course of study is reviewed and approved by the Dean and/or Director of the program.

VI. **Interdisciplinary Courses**  15 Credits
BGS Interdisciplinary courses are especially designed to foster critical thinking and taught by faculty from all departments. Candidates for the BGS degree select 5 interdisciplinary courses to meet requirements for graduation (ENG 333 IS A REQUIRED COURSE)
VII. Electives 15 credits
Students choose elective courses in consultation with their advisor to meet the 120-credit graduation requirement.
CREDIT CERTIFICATE PROGRAMS

Not everyone needs or wants a complete degree program. Recognizing this, the DCIE - in cooperation with several other colleges and schools of the University - offers special Credit Certificate Programs.

Focusing on a single subject, these certificate programs allow students to concentrate on courses that offer the specific knowledge and skills needed for career advancement. All courses are taught by University of Miami faculty at the undergraduate level and are taken for academic credit.

Each certificate program varies in the number of required credits. While required courses are noted, students may work with an advisor in developing an individually-designed program.

Credit certificate programs are currently available in the following subject areas:

Certificate in Accounting
The Undergraduate Certificate in Accounting is awarded by the Division of Continuing and International Education and the Department of Accounting. It is designed for those who hold at least an undergraduate degree (preferably in business) from an accredited college or university, and whose present interest or occupation is accounting. The program requires students to take the same 24 semester hours of accounting courses required for the undergraduate major in Accounting. To sit for the Certified Public Accountant (CPA) examination in Florida, students must have completed 120 semester hours, including 24 semester hours of accounting (above the elementary level) and 24 semester hours of business courses, including a minimum of six hours of business law. There are additional educational requirements to become licensed as a Certified Public Accountant in Florida. Students may wish to consider either the Graduate Certificate in Accounting or the Graduate Certificate in Taxation (offered by the School of Business) to meet those additional education requirements.

Certificate in Computer Information Systems
The Certificate in Computer Information Systems program is designed to provide a broad background in business computer information systems and to develop the technical skills one needs to stay competitive in this challenging field. The program will be of particular benefit to programmers and to management information systems analysts. The certificate is awarded by the DCIE and the Department of Computer Information Systems upon the successful completion of 18 credits.

For more information, contact: Collegiate Studies, DCIE, University of Miami, P. O. Box 248005, Coral Gables, FL 33124-1610, (305) 284-2727.
OFFICE OF PROFESSIONAL ADVANCEMENT

Dedicated to providing the highest quality, competency-based, continuing professional education, the Office of Professional Advancement offers seminars, courses and certificate programs to meet the training and professional development needs of both corporations and individuals.

For more information, specific curriculum descriptions and a listing of current seminars, courses and workshops, contact the Office of Professional Advancement, DCIE, University of Miami, 111 Allen Hall, Coral Gables, Florida 33124-1610, (305) 284-5800 or email opa@miami.edu. Additional information on the web at: www.educationmiami.com.

Personal Financial Planning Certificate Program

Designed for students preparing for professional examinations and professional practice in personal financial planning.

Our program consists of providing the highest quality CFP education through Dalton Education, a leading provider of innovative education solutions in financial planning. The founders of Dalton Education have helped thousands of financial professionals earn the CFP® certification marks with their leading CFP review course, THE DALTON REVIEW®. Students can choose from an independent, self-paced, online education program or a live, instructor – led, internet delivered program.

For more detailed course descriptions, current schedule, and prices please visit our website at http://www.educationmiami.com/pfp.

Human Resources Management Certificate Program

This certificate provides the latest in proven techniques and strategies to effectively manage organizational challenges. The curriculum covers the following topics: Strategic Management, Legal and Regulatory Issues; Employment, Planning, and Placement; Benefits and Compensations: Development and Administration; Training and Development and Employee and Labor Relations. The HR Program is recognized by the Greater Miami Society for Human Resource Management. The comprehensive curriculum works for the newcomer as well as the seasoned professional and is especially useful to small and medium-size business owners. (6 months)

For more detailed course descriptions, current schedule, and prices please visit our website at http://www.educationmiami.com/hrm.

Alfus Patient Advocacy

This program offers a comprehensive curriculum geared to educate students in the complex field of the US healthcare system. Patient advocates strive to maintain high individual services for clients in a system that is frequently impersonal and intimidating. Classes are taught by industry leaders. The program is offered online in cohorts of 9 modules for a period of approximately 11 months. Upon completion, students are prepared to successfully enter this promising new field.

For detailed course descriptions, calendar and tuition cost, please visit our website at http://www.educationmiami.com/en/packagedetail.aspx?p=100
Paralegal Studies Certificate program

The UM Paralegal Studies program is an intense four-month course of study which certifies the successful student as a qualified professional ready to start an exciting new career as a paralegal. Classes are taught by prominent local attorneys, Judges and Magistrates. The Paralegal Program classes are offered on the weekends, weekdays or weekday evenings at the Coral Gables campus and on weekday evenings in Broward. This program is also available online in both English and Spanish. (4 months)

For more detailed course descriptions, current schedule, and prices please visit our website at http://www.educationmiami.com/paralegal.

Paralegal Specialist Certificate

The Paralegal Specialist Certificates provide both beginning and experienced paralegals with expansive educational and professional opportunities. The certificate programs allow paralegals to augment current skills and focus on virtually any area of the law. Choose from over 20 Paralegal Specialist Certificates and give yourself an edge in today's competitive job market. All specialist courses are available online so students are able to enroll at any time. (6 months)

For more detailed course descriptions, current schedule, and prices please visit our website at http://www.educationmiami.com/paralegal.

Coaching Certificate Training Program

This Coach Certificate Training Program is designed to support you in becoming a professional coach or in using coaching skills to enhance your leadership, management, and/or communication skills. This program has been written by master coaches and aligns with the International Coach Federation (ICF) Core Coaching Competencies. The University of Miami has designed a thorough program that will allow you to make a powerful leap into using coaching skills and becoming a professional coach. The Certified Professional Coach Program is a 140 hour, eleven month program designed for those interested in a career in coaching, who also want outstanding training in order to serve clients at the highest level. Additionally, it is designed for leaders, managers, human resource professionals, teachers, or service professionals (doctors, lawyers, counselors, consultants, etc.) who want to dramatically improve their ability to communicate, motivate, inspire, and empower others.

For more detailed course descriptions, current schedule, and prices please visit our website at http://www.educationmiami.com/coach.

Residential Design Certificate Program

Taught by industry professionals, our Certificate in Residential Design program focuses on the many different aspects of the design trade. A hands-on program, students will prepare a portfolio of their work to help them to successfully enter a competitive marketplace. The course of study includes principles and elements of design, drafting, visual communication techniques, the history of styles, currently manufactured products, color theory, furniture design and construction, floor coverings, fabrics, and window treatments.
Computer Training Programs

Computer skills are essential to get a job or even to lead a productive life in the twenty-first century. The ability to use a computer is the new literacy. We offer a wide selection of classes that cater to different skill-levels and interests including our own UM certifications. Whether you are a beginner with no previous knowledge of computers, someone who wants to enhance their efficiency in the workplace, or an IT professional seeking a specific industry certification, we can offer the computer training that you need. Courses are offered on evenings and weekends.

Courses and Programs
For more detailed course descriptions, current schedule, and prices please visit our website at http://www.educationmiami.com/computer.

Office Productivity

Classes for Beginners
A great place to start! Our UM Computer Foundation course will help you develop a solid understanding of how computers work and teach you essential Internet skills. After you have mastered the fundamentals, you will be ready to explore Microsoft Windows and Word and develop the habits and learn the computer conventions which are used in all applications. This 6 hour course is designed for students with little or no computer experience. 6 hours

University of Miami Office Professional
The UM Office Professional is a certification course created by the University of Miami to establish a nationally recognized standard of business computer skills. The UM Office Professional is an intensive, hands-on computer training course which teaches, tests and certifies all the core skills for Microsoft Windows, Word, Excel, Access, PowerPoint and Outlook.

This 40-hour course is designed for people who have some basic computer experience and want to become proficient in all the popular Microsoft office applications. The UM Office Professional certificate will demonstrate to potential employers that you are proficient in all the core computer skills required in the modern work-place. This is an invaluable tool for the job seeker to establish their computer credentials. It is also invaluable for the employer seeking qualified and productive staff. A more detailed description can be found at http://www.educationmiami.com/en/packagedetail.aspx?p=9. 40 hours (5 weeks)

Students can choose individual 8-hour section or the complete 40 hour computer training program.

UM Web Designer Certificate Program:
UM Web Designer course teaches the core skills needed to become a professional web designer. Starting from scratch, students learn to plan design, create, launch, maintain, manage and update a professional website with the latest Adobe Dreamweaver. 40 hours (5 weeks)
Photoshop for Web Design:

The 24-hour (three weeks) UM Advance We Designer 1- Photoshop for Web Designer course teaches the advance skills needed to become a professional web designer. New Adobe Photoshop will help you create powerful images with the professional standard for your website. Not only are students taught hands-on-skills, but also theory needed to design and create a successful website. 24 hours (3 weeks)

Flash for Web Design:

The 24-hour (three week) UM Advanced Web Designer 2 - Flash for Web Designer course teaches the advance skills needed to become a professional web designer. New Adobe Flash Professional will help you create and deliver rich interactive content for your website. Not only are students taught hands-on skills, but also theory needed to design and create a successful interactive Web site.

For more information about computer training:

Contact Us:
111 Allen Hall, 5050 Brunson Drive, Coral Gables, FL 33124 -1610
Phone: (305) 284-5800 Fax: (305) 284-6279 / www.educationmiami.com
ADULT STUDENT ACCESS PROGRAM (A.S.A.P.)

Students may take up to 30 credits in an undergraduate, non-degree seeking category, which may be applied to a degree program, after all application and degree-seeking requirements are met. In order to be enrolled in this category, students submit a one-page application and no other documents or transcripts; academic achievement is evaluated after 12 credits are attempted. A 2.5 G.P.A. is required to continue in the program beyond 12 attempted credits. The application for enrollment may be found on the Web at www.miami.edu/asap.

Students may take up to 6 credits, lifetime maximum, in a graduate, non-degree seeking category which may be applied to certain degree programs, after all application and degree seeking requirements are met. Not all graduate departments participate in this program. In order to enroll in this category, students submit a one-page application and no other documents or transcripts, after securing the written permission of the participating graduate department. The application for enrollment may be found on the Web at www.miami.edu/asap.

For more information, contact: The Adult Student Access Program, DCIE, University of Miami, P.O. Box 248005, Coral Gables, FL 33124-1610, (305) 284-2727.

INTENSIVE LANGUAGE INSTITUTE

The Intensive Language Institute offers comprehensive language instruction for academic, professional, and personal purposes. The Intensive English Program, a full-time course of study for international students who wish to pursue university studies in the United States, provides instruction in English language and academic study skills. The ILI also offers certificate programs, part-time language courses and customized language programs.

Intensive English Program

The Intensive English Program is designed to prepare students to participate successfully in the academic environment. Students are given a placement test upon arrival to determine the most appropriate level of study. Courses are offered at five levels of instruction. The skills-based curriculum integrates reading and writing, listening and speaking into one complete program of study. The focus is on English language acquisition and application in an academic setting. Specialized classes vary by level; focusing on the needs of the language learners. In Levels 1-3 students concentrate on reading skills and conversation. In Levels 4 and 5, courses on selected topics allow students to use their improving English to investigate areas of interest. Satisfactory completion of the highest level meets the English language requirement for acceptance to undergraduate programs at the University.

For more information contact:
Intensive English Program
PO Box 248005
Coral Gables, FL 33124-1610
(305) 284-2752
E-mail: iep@miami.edu
Visit our website at www.miami.edu/iep.
Intensive Language Programs
The Certificate in Business Communication consists of four courses focusing on public speaking skills and business writing skills necessary for the success in business. Communicative language classes are offered on demand throughout the year. Instruction is tailored to the needs of the client, and it focuses on meaningful communication in the chosen language. Specialized instruction focuses on Accent Reduction, Medical Spanish, and/or Business English. A short-term, intensive, 7-day immersion-style program in Spanish is offered throughout the year. For further information, or to register for classes, please call us at (305) 284-4000 or visit us on the web at: www.continue.miami.edu
Email: alc.cstudies@miami.edu
INTRODUCTION

The School of Education and Human Development offers undergraduate majors in Human and Social Development (Track I: Individual and Relational Development; Track II: Community and Program Development; Track III: Human and Social Development Studies), Athletic Training, Exercise Physiology, Sport Administration, Elementary(K-6)/Exceptional Student Education(K-12) with ESOL and Reading Endorsements (K-12), Secondary English with ESOL Endorsement (K-12), and Secondary Science, Mathematics and Social Science (6-12).

The degrees of Master of Science in Education, Specialist in Education, Doctor of Education, and Doctor of Philosophy are available in various departments within the School. These programs are under the supervision of the Dean of the Graduate School and the School of Education and Human Development Sr. Associate Dean for Graduate Studies.

VISION/MISSION

Our vision is to be a center of excellence in the study, promotion and integration of educational, psychological, and physical well-being in multicultural communities. Our mission is to produce knowledge and prepare the next generation of leaders, researchers, and agents of change and well-being in education and the community.

ACADEMIC POLICIES

Admission

Applications for incoming freshman are processed and reviewed by the Office of Admission. Application to the Bachelor of Science in Education program is requested by February 1st. Early application is encouraged.

Transfer students: The academic accomplishments of each transfer student will be evaluated on an individual basis. A 3.0 GPA is recommended for transfer admission.

Application deadline for transfer students is March 1st.

Student Responsibilities

Students are responsible for planning their own programs and for meeting degree requirements. It is the student’s responsibility to understand and fully comply with the provisions set forth in this Bulletin and written changes to their program of study. Written requests for variation from program or school requirements are reviewed by an administrative committee.
A student advising compact specifies the dual responsibilities between students and advisors in each program.

**Academic Progress and Probation**

The School will review each student’s record at the end of each semester. When a student’s semester or cumulative average is less than stated below, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with the School of Education and Human Development policies and procedures.

Students on probation are not permitted to enroll in more than 12 semester hours, shall make arrangements to meet on a monthly basis with their academic advisor, and may have a STOP placed on their future enrollment until grades are further reviewed. The following criteria will determine probationary status.

<table>
<thead>
<tr>
<th>Credits Earned</th>
<th>CGPA</th>
<th>CGPA (Exercise Physiology majors only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 30 credits</td>
<td>1.7</td>
<td>2.0</td>
</tr>
<tr>
<td>30-59 credits</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>60+ credits</td>
<td>2.3</td>
<td>2.5</td>
</tr>
</tbody>
</table>

**Note:** There are different retention and probation policies for Athletic Training majors. Please see the Athletic Training website or the Athletic Training Guidelines Manual for this and other important information regarding the requirements for completion of the Athletic Training major.

Note: The minimum GPA required for graduation from a Teacher Education Program is 2.5.

**Subject to Dismissal**

A student who remains on academic probation twice during their undergraduate studies can be designated as “Subject to Dismissal” and will be dismissed the following semester if not removed from probationary status. It is not required to be on this status to be dismissed from the School of Education and Human Development or from the University of Miami.

**Academic Dismissal**

A student in the School of Education and Human Development whose CGPA or progress toward degree completion, falls below the level of the minimum standards of the University of Miami and/or the School of Education and Human Development, may be dismissed.

**ACCREDITATION**

Kinesiology and Sport Sciences offers the Athletic Training Program that is accredited by the Commission on Accreditation of Athletic Training Education (CAATE); the Sport Administration Program is approved by the North American Society of Sport Management. Teacher Education Programs offered by the School of Education and Human Development are approved by the Florida Department of Education. In conjunction with the Phillip and Patricia Frost School of Music, the School of Education and Human Development offers Teacher Education Programs in Music Education at the undergraduate and graduate levels. Students who successfully complete their program of studies and submit an application to the Florida Department of Education - Bureau of Educator Certification are eligible to receive a Professional Teaching Certificate.
DEGREE PROGRAMS - UNDERGRADUATE

DEPT. of EDUCATIONAL AND PSYCHOLOGICAL STUDIES
Dept. Code: EPS

MAJOR
Bachelor of Science in Education: Human and Social Development

The major in Human and Social Development (HSD) focuses on the promotion of healthy development and well-being. It prepares students to work with people in multiple contexts and settings:

- health and human services
- schools, universities, and community programs
- government and non-government agencies
- grass-roots movements

By exploring the scholarly and practical interconnections among individual, interpersonal, social, and community approaches to change, students learn to identify barriers to well-being and to implement effective change-oriented strategies and policies. HSD coursework emphasizes theory, research, and skills. It culminates in a practicum in a setting related to students’ area of interest and prepares them for both graduate studies and careers.

Students choose between three areas of concentration (tracks).

**Track I: Individual and Relational Development (Track Code: HSDI)**
This track emphasizes individual, relational, and family well-being. Focusing on context and diversity in mental health and on strength-based, preventive, and empowering approaches, courses cover family studies, counseling theories and techniques, interviewing skills, and the basics of human service work. Students are well-prepared for graduate study in the helping professions and careers in health and human services.

**Track II: Community and Program Development (Track Code: HSDC)**
This track promotes healthy individual and community development by emphasizing how social, institutional, and community dynamics affect personal well-being. Stressing the role of non-government agencies in fostering well-being for people with diverse backgrounds, HSDC prepares students to diagnose institutional and community challenges and offer strategies for positive change. Courses include community-focused planning, needs assessment, and change strategies and nonprofit program development, implementation, and evaluation. Students are well prepared for graduate study in community psychology and public policy and careers in community organizations.

**Track III: Human and Social Development Studies (Track Code: HSDS)**
This is a general track which offers a menu of courses relating to individual and community development. HSDS students are free to combine classes from the Individual (HSDI) and Community (HSDC) tracks. This track meets the needs of students who seek greater flexibility in course work and are less concerned with specializing in the individual or community tracks.
HSD students must declare an approved second major or a minor either in the School of Education or through any other school or college. The following courses are required for the Human and Social Development major:

**HSD Track I: Individual and Relational Development (HSDI)**
- EPS 201 Psychosocial Change and Well-Being
- EPS 270 Lifespan Human Development
- EPS 280 Introduction to Family Studies: Dating, Coupling, Parenting
- EPS 291 Community and Character Development
- EPS 311 Group Processes and Development
- EPS 321 Understanding Human Service Organizations
- EPS 351 Introduction to Statistics and Research Design
- EPS 361 Community Psychology and Development
- EPS 420 Introduction to Counseling and Psychotherapy
- EPS 422 Applied Social Research Methods
- EPS 470 Listening and Helping Skills
- EPS 471 Human and Social Development Practicum
- EPS 481 Human and Social Development Practicum Seminar

**HSD Track II: Community and Program Development (HSDC)**
- EPS 201 Psychosocial Change and Well-Being
- EPS 270 Lifespan Human Development
- EPS 291 Community and Character Development
- MGT 304 Organizational Behavior
- EPS 311 Group Processes and Development
- EPS 321 Understanding Human Service Organizations
- EPS 351 Introduction to Statistics and Research Design
- EPS 361 Community Psychology and Development
- EPS 422 Applied Social Research Methods
- EPS 452 Community Program Development and Evaluation
- EPS 462 Community Consultation and Leadership
- EPS 471 Human and Social Development Practicum
- EPS 481 Human and Social Development Practicum Seminar

**HSD Track III: Human and Social Development Studies**
- EPS 201 Psychosocial Change and Well-Being
- EPS 270 Lifespan Human Development
- EPS 291 Community and Character Development
- EPS 311 Group Processes and Development
- EPS 321 Understanding Human Service Organizations
- EPS 351 Introduction to Statistics and Research Design
- EPS 361 Community Psychology and Development
- EPS 422 Applied Social Research Methods
- EPS 471 Human and Social Development Practicum
- EPS 481 Human and Social Development Practicum Seminar
Three courses from the following list:

EPS 280 Introduction to Family Studies: Dating, Coupling, Parenting
EPS 420 Introduction to Counseling and Psychotherapy
EPS 470 Listening and Helping Skills
MGT 304 Organizational Behavior
EPS 452 Community Program Development and Evaluation
EPS 462 Community Consultation and Leadership

MINOR IN HUMAN AND SOCIAL DEVELOPMENT – Code for Minor: HSDM

• The requirements of the minor are 15 credits with a grade of C or better.
• Nine of these 15 credits must have been completed in the Department of Educational and Psychological Studies (EPS); with prior approval, three of these nine may be taken through the UM Study Abroad Program.
• EPS 201—Psychosocial Change and Well Being is required
• Two courses must be upper division courses (at or above the 300 level)
• The undergraduate coursework in Human and Social Development is open to all qualified University of Miami students.
• Determination for using these courses as a minor, as a specialization, and/or as electives in any program, is made by the individual student’s degree granting college or school.

REQUIREMENTS FOR GRADUATION

BACHELOR OF SCIENCE IN EDUCATION

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES, subject to regulations concerning the major specified in departmental and program sections of this Bulletin.

Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

• Advanced Standing and Placement (Credit Granted);
• Credit by Examination;
• Advanced Placement (by proficiency examination);
• Statement of Foreign Language Requirements;

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credits required for
graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for English 105, but these credits may not be applied toward the 120 credits required for graduation.

III. Credit Only. Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Transferred credit may not count toward the completion of a major without the written approval of the Associate Dean of the School of Education and Human Development.

V. Required Areas of Study

A. English Composition 3 – 6 credits

Students fulfill this requirement by satisfactorily completing English 105 and English 106 or its equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the English 105/106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit in, ENG 105. Appropriate scores on other tests determined by the Department of English may earn a student exemption from, but not credit in, English 105. Courses satisfying the English Composition requirement may not be used to fulfill the Writing Across the Curriculum Required Area of Study.

B. Mathematics

B.S.Ed. degree candidates in the Department of Educational and Psychological Studies are required to take EPS 351 – Introduction to Statistics and Research Design. This course fulfills a Math requirement for the HSD major. Prior to taking EPS 351, students must complete MTH 101 or be exempt from MTH 101 based on any of the following tests: AP, IB, or an examination administered by the Department of Mathematics.

C. Foreign Languages (not applicable)

Areas of Knowledge and Cognate Requirements

The University of Miami’s General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a Cognate, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credits.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Students must take three cognates to fulfill the Areas of Knowledge requirement, one in the Arts & Humanities (A&H), one in People & Society (P&S), and one in Science, Technology, Engineering & Mathematics (STEM).
Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.

In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in that one area.

- Exercise Physiology and Athletic Training majors will fulfill the STEM cognate.
- Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the P&S cognate.

An approved list of cognates can be found on the University of Miami website.

VI. Writing

Every student must complete five writing-oriented (W) courses beyond ENG 105 and 106. Students must take one approved writing course section per academic year for a minimum of five writing intensive course sections, or their equivalents. A student is required to write at least 4000 words in each W course. Writing assignments will be assessed for both content and style. A W course listed in section VII (Required Areas of Study) may be used to satisfy both the writing and Required Areas of Study criteria. Foreign language courses that meet the criteria above may be used to satisfy the writing requirement. Transfer students must satisfy at least 3 courses of the writing requirement at the University of Miami.

VII. Major in Human and Social Development

- Every candidate for the B.S.Ed. degree in the Department of Educational and Psychological Studies must choose a major in Human and Social Development.
- Students choose among three areas of concentration: Track I – Individual and Relational Development (HSDI); Track II – Community and Program Development (HSDC); Track III – Human and Social Development Studies (HSDS). To find the requirements for the major, consult this Bulletin under the discipline concerned, and confer with the designated departmental representative.
- HSD majors must maintain a minimum overall grade point average of 2.0 with a grade of “C” or better in all courses in the major.
- HSD students must declare an approved second major or a minor in the School of Education and Human Development or through any other UM school or college.

VIII. Minor

B.S.Ed. majors in Human and Social Development are required to declare a minor.

IX. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least six credits must be at the 300 level or above.

X. Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS review process.
For further information, address all inquiries to: Associate Dean; School of Education and Human Development; P. O. Box 248065; University of Miami; Coral Gables, Florida 33124; Telephone: (305) 284-3711.

See the Department of Educational and Psychological Studies for list of courses:

Educational and Psychological Studies Course Listing
DEPT. of KINESIOLOGY AND SPORT SCIENCES
Dept. Code: KIN

MAJORS

Bachelor of Science in Athletic Training

The Athletic Training program at the University of Miami is an undergraduate education program that has been accredited by CAATE. The program is designed to provide a structured classroom and clinical experience to prepare students to become eligible to sit for the Board of Certification exam; Didactic courses are sequenced to maximize student learning. Please see the Athletic Training website or the Athletic Training Guidelines Manual for the course sequence form and other important information regarding the requirements for completion of the Athletic Training major.

- A degree in Athletic Training requires a major GPA of 3.0 or higher and an overall GPA of 2.5 or higher.
- Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS accreditation review process.
- Students must successfully meet all of the retention requirements outlined in the Athletic Training Education Program (ATEP) handbook in order to continue in the major.
- The BSAT degree requires:
  a. 4 credits of calculus (MTH 161 or equivalent)
  b. 6 credits in Statistics and Research Methods including:
     i. EPS 351 (Introduction to Statistics)
     ii. KIN 415 (Evidence Based Medicine & Research Methods in Athletic Training)

Courses for the Athletic Training major:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 140</td>
<td>Introduction to Athletic Training</td>
</tr>
<tr>
<td>KIN 141</td>
<td>Introduction to Athletic Training Lab</td>
</tr>
<tr>
<td>KIN 145</td>
<td>Responding to Emergencies</td>
</tr>
<tr>
<td>KIN 184</td>
<td>Athletic and Sport Injuries</td>
</tr>
<tr>
<td>KIN 202</td>
<td>Applied Nutrition for Health &amp; Performance</td>
</tr>
<tr>
<td>KIN 210</td>
<td>Foundations to Athletic Training</td>
</tr>
<tr>
<td>KIN 212</td>
<td>Elements of Sports Psychology</td>
</tr>
<tr>
<td>KIN 221</td>
<td>Exercise Physiology</td>
</tr>
<tr>
<td>KIN 230</td>
<td>Medical Terminology and Documentation</td>
</tr>
<tr>
<td>KIN 232</td>
<td>Basic Human Physiology</td>
</tr>
</tbody>
</table>
* Students in the Athletic Training major are not required to declare a minor.

**Bachelor of Science in Education, Exercise Physiology**

- The Undergraduate program at the University of Miami is designed for students to acquire a sound knowledge base in the sciences followed by the application of that knowledge base to human movement, exercise and sports performance. Clinical laboratory experiences supplement applied scientific theory in a rigorous academic setting.

- Students may pursue a pre-med track concurrent with the Exercise Physiology major and should inform their advisor if selecting this track.

- A degree in Exercise Physiology requires a major GPA of 2.5 or higher for below 30 credit hours and a GPA of 2.75 for 30 and above credit hours.

- Students transferring from another college or university must have a cgpa of 2.75 or above to be considered for admission to the major.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 234</td>
<td>Functional Human Anatomy</td>
</tr>
<tr>
<td>KIN 235</td>
<td>Personal and Community Health</td>
</tr>
<tr>
<td>KIN 250</td>
<td>Orthopedic Assessment: Lower Extremity</td>
</tr>
<tr>
<td>KIN 251</td>
<td>Orthopedic Assessment: Lower Extremity Lab</td>
</tr>
<tr>
<td>KIN 260</td>
<td>Orthopedic Assessment: Upper Extremity</td>
</tr>
<tr>
<td>KIN 261</td>
<td>Orthopedic Assessment: Upper Extremity Lab</td>
</tr>
<tr>
<td>KIN 264</td>
<td>General Medical Conditions Evaluation</td>
</tr>
<tr>
<td>KIN 345</td>
<td>Kinesiology</td>
</tr>
<tr>
<td>KIN 365</td>
<td>Principles of Exercise Prescription</td>
</tr>
<tr>
<td>KIN 443</td>
<td>Athletic Training Lab I, Clinical</td>
</tr>
<tr>
<td>KIN 444</td>
<td>Athletic Training Lab II, Clinical</td>
</tr>
<tr>
<td>KIN 455</td>
<td>Athletic Training Lab III, Clinical</td>
</tr>
<tr>
<td>KIN 456</td>
<td>Athletic Training Lab IV, Clinical</td>
</tr>
<tr>
<td>KIN 461</td>
<td>Therapeutic Modalities</td>
</tr>
<tr>
<td>KIN 462</td>
<td>Therapeutic Modalities Laboratory</td>
</tr>
<tr>
<td>KIN 463</td>
<td>Therapeutic Rehabilitation</td>
</tr>
<tr>
<td>KIN 464</td>
<td>Therapeutic Rehabilitation Laboratory</td>
</tr>
<tr>
<td>KIN 465</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>KIN 470</td>
<td>Administrative Aspects of Athletic Training</td>
</tr>
<tr>
<td>KIN 476</td>
<td>Seminar in Athletic Training</td>
</tr>
<tr>
<td>KIN 488</td>
<td>Gross Anatomy</td>
</tr>
</tbody>
</table>
• A grade of C or better is required for each course applied toward the major, except for KIN 221 and KIN 232 which require a B- or higher. Students are allowed to retake a course one time.

• All 100 level courses and KIN 212, 202, and 232 are open to non-majors. All other courses are open to majors and minors only. KIN 202 is only open to science majors. KIN 246 is only open to Exercise Physiology majors.

• Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS accreditation review process.

Courses for Exercise Physiology major:

<table>
<thead>
<tr>
<th>KIN 202</th>
<th>Applied Nutrition for Health and Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 212</td>
<td>Elements of Sports Psychology</td>
</tr>
<tr>
<td>KIN 221</td>
<td>Biochemistry and Skeletal Muscle</td>
</tr>
<tr>
<td>KIN 222</td>
<td>Exercise Physiology Laboratory: Neuromuscular</td>
</tr>
<tr>
<td>KIN 232</td>
<td>Basic Human Physiology</td>
</tr>
<tr>
<td>KIN 233</td>
<td>Basic Anatomy Lab</td>
</tr>
<tr>
<td>KIN 246</td>
<td>Gross Anatomy</td>
</tr>
<tr>
<td>KIN 321</td>
<td>Introduction to Systemic Exercise Physiology</td>
</tr>
<tr>
<td>KIN 322</td>
<td>Exercise Physiology Laboratory: Cardiorespiratory</td>
</tr>
<tr>
<td>KIN 345</td>
<td>Kinesiology</td>
</tr>
<tr>
<td>KIN 365</td>
<td>Principles of Exercise Prescription</td>
</tr>
<tr>
<td>KIN 366</td>
<td>Exercise Prescription Lab</td>
</tr>
<tr>
<td>KIN 421</td>
<td>Systemic Exercise Physiology</td>
</tr>
<tr>
<td>KIN 457</td>
<td>Clinical Internship in ESS</td>
</tr>
<tr>
<td>KIN 466</td>
<td>Principles of Exercise Prescription: Neuromuscular</td>
</tr>
<tr>
<td>KIN 477</td>
<td>Advanced Nutrition for Fitness and Sports</td>
</tr>
</tbody>
</table>

All students who are majoring in Exercise Physiology must earn eight (8) credits TOTAL in chemistry. The chemistry requirement may be fulfilled by any eight credits in chemistry, provided that the courses are not repeated or considered an equivalent of one another.

Therefore, the chemistry requirement may be fulfilled by one of the following combinations:

1. CHM 111/113 and CHM 112/114 (total 8 credits)
2. CHM 103/105 and CHM 104/106 (total 8 credits)
3. CHM 111/113 and CHM 104/106 (total 8 credits)

Please see an advisor for proper chemistry course placement.
Writing Credit Courses – Exercise Physiology

Courses will be available for writing credit for Exercise Physiology pending individual request by students provided the following stipulations are met:

1. Permission of instructor
2. The course is under the direction of a full-time faculty member in Exercise Physiology
3. The student completes a writing credit agreement form and submits this form to the instructor within the first three weeks of a semester
4. The student completes assigned writing credit work by the end of the semester.
5. Assignments completed for writing credit are in addition to work normally required in the course
6. Students may be required to submit written work to the University of Miami Writing Center for review

University of Miami Honors Program – Exercise Physiology

The courses below will be available for honors credit for Exercise Physiology students provided the following stipulations are met:

1. The course is under the direction of a full-time faculty member in Exercise Physiology.
2. The student completes an honors project permission form and submits this form to the instructor within the first three weeks of the semester.
3. The student completes assigned writing credit work by the end of the semester.
4. Assignments completed for honors credit are in addition to the University of Miami Writing Center for review.

The University of Miami currently offers an accelerated program for undergraduate Exercise Physiology majors who want to obtain a Master’s Degree in Exercise Physiology. This can be done by taking one additional year of graduate courses. These students must take two graduate courses in Exercise Physiology in their senior undergraduate year in order to get an M.S.Ed. degree in Exercise Physiology in one extra year. Please check our website www.education.miami.edu for additional information on the Accelerated Master’s Program in Exercise Physiology. To be eligible students must apply for admission to the accelerated master’s program no later than the end of the Fall semester of their senior year.
Bachelor of Science in Education, Sport Administration

- The Sport Administration major at the University of Miami is an undergraduate education program designed to prepare students for careers in the sport industry. The program is committed to the professional development of students so that competencies and skills relevant to the Sport Industry can be acquired over time. Specific competencies in organization, ethics, marketing, leadership and legal issues are emphasized.

- Field experience and internships are an essential component of the major. The KIN department is actively engaged in placing students in visible sports settings and appropriate sport environments so that students acquire relevant competencies and gain pragmatic hands-on experiences that are necessary for success in today's sport industry.

- The Sport Administration major is a 39-credit major leading to a Bachelor of Science in Education.

- A Business Administration minor is suggested to complement the Sport Administration major and provide a well-rounded comprehensive background to the Sport Administration field. A minor in any field is required.

- Students pursuing a degree in Sport Administration must receive a grade of B- or higher in KIN 201 in order to continue with the major.

- **Students will be allowed to retake a course once.**
  - A degree in Sport Administration requires a major GPA of 2.5 or higher and an overall GPA of 2.3 or higher.
  - KIN 306 and 308 may not be taken in the same semester and must be taken during junior year.
  - A grade of C or better is required for each course applied toward the major with the exception of KIN 201 which requires a grade of B- or higher in the course, as previously specified.

Courses for the Sport Administration major:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 201</td>
<td>Introduction to Sport Administration</td>
</tr>
<tr>
<td>KIN 206</td>
<td>Sport Facilities and Event Management</td>
</tr>
<tr>
<td>KIN 212</td>
<td>Elements of Sports Psychology</td>
</tr>
<tr>
<td>KIN 302</td>
<td>Sport Marketing</td>
</tr>
<tr>
<td>KIN 306</td>
<td>Essential Leadership in Sports and the Professions</td>
</tr>
<tr>
<td>KIN 308</td>
<td>Ethical Decision Making in Sport and the Professions</td>
</tr>
<tr>
<td>KIN 401</td>
<td>Legal Aspects of Sport</td>
</tr>
</tbody>
</table>
MINORS

A minor in any of the five areas below consists of 14-15 credits:

A minor in **Exercise Physiology** consists of KIN 155, KIN 202, KIN 232, KIN 233 and KIN 365.

A minor in **Sports Medicine** consists of KIN 155, KIN 184, KIN 230, KIN 234, KIN 235 and KIN 301.

A minor in **Sport Administration** consists of KIN 201, plus four (4) courses taken from the following: KIN 206, KIN 212, KIN 302, KIN 306 or KIN 308, KIN 401, KIN 403, KIN 405, KIN 473 or KIN 490.

• A grade of C or better is required for each course applied toward the minor; the overall grade point average for the minor must be 2.5 or above.

• The undergraduate coursework in Exercise Physiology, Sports Medicine, and Sport Administration are open to all qualified University of Miami students. A student can minor in either Exercise Physiology or Sports Medicine. Determination for using these courses as a minor, as a specialization, and/or as electives in any program, is made by the individual student’s degree granting college or school.

Seniors are required to participate in the General Education Assessment as part of the SACS review process.

REQUIREMENTS FOR GRADUATION

BACHELOR OF SCIENCE IN EDUCATION

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES, subject to regulations concerning the major specified in departmental and program sections of this Bulletin. Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

   A. Advanced Standing and Placement (Credit Granted);

   B. Credit by Examination;

   C. Advanced Placement (by proficiency examination);
D. Statement of Foreign Language Requirements;

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credits required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for English 105, but these credits may not be applied toward the 120 credits required for graduation.

III. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Transferred credit may not count toward the completion of a major without the written approval of the Associate Dean of the School of Education and Human Development.

V. Required Areas of Study.

A. English Composition.

Students must take English 105 and 106 (or their equivalent) during the first year of enrollment in the School. Admission to English 105 requires a placement score acceptable to the Department of English. Students whose placement scores are deemed unacceptably low will be required to take the non-credit course, ENG 103, before taking ENG 105 and 106. Students whose placement scores are high may be exempt from ENG 105 but not from ENG 106 or its equivalent.

B. Mathematics

B.S.Ed. degree candidates must complete MTH 113 or higher. Students who do not place directly into MTH 113 must enroll in either MTH 099 or MTH 101 based on results of placement tests.

C. Foreign Languages (applicable to Sport Administration majors only)

Students must earn at least 3 credits of a foreign language at the 200 course level or higher. Special 200-level courses are required of native speakers who choose to fulfill the language requirement.
Areas of Knowledge and Cognate Requirements

The University of Miami’s General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a Cognate, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credits.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Students must take three cognates to fulfill the Areas of Knowledge requirement, one in the Arts & Humanities (A&H), one in People & Society (P&S), and one in Science, Technology, Engineering & Mathematics (STEM).
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in one area.
  - Exercise Physiology and Athletic Training majors will fulfill the STEM cognate.
  - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the P&S cognate.
- An approved list of cognates can be found on the University of Miami website.

VI. Writing

Every student must complete five writing-oriented (W) courses beyond ENG 105 and 106. Students must take one approved writing course section per academic year for a minimum of five writing intensive course sections, or their equivalents. A student is required to write at least 4000 words in each W course. Writing assignments will be assessed for both content and style. A W course listed in section V (Required Areas of Study) may be used to satisfy both the writing and Required Areas of Study criteria. Foreign language courses that meet the criteria above may be used to satisfy the writing requirement. Transfer students must satisfy at least 3 courses of the writing requirement at the University of Miami.

VII. Majors

Every candidate for the B.S.Ed. degree must choose a major in Athletic Training, Exercise Physiology or Sport Administration. To find the requirements for the major, consult this Bulletin under the discipline concerned, and confer with the designated departmental representative.

The choice of majors should be made no later than the beginning of the junior year and must be approved by the major department. Any student making unsatisfactory progress in a major may be required to change his/her major or to relinquish candidacy for the degree.
VIII. Minors

B.S.Ed. majors in Sport Administration and Exercise Physiology are required to declare a minor. Sport Administration students require department approval before declaring a minor. Exercise Physiology students may choose not to declare a minor if they’re following the pre-med track, pre-physical therapy, pre-physician’s assistant or pre-chiropractic track.

IX. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least six credits must be at the 300 level or above.

X. Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS review process.

For further information, address all inquiries to: Associate Dean; School of Education and Human Development; P. O. Box 248065; University of Miami; Coral Gables, Florida 33124; Telephone: (305) 284-3711

Kinesiology and Sport Sciences Course Listing
DEPT. of TEACHING AND LEARNING  
Dept. Code: TAL

The Department of Teaching and Learning offers a Bachelor of Science in Education Degree in Elementary Education (K-6)/Exceptional Student Education (K-12) with ESOL (English for Speakers of Other Languages, K-12) and Reading (K-12) endorsements.

In conjunction with the College of Arts and Sciences, the Department also offers majors in Secondary Education in English with ESOL endorsement, in Chemistry, in Biology, in Mathematics, and in Social Science (6-12). Students in Secondary Education programs are required to fulfill the general education requirements for the College of Arts and Sciences.

The Department offers two minors: (1) a traditional 15-credit minor, and (2) a 17-18-credit minor that fulfills the State of Florida “Professional Training Option” (PTO) for teaching in-secondary-schools. In order to obtain teaching credentials from the State of Florida, a PTO completer must teach in an accredited school in Florida for one academic year.

MAJORS

Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements

The Department of Teaching and Learning offers a major in Elementary/Exceptional Student Education that leads to certification in Elementary Education (K-6)/ESE (K-12) with ESOL and Reading endorsements. The requirements for Elementary/ESE Education are a major in Elementary/ESE Education and a minor outside of the Department of Teaching and Learning.

Students must earn a grade of C or better in all courses in their major. The following Education courses are required for the major:

TAL 101 Social and Technological Foundations of Education  
TAL 103 Psychological Foundations of Education  
TAL 305 Classroom and Behavior Management  
TAL 308 Language Development for Linguistically and Culturally Diverse Students  
TAL 322 Mathematics Instruction in the Elementary School  
TAL 323 Science Instruction in the Elementary School  
TAL 420 Introduction to Literacy Assessment and Instruction in the Elementary School  
TAL 421 Language Arts and Social Studies in the Elementary School  
TAL 426 Practicum in Reading  
TAL 428 ESOL Curriculum, Methods, & Assessment  
TAL 470 Student Teaching (Semester-Long)  
TAL 480 Seminar on Teaching

Please note: Students may not register for any classes above TAL 323 without admission to Teacher Candidacy.

Please note: Students are strongly encouraged to register for TAL 203: Children’s Literature and TAL 324: Education and the Arts.

Area of Specialization (Required)
Secondary Education

The Department of Teaching and Learning offers a major in Secondary Education (6-12). Certification is offered in the general areas of: English/ESOL Endorsement; Mathematics; Sciences (Biology, Chemistry); Social Science (Economics, Geography, History, International Studies, or Political Science). Each student should complete a major from the appropriate department in the College of Arts and Sciences and a second major in the Department of Teaching and Learning.

The requirements for a major leading to secondary certification include:

(a) a major in the appropriate field of Arts and Sciences (Biology, Chemistry, Economics, English, Geography, International Studies, History, Math or Political Science only)

and

(b) the following education courses:

TAL 101 Social and Technological Foundations of Education
TAL 103 Psychological Foundations of Education
TAL 304 Content Area Reading and Learning Strategies
TAL 305 Classroom and Behavior Management
***TAL 308 Language Development for Linguistically and Culturally Diverse Students (for Secondary English majors only)
TAL 330 Foundations of Exceptional Student Education
***TAL 428 ESOL Curriculum Methods and Assessment (for Secondary English majors only)
TAL 434 Specialized Instructional Strategies/Transition
TAL 506 Issues and Strategies for ESOL (for all majors except Secondary English)
TAL 540 Instruction and Assessment in the Secondary School
TAL 572 Student Teaching in the Secondary School
TAL 580 Seminar on Teaching

One course selected from the following list as appropriate for the subject area:

TAL 541 Instruction in Secondary English
TAL 542 Instruction in Secondary Mathematics
TAL 543 Instruction in Secondary Science
TAL 544 Instruction in Secondary Social Studies

Please note: Students may not register for classes above TAL 304 without admission to Teacher Candidacy.
MINORS

Education Minor (not for certification)

The requirements for a minor in education consists of 15 credits passed with a C or higher, with an overall GPA of 2.5 in courses selected from the list of acceptable TAL departmental courses. A minimum of six (6) credits must be numbered 300 or higher. This minor does not lead to teaching credentials.

Professional Training Option Certificate

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional Education component, one of the requirements to become a certified teacher in the State of Florida. Please be advised that students seeking the PTO must be majoring in a teachable area in order to participate in the program.

The PTO minor consists of 17-18 credits passed with a C or higher with an overall GPA of 2.5 or higher. Upon completion of the program courses, participants will receive a Certificate of Completion. UM transcripts will indicate that the student has completed a Florida State-approved PTO program. Program completers will be eligible to apply for a 3-year Temporary Teaching Certificate in the State of Florida. There is a one-year teaching requirement in an accredited school in Florida in order to apply for a Professional Teaching Certificate.

The required courses for the PTO minor are:

TAL 101 Social and Technological Foundations of Education
TAL 103 Psychological Foundations of Education
TAL 304 Content Area Reading and Learning Strategies
TAL 305 Classroom and Behavior Management
TAL 540 Instruction and Assessment in the Secondary School

One course selected from the following list as appropriate for the subject area and approved by the advisor:
TAL 506 Issues and Strategies for ESOL
TAL 524 Education and the Arts
TAL 541 Instruction in Secondary English
TAL 542 Instruction in Secondary Mathematics
TAL 543 Instruction in Secondary Science
TAL 544 Instruction in Secondary Social Studies

PROFESSIONAL DEVELOPMENT SCHOOLS

Bel-Aire Elementary, Henry S. West Laboratory Elementary, Sunset Elementary, Ponce de Leon Middle School and Booker T. Washington Senior High School are operated by Miami-Dade County Public Schools. These schools provide the most up-to-date teaching environments, both in terms of design and curriculum, in partnership with the University of Miami. Students are welcomed at these facilities for field experiences and student teaching, and both students and faculty have the opportunity to contribute to the high quality functioning of these professional development schools.
TEACHER PREPARATION PROGRAMS

Teacher Preparation Programs/majors in Elementary/Exceptional Student Education and Secondary Education that lead to professional certification and applicable endorsements are approved by the Florida Department of Education (FLDOE). Please be advised that the State may implement new requirements for certification. *These requirements will be mandatory with or without notice in this bulletin.* The student is responsible for securing the application for certification and submitting the necessary documents and fees to the Florida Department of Education to obtain certification and endorsement. The DOE Certification Ombudsman in the School of Education and Human Development is available to assist with certification and re-certification matters.

ACADEMIC POLICIES

ADMISSION

SELECTION FOR THE TEACHING PROFESSION

The faculty of the School of Education and Human Development conceives its ultimate obligation to be to the children, adolescents, and adults who will be taught by teachers who have completed teacher preparation programs at the University. The quality of students admitted into the teacher education curriculum is as important as the skills, content, and concepts to be learned.

Most courses in the teacher education program require school site-based field experiences, culminating in a full-time 15-week internship. School districts require a criminal background check for field placement students and interns. Fingerprinting and FBI background check procedures are at the applicant’s expense. Students with felony arrests may wish to consider these requirements carefully and, if necessary, seek advice from an advisor in the School before applying for admission to the program. Students without a valid social security number will not be eligible for placement in the school district. The Director of Clinical Supervision and Internship Placement will assist students through these requirements.

All students who wish to be considered for admission and/or retention in curricula leading to Florida Teacher Certification will be formally screened at certain points in their program of study with respect to the following criteria:

1. Admission to Teacher Candidacy (see requirements below).
2. Acceptable grade point averages (C or better for courses in the major).
3. Acceptable evaluations by University of Miami faculty.
4. Evaluations by clinical faculty at various field experience sites.
5. Satisfactory progress toward the completion of the Florida Educators Accomplished Practices requirement.

Students who receive a grade below C in their Student Teaching semester will not be recommended for teacher certification.

Note: The Associate Dean of the School of Education and Human Development must approve appeals to the above policies.
REQUIREMENTS FOR ADMISSION TO TEACHER CANDIDACY

2. Completion of 45 semester hours. In addition, transfer students must have a minimum of 9 semester hours of acceptable credit earned at the University of Miami.
3. A 2.5 GPA in education core courses. No education classes lower than C.
4. A 2.5 GPA in the content area teaching major (for secondary education majors).
5. Completion of the Course Advisement Plan (CAP).
6. Completion of at least one Field Experience requirement.
7. Further enrollment in teacher education course work offered by the School of Education and Human Development is contingent upon the student meeting requirements 1-6 above.
8. All students must successfully complete M-DCPS fingerprinting process. Forms are available in the Office of Undergraduate Academic Services.

NOTE: Appeals to the policies stated 1-6 above must be directed to the Associate Dean of the School of Education and Human Development.

REQUIREMENTS FOR ADMISSION TO STUDENT TEACHING

Students submit a formal application to the Office of Teacher Preparation Programs and Accreditation for admission to Student Teaching. Application materials are available and are to be completed by students no later than October 15 (Fall semester) or March 15 (Spring semester).

The following requirements must be met:

1. Admission to a Teacher Preparation Program (Teacher Candidacy).
2. Completion of application for admission to Student Teaching, which includes an electronic submission to the Office of Teacher Preparation Programs and Accreditation.
3. Approval of the Associate Dean for Undergraduate Studies, the TAL Department Chair, and the Director of Teacher Preparation & Accreditation.
4. Recommendations from two members of the faculty familiar with the student’s academic proficiency. One of these must be from a faculty member in the School of Education and Human Development.
5. Earned a minimum of 90 credit hours.
6. Submission of two FEAPs via Live Text to the Director of Teacher Preparation & Accreditation.
7. All secondary majors must have completed approximately two-thirds of the courses in the teaching major and received departmental approval. Elementary/ESE majors must have completed TAL 308, 320, 322, 323, 330, 332, 420, 421, 432, 434, 426, 428, and received departmental approval.
8. Earned a minimum of 2.5 grade point average in core courses offered by the School of Education and Human Development.
9. A grade of C or better is required of each course applied to the major.
10. Earned a minimum of a 2.5 grade point average overall.
11. Successfully completed pre-internship field experiences.
12. Demonstrate satisfactory progress towards the completion of the Florida Educators Accomplished Practices requirement.
13. Passed the Florida General Knowledge Test.
14. Taken the Professional Education Test and the Subject Area Exam.
NOTE: A MAXIMUM OF 12 CREDITS MAY BE TAKEN DURING THE STUDENT TEACHING SEMESTER. No outside job may be held or additional classes taken during the Associate Teaching semester.

NOTE: The Director of Teacher Preparation & Accreditation, School of Education and Human Development must approve appeals to the above policies.

REQUIREMENTS FOR GRADUATION

BACHELOR OF SCIENCE IN EDUCATION

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES, subject to regulations concerning the major specified in departmental and program sections of this Bulletin.

Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

A. Advanced Standing and Placement (Credit Granted);
B. Credit by Examination;
C. Advanced Placement (by proficiency examination);
D. Statement of Foreign Language Requirements;

II. Students must pass the Professional Education, General Knowledge and Subject Area tests of the Florida Teacher Certification Examination (FTCE).

III. Students must complete the Florida Educator Accomplished Practices (FEAPs) and the P-12 Student Impact Project requirements. Monitoring of FEAPs and progress made toward program completion in the Teacher Education program will occur at the following checkpoints: Students enrolled in all teacher-education programs will submit complete portfolios at (1) application to student teaching and (2) at the end of TAL 480/TAL 580. In addition, students enrolled in:

• Elementary/ESE major will submit a portfolio artifact through LiveText during (or at the latest) upon completion of TAL 421 and TAL 426;
• Secondary Education major will submit a portfolio artifact through LiveText during or (at the latest) upon completion of TAL 540; and,
• Music Education major will submit a portfolio artifact through LiveText during or (at the latest) upon completion of TAL 506.

IV. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credits required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for English 105, but these credits may not be applied toward the 120 credits required for graduation.

V. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, minor,
the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

VI. Transferred credit may not count toward the completion of a major without the written approval of the Associate Dean of the School of Education and Human Development.

VII. Required Areas of Study

A. English Composition 3 – 6 credits

Students fulfill this requirement by satisfactorily completing English 105 and English 106 or its equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the English 105/106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit in, ENG 105.

Appropriate scores on other tests determined by the Department of English may earn a student exemption from, but not credit in, English 105. Courses satisfying the English Composition requirement may not be used to fulfill the Writing Across the Curriculum Required Area of Study.

B. Mathematics

B.S.Ed. degree candidates must complete MTH 113 or higher. Students who do not place directly into MTH 113 must enroll in either MTH 099 or MTH 101 based on results of placement tests.

C. Foreign Languages (not applicable)

Areas of Knowledge and Cognate Requirements

The University of Miami’s General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a Cognate, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credits.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Student must take three cognates to fulfill the Areas of Knowledge requirement, one in the Arts & Humanities (A&H), one in People & Society (P&S), and one in Science, Technology, Engineering & Mathematics (STEM).
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
• In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in one area.
  o Exercise Physiology and Athletic Training majors will fulfill the STEM cognate.
  o Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the P&S cognate.
• An approved list of cognates can be found on the University of Miami website.

VIII. Writing

Every student must complete five writing-oriented (W) courses beyond ENG 105 and 106. Students must take one approved writing course section per academic year for a minimum of five writing intensive course sections, or their equivalents. A student is required to write at least 4000 words in each W course. Writing assignments will be assessed for both content and style. A W course listed in section V (Required Areas of Study) may be used to satisfy both the writing and Required Areas of Study criteria. Foreign language courses that meet the criteria above may be used to satisfy the writing requirement. Transfer students must satisfy at least 3 courses of the writing requirement at the University of Miami.

IX. Majors

Every candidate for the B.S.Ed. degree in the Department of Teaching and Learning must choose a major in Elementary Education/ESOL endorsement with an Exceptional Student Education area of specialization.

X. Minors

Every candidate for a 17-18-credit minor that fulfills the State of Florida’s Professional Training Option (PTO) must select, at the point of application to candidacy, a minor area of study: Secondary English, Secondary Mathematics, Secondary Science, or Secondary Social Studies, Exceptional Student Education or other areas of recognized certification.

XI. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least six credits must be at the 300 level or above.

Note: Common prerequisites and total length for state-approved teacher education programs are subject to revision based on legislative and State of Florida Department of Education rule changes.

XII. Seniors are required to participate in the General Education Assessment prior to graduation as a part of the SACS review process.

TEACHER PREPARATION PROGRAM

One of the roles of the School of Education and Human Development is to serve as the professional school to conduct and coordinate programs for the preparation of teachers and other educational personnel at the University of Miami. Membership is held in the American
Association of Colleges for Teacher Education, the National Association of State Directors of Teacher Education & Certification and in the Florida Association of Colleges for Teacher Educators. Teacher Preparation Programs (TPP) are accredited by the Florida Department of Education for the preparation of elementary/exceptional student education teachers, secondary teachers, music teachers and other school service personnel.

**LICENSURE/CERTIFICATION INFORMATION**

Only students who have completed all requirements for any State approved degree or certificate program will have their transcripts stamped as meeting State approved requirements for certification as well as appropriate endorsements. Students must meet requirements of the School of Education and Human Development as well as the college or school issuing the second major. Evidence of successful completion of all twelve Florida Educator Accomplished Practices is required to receive the FLDOE stamp on the graduate’s final transcript.

Transcript stamp is contingent upon the student taking at least half of the coursework in teacher education at the University of Miami, including the Associate Teaching component. At least half of the coursework in the students teaching content area(s) must be taken at the University of Miami in the School of Education and Human Development, Frost School of Music, or other UM schools or colleges as determined by the program in which the student is enrolled.

For further information, address all inquiries to: Associate Dean; School of Education and Human Development; P.O. Box 248065; University of Miami; Coral Gables, Florida 33124; Telephone: (305) 284-3711

[Teaching and Learning Course Listing](#)
COLLEGE OF ENGINEERING - UNDERGRADUATE
www.miami.edu/engineering

MISSION

The College of Engineering is committed to educating tomorrow's technology leaders for career success.

The objective of the College of Engineering is to serve society by offering high quality educational programs in the professional areas that it covers, and by performing research and community service, with high professional standards. The College is dedicated to educating engineers to deal with the major issues of society over the next generation - enhancing competitiveness, advancing health care, coming into harmony with the environment, utilizing technology for humankind's benefit, and supporting a sophisticated infrastructure. The goal of the faculty is to prepare students to be employed effectively in manufacturing, consulting, construction, information technology, service industries, and those related to the medical industry and health care, in roles involving planning, design and implementation at all levels of decision making. Students are broadly prepared in technical, leadership, and management skills. Student development accrues both inside and outside the classroom, with input from faculty, employers, alumni, and other students. They are made acutely aware of environmental and international perspectives. Professional competence in the traditional sense is complemented by a broad capability to function in society. The College places great emphasis on providing students with a learning experience which will enable them to develop productive careers while creating engineering solutions to problems of our society. Learning is centered around real life experiences, which involve an understanding of science, mathematics, social values, and aesthetics, to produce economical solutions to physical problems which society encounters. Protection and enhancement of the environment is stressed at all levels, and emphasis is placed on the creative application of knowledge which will improve the quality of life.

DEPARTMENT AND PROGRAMS

The College of Engineering has five departments -
Biomedical Engineering, Civil, Architectural, and Environmental Engineering, Electrical and Computer Engineering, Industrial Engineering, and Mechanical and Aerospace Engineering -

offering curricula leading to Bachelor of Science degrees in the following fields: Aerospace Engineering, Architectural Engineering; Biomedical Engineering; Civil Engineering; Computer Engineering; Electrical Engineering; Engineering Science; Environmental Engineering; Industrial Engineering; and Mechanical Engineering.

Interdisciplinary areas of study, areas of specialization within departments, and study in two entirely different areas are available through options, concentrations and dual degree programs.
ACCREDITATION

The programs in Aerospace Engineering, Architectural Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700. The program in Engineering Science is not accredited.

The College offers graduate programs leading to degrees both in the traditional and interdisciplinary areas of study. Programs leading to the M.S. degree may include specialization in the following areas of study: Architectural Engineering, Biomedical Engineering, Civil Engineering, Electrical and Computer Engineering, Engineering Management, Environmental Engineering, Industrial Engineering, Mechanical Engineering, Medical Informatics, Structural Engineering, and Thermal and Fluid Sciences. A joint M.S.I.E./M.B.A. program and a M.S. program in Management of Technology are offered in conjunction with the School of Business Administration, a M.S. in Environmental Health and Safety in conjunction with the School of Medicine and a M.S. in Occupational Health and Safety in conjunction with the School of Medicine.

Combined BS/MS Program

The College offers a five-year Bachelor of Science and Master of Science BS/MS degree program in Architectural Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, and Mechanical Engineering. This program is specifically designed for those students who want to pursue their graduate study as they are completing their undergraduate study. The special conditions and processes for the five-year BS/MS Program are as follows:

Requirements:

You must be an undergraduate student in the College of Engineering (CoE). A master’s degree is considered the first professional degree in engineering. The Admission Committee will carefully review academic credentials for admission into our M.S. program. Students should discuss the program and possibility of entering with an academic advisor. Completed applications are due prior to the beginning of the final exams in your junior year.

Application Process:

Get the application form (It is different for US students and International students) from the CoE Office of Admission, fill it out and then return it to the same office. The application fee is waived for currently enrolled students in the CoE.

Take the GRE Examination before the end of your senior year and attain a combined score of more than 1000 on the Verbal and Quantitative portions.

Financial Implications:

Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree. For further information contact the University of Miami Financial Aid Office.
Once admitted into BS-MS program:

In your senior year when you have a fulltime undergraduate status, you may take a maximum of twelve (12) graduate credits (a maximum of six (6) credits per semester). In order to register for these classes, you must complete and submit the UM Graduate School "Application for Undergraduate to Take Graduate Course" special form.

During your last one or two semesters, when you are taking graduate course work only, register as a graduate student.

A student wishing to withdraw from the BS/MS Program without the MS degree must complete all the requirements for the BS degree.

To qualify for the MS degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA in the credits applied toward the MS degree.

The student is awarded both the BS and MS degrees at the end of the fifth year when all degree requirements are satisfied.

The Doctor of Philosophy Degree is currently offered in the area of Biomedical Engineering, Civil Engineering, Electrical and Computer Engineering, Ergonomics, Industrial Engineering, and Mechanical Engineering. The Ph.D. programs in Interdepartmental Graduate Studies permit, with approval of the Graduate Council, highly qualified students to pursue a privileged individualized program which cuts across disciplinary lines.

The Bulletin of the Graduate School presents more detailed information on these graduate programs.

The College is primarily housed in the J. Neville McArthur Building. Completed in 1959 and renovated in 1984, this attractive building is the gift of the late J. Neville McArthur, who was a member of the Board of Trustees and a prominent citizen and dairyman. The Engineering Annex is also a gift of the McArthur family. Students in the College of Engineering come from all parts of the United States and from many nations throughout the world, comprising one of the most diverse and cosmopolitan engineering student bodies in the country.

ENGINEERING LABORATORIES
The College of Engineering maintains a variety of well-equipped laboratories adequate for undergraduate instruction and providing for graduate and sponsored research.

COMPUTER LABORATORIES
Clarke Computational Laboratory
Computer Graphics Laboratory

BIOMEDICAL ENGINEERING LABORATORIES
Biomedical Design and Instrumentation Laboratory
Biomaterials/Circulatory Assist Device Laboratory
Biomedical Atomic Force Microscopy Laboratory
Biomedical Optics Laboratory
Diabetes Tissue Engineering Laboratory
Joint Bioengineering and Endourology Laboratory
Measurements Laboratory
Medical Imaging Laboratory
Neuroprosthetics Research Group
Neurosensory Engineering Laboratory
Stem Cell and Mechanobiology Laboratory
Tissue Biomechanics Laboratory
Tissue Engineering Laboratory

CIVIL, ARCHITECTURAL AND ENVIRONMENTAL ENGINEERING LABORATORIES
Geotechnical Engineering Laboratory
Structures and Materials Laboratory
Environmental Engineering Laboratory
Architectural Engineering Laboratory

ELECTRICAL AND COMPUTER ENGINEERING LABORATORIES
Electronics Laboratory
Wireless Communications Laboratory
Digital Signal Processing Laboratory
Electrical Machinery Laboratory
Digital Design Laboratory
Microprocessor Laboratory
Photonics and Micro-Devices Laboratory
Distributed Decision Environments Laboratory
Underwater Imaging Laboratory
Networks Laboratory
Embedded Systems Laboratory
Computer Vision and Image Processing Laboratory
Information Technology Laboratory
Multimedia Laboratory
Digital Audio and Speech Processing Laboratory
Optics and Fiber Communications Laboratory
ECE Computer Laboratory
Nanophotonics and Devices Laboratory
MEMS and VLSI Laboratory

INDUSTRIAL ENGINEERING LABORATORIES
Computer Integrated Manufacturing Laboratory
Industrial Hygiene Laboratory
Biomechanics and Gait Laboratory
Human Factors and Aging Research Laboratory
Productivity Research Laboratory
Work Design Laboratory
Work Physiology Laboratory
Systems and Operations Research Laboratory
Industrial Ventilation Laboratory
Robotics Laboratory

MECHANICAL AND AEROSPACE ENGINEERING LABORATORIES
Aerospace Materials Simulation Laboratory
Aerodynamics and Computational Fluid Dynamics Laboratory
Design and Manufacturing Laboratory
Fuel Cells Laboratory
Thermo-Fluid Mechanics Laboratory
Integrated Nano-Bio-Systems Laboratory
Internal Combustion Laboratory
Materials Laboratory
Materials Modeling Laboratory
Measurements Laboratory
Multifunctional Composite Materials Laboratory
Optimization and Reliability Laboratory
Robotics and Intelligent Systems Engineering Laboratory
Stress Analysis Laboratory
Tissue Biomechanics Laboratory
Wind Tunnel Laboratory

ACADEMIC POLICIES

ADMISSION

Admission to the College of Engineering is covered under the section on Admission to the University in the General Information section of this Bulletin. Algebra, trigonometry, analytic geometry, chemistry, computer literacy, and physics are high school subjects that are appropriate for students planning on entering the College.

The academic work of each transfer student will be evaluated on an individual basis, and the student will be enrolled in the College at an appropriate level.

REQUIREMENTS FOR GRADUATION

The College believes that emphasis should be placed on the student’s ultimate level of attainment in selected subject areas. For those students whose preparation is advanced beyond that of the average secondary school graduate, the University provides proficiency examinations and schedules the students for more advanced work. Graduation for these students may be accelerated. For those students whose secondary school preparation has not provided an adequate background, the University offers preparatory courses. Graduation for these students may be delayed accordingly.

The student’s program of study is selected jointly with an advisor, with special attention to the individual student’s needs. Flexibility is ordinarily possible within the framework of sound education in the essential fundamentals and within the development of depth in selected fields of design and analysis. An examination of a typical curriculum given under the various department sections of this Bulletin shows that there is a strong common core of studies. Therefore, students uncertain of their ultimate field of specialization retain a high degree of mobility to enable them to transfer from one curriculum to another.

Each student must demonstrate upon admission an adequate preparation in the necessary skills of reading, writing, and mathematics. Placement test scores will indicate which, if any, supplementary courses must be taken the first semester. Although these courses are recorded for University credit, the student must take the full curriculum, as listed, in addition to these courses. Students not prepared in these areas are advised to make every effort to correct deficiencies before the first semester.

Completion of any of the prescribed curricula, except Engineering Science, with an overall grade point average of at least 2.0 (C) in all course work, to include all accepted work from other institution(s), is the basic requirement for graduation in the College. An average of C
also must be attained in all work attempted at the University of Miami and the professional studies. The Engineering Science curriculum, because of its special purpose, has a higher requirement, i.e., a grade point average of 3.0 (B).

The requirements for graduation as specified by each Department and Program reflect the general education requirements of the University of Miami and the requirements of the appropriate accrediting agencies. The curricula contain required courses and elective courses. No course required for graduation may be taken under the credit-no credit (Credit-Only) option.

Students are expected to make satisfactory progress toward graduation by meeting the criteria established above. Whenever a student fails to demonstrate positive academic progress, he/she may be placed on academic probation or dismissed by the College of Engineering Scholastic Standards and Advising (SSA) Committee.

**General Educational Requirements**

**Areas of Knowledge**

Students at the College of Engineering fulfill the Areas of Knowledge requirement by completing three cognates, one from each of the three areas of the university curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics. For students in the College of Engineering, their engineering major will count as a cognate in Science, Technology, Engineering & Mathematics. These students have to complete a cognate in People & Society and Arts & Humanities.

A cognate is a group of at least three courses for at least nine credits, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate. While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students’ transcripts, thus certifying their depth of knowledge in those areas.

The university offers a large number and range of cognates. All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Enquiries regarding a cognate should be directed to the cognate's RAU.

To satisfy the University of Miami general education requirements on writing across the curriculum, at least six credits from the People and Society or Humanities and Arts cognate must be in writing sections (W) (note: all English and literature courses are considered writing courses). The remainder of the required writing is satisfied by writing within the engineering design and laboratory courses.
The student’s official records are maintained by the Office of Enrollment Services. It is the student’s obligation to take the initiative to assure that all requirements are being met in conformity with his/her own graduation plans.

DEGREE PROGRAMS

DUAL MAJORS
Dual majors are offered for engineering students with strong interest in related fields of study such as Physics or Mathematics. In order to obtain a dual major in one of these areas, the student will have to obtain, in parallel, a degree in one of the engineering programs, plus additional course work approved by the dual majors department. Further information on this dual major program may be obtained from the Dean’s Office of the College.

MINORS

Minors are offered by the College of Engineering. The departments of Civil, Architectural, and Environmental Engineering, Electrical and Computer Engineering, Industrial Engineering, and Mechanical Engineering offer minors with various areas of specialization. Details of each area of concentration and its requirements may be found under each departmental listing.

Engineering students can earn a minor offered by any other College/School within the University of Miami, including the College of Engineering. In cases where the major degree requirements satisfy some of the requirements for the minor, at least six credits beyond the major degree requirements must be taken in the minor subject area to earn a minor. Minors in Engineering require a minimum GPA of 2.0 in the courses required for the minor.

HONORS

Students who show both promise and superior performance may receive academic advantages, certain privileges, and recognition through admission to the Honors Program of the University. Please refer to the HONORS PROGRAMS section, which appears elsewhere in this Bulletin, for information on these programs.

FOOTE FELLOWS IN CoE
The Foote Fellows Program was established in honor of former President Edward T. Foote, II. The Foote Fellows Program is intended for students who enter the University with advanced knowledge in several disciplines, who demonstrate intellectual rigor and who are highly motivated thinkers and researchers. In the College of Engineering this program offers such students the opportunity to explore their academic interests without the strictures of the People and Society and Humanities and Arts cognates distribution requirements unless it is part of their engineering program as well as a broader choice of technical electives in their engineering program.

DEPARTMENTAL HONORS PROGRAM
A student in the College of Engineering may graduate with Departmental Honors noted upon his/her diploma and transcript upon fulfillment of the following requirements:
A. Completion of at least 18 credits of course work in honors courses and/or in courses at the 500 level, including 6 credits in independent study, senior thesis, or designated advanced or special honors courses specified by the department, with grades of at least B in these 6 credits.

B. Attainment of at least a 3.4 overall grade point average. Transfer students must also attain at least a 3.4 grade point average in all work taken at the University of Miami.

C. Attainment of at least a 3.5 average in the departmental major courses.

D. A written request from the student to the departmental faculty during his/her semester of expected graduation stating the desire to graduate with Departmental Honors, and specifying those courses taken in compliance with section (A) above.

CERTIFICATE PROGRAMS IN ENGINEERING
In cooperation with the University’s School of Continuing Studies, the College of Engineering offers practicing engineers advanced or specialized training without having to meet the stringent entrance requirements of the Graduate School. Persons holding Bachelor’s degrees, registered as Professional Engineers, or possessing equivalent qualifications can be granted Certificates of Proficiency by the University after completing fifteen semester-hours of course work in a specified field of engineering. Study programs are arranged on an individual basis by each student and his/her advisor. Detailed information on Certificate Programs can be requested from the Office of the Dean of Engineering.

THE INTERNSHIP COOPERATIVE PROGRAM
The Cooperative Program takes its name from the close cooperation that exists between the College and participating employers. This arrangement attempts to insure that each student’s academic and work experience will integrate and contribute significantly to his/her overall growth and professional development. Interviews and screening by both the employer and Cooperative Program personnel attempt to match the needs of the employer carefully with the interests and capability of the student.

ADVANTAGES TO THE STUDENT:
1. Offers on-the-job experience to supplement the academic degree program.

2. Offers potential long term career employment with the Cooperative Program employer.

3. The experience obtained makes the student, upon graduation, potentially much more valuable to any future employer. Upon completion of an appropriate amount and level of experience, graduation in the Cooperative Program may be recognized by a special seal on the student’s diploma.

4. Helps the student to verify whether or not his/her career or specialty choice is correct.

5. Tends to increase motivation and to make academic studies more meaningful.

6. Earnings from Cooperative Program employment can cover a significant portion of the student’s college expenses.

7. Certain work experience may shorten the experience requirements, after graduation, for eligibility for professional registration.
8. Helps to develop the students understanding of human relations and the lifelong need of learning to balance appropriately the demands on ones time of multiple duties such as studying, employment, daily necessities, family obligations, etc.

ADVANTAGES TO THE EMPLOYER:
1. Offers an opportunity to recruit and screen potential employees in the fields of engineering.

2. The Cooperative Program maintains an up-to-date roster of available undergraduate and graduate students, many with previous experience. This roster offers employers means of obtaining employees to meet fluctuating work loads, on relatively short notice.

3. Students in the Cooperative Program can provide good company public relations with their classmates.

4. Participation in a Cooperative Program serves the profession by providing opportunities for many capable and well deserving young persons to attend a University, who otherwise might lack the financial ability or motivation to attend.

TYPES OF COOPERATIVE PROGRAM ARRANGEMENTS

CONTINUOUS WORK-STUDY
An arrangement involving a combination of part-time employment (15 or more hours per week) and a credit hour academic load which is appropriately reduced from the normal full-time load to balance the employment duties. Full-time employment may be undertaken during the summer period. Two students may be used during the year to share the hours of a full-time position (20 hours each student). In some instances, an individual student will hold a full-time position and carry a light academic load in evening and/or early morning classes.

ALTERNATING WORK-STUDY
An arrangement involving two students alternating full-time employment and full-time study. Students alternate positions of work and study at the end of each semester (including the summer), and thereby provide the equivalent employee time of a full-time position year-round.

STUDENT ELIGIBILITY FOR THE PROGRAM
University of Miami students enrolled in the College of Engineering are eligible to enter the Cooperative Program. Initial entry into the Program is limited to superior students. Normally, work assignments are not given until the equivalent of one or two semesters of full-time academic work is completed. Currently, most students in the Program are under continuous work-study arrangements.

STUDY ABROAD PROGRAMS
The College of Engineering encourages its students to take advantage of one of the University of Miami’s numerous study abroad options in Latin America, Europe, Asia, Australia and the Middle East. Of particular interest to Engineering students are the following: internships (unpaid and paid) in Spain, England, France, Argentina, Colombia, Chile, and Australia in which professional work experience is carried out abroad; course work at Engineering schools abroad for a semester or an academic year; summer programs in intensive Language instruction, Humanities and Social Sciences abroad. The cost of attending these programs is equivalent to University of Miami tuition and fees. Almost all
University of Miami financial aid is granted. With prior approval and detailed curriculum advice, courses taken abroad will apply towards graduation.

THE MANAGEMENT OF TECHNOLOGY SUPPLEMENTAL PROGRAM
The objective of this program is to educate engineers in how to exploit their technological knowledge. This is a vital, but often neglected, link in achieving competitiveness in the global marketplace. The basic premise motivating this approach is the recognition that in today’s world, technology is the backbone of the business enterprise system and that wealth can only be created through production of goods and services. This program will educate engineers in a multitude of subjects bridging the gap between product technology, production technology and the marketplace, which is the ultimate customer of engineering contributions.

The program consists of four courses:
1. Quality in Design of Products and Production Systems
2. Entrepreneurship for Engineers
3. Production Systems Design

A project is required at the end of the program, but is threaded throughout the program starting with the first course. Upon completion of the program, the student will receive a special certificate of completion. This program is available to all qualified students in all departments of the College of Engineering.

Admission to the Program
Admission to this supplemental program will be by application submitted by the candidate or by nomination by an advisor or department chair. All applications will be reviewed by a standing committee. Students must meet the prerequisite of each course before enrolling in it.

Requirements for the Certificate
The program is an add-on to existing curriculum. Students must complete all courses designated in order to qualify for the certificate. A notation will be made on the student’s transcript recognizing their completion of the special program. No designation will be made on the diploma.

Course Sequence
Courses are recommended to be taken in the sequence indicated above.

Team Work
Students will be encouraged to work on projects in teams. Multidisciplinary teams will also be encouraged.
INTRODUCTION

Biomedical engineering is a multidisciplinary field at the interface of traditional engineering disciplines and biological sciences. Biomedical engineers apply engineering principles and techniques to solve problems in medicine and biology. Applications include the design of medical devices, implants and prostheses, the development of new biomaterials or drug delivery systems, cellular or tissue engineering, medical applications of optics and lasers, or the acquisition and interpretation of physiological signals and medical images for diagnostic and monitoring purposes. Biomedical engineering has an impact on virtually all fields of medicine.

The Department of Biomedical Engineering at the University of Miami was formally established in 1979 as a graduate program. The four-year undergraduate program leading to the B.S degree in BME was created approximately ten years later to address the growing importance of the field and the need for professional biomedical engineers. The undergraduate BME program at the University of Miami was the first of its kind in Florida, with the first class of B.S.B.E. students graduating in 1993. It has been Accredited by the Accreditation Commission (EAC) of the Accreditation Board of Engineering and Technology (ABET) since 1997. The Department of Biomedical Engineering also offers graduate courses leading to the Master of Science and Doctor of Philosophy degrees. In addition, qualified undergraduate students may apply for the combined BS/MS program (details are provided following the curricula for the BS degrees).

Graduates of the biomedical engineering undergraduate program find employment in industry or continue their studies either in graduate school or in a professional school in medicine and other health-related disciplines (such as dentistry, optometry, orthotics), law or business.

Some special features of the program include the small class size and open-door policy of the faculty, which facilitates student-faculty interaction. The Department has very strong ties with the University of Miami Miller School of Medicine. Undergraduate students have a wide range of research and internship opportunities in some of the leading research laboratories in their respective field. The Department strongly encourages undergraduate student participation in research and professional activities.
MISSION STATEMENT

The mission of the biomedical engineering program is to prepare students to become skilled engineers with an understanding of the ethical and other professional aspects of biomedical engineering. Design skills and an ability to work both independently and as part of a team are emphasized.

EDUCATIONAL OBJECTIVES

The educational objectives of the biomedical engineering program at the University of Miami are to graduate engineers who:
1. have a sound background in the fundamentals of engineering, physical and life sciences, and are prepared to solve problems at the interface of engineering and life sciences.
2. have mastered the skills and knowledge expected by the biomedical industry.
3. are prepared to enter graduate and professional degree programs, as well as other careers.

PROGRAM DESCRIPTION

Curriculum: The three educational objectives of the Biomedical Engineering program are achieved via the implementation of a curriculum with four parallel concentrations which include a common core and concentration-specific courses. The core curriculum is designed to provide a broad foundation in the basic sciences and in engineering. Concentration-specific courses provide the depth required to be proficient engineers.

The four concentrations are Electrical (E), Mechanical (M), Biomaterials and Tissue (B) and Premedical (P). The Premed concentration satisfies the requirements for admission to medical school and provides depth in the area of biomaterials and tissue engineering. The curriculum is designed to provide all graduates with the analytical and design skills required to formulate and solve problems at the interface of engineering and life sciences. Outstanding students are prepared for graduate studies or medical school.

Required courses in the humanities and social sciences provide students with an awareness of social, ethical and environmental issues related to their profession. The curriculum has been carefully designed with the prerequisite structure in mind so that students have to draw from previously acquired knowledge to complete the upper level course requirements successfully. The curriculum includes two or three technical electives selected by the student based on their individual professional interests.

The curriculum places a special emphasis on written and oral communication skills. Many of the Biomedical Engineering courses, as well as the capstone design project, include a requirement for a written term paper and oral presentation on a course-related topic related to the class.

Design experience: The biomedical engineering design experience is integrated in the curriculum throughout the four years of study, starting in the freshman year with the Introduction to Biomedical Engineering course. Each semester includes classroom or laboratory courses which place a heavy emphasis on theoretical and practical biomedical
engineering design concepts. The design experience culminates in the senior year with a year-long capstone Senior Design Project. The Senior Design Project is typically completed by teams of two to four students who build on their knowledge and previous design experience to solve one major design problem which integrates the various components of the curriculum. The senior project starts in the second semester of the junior year with a 1-credit course which covers the basic principles of biomedical engineering design.

The curriculum includes a Technical Entrepreneurship course which can serve as an alternative to the Senior Design Project. The students form entrepreneurial teams of 4 to 6 members to design and develop new products, including a business or commercialization plan. This course was established with a grant from the National Collegiate Innovators and Inventors Alliance (NCIIA) in 1999 and it is currently supported by additional grants from NCIIA.

Teaching and design laboratories: Biomedical Engineering students have open access to several teaching laboratories which are used for the laboratory courses and design projects. The laboratory equipment and instructional modules are geared towards instruction in the areas of tissue mechanics, instrumentation, measurements, biomedical optics, physiological signals, among others.

Undergraduate research and internships: Biomedical Engineering students are strongly encouraged to gain research or professional experience through internships. Many undergraduate students conduct research in laboratories at the Department of Biomedical Engineering and at the School of Medicine, or are hired as interns by the local biomedical industry.

DEGREE PROGRAMS

The department offers one degree program with four concentrations: Electrical, Mechanical, Biomaterials and Tissue, and Premed. The Premed Concentration prepares graduates for admission to medical school and provides depth in the area of biomaterials and tissue engineering. A list of the core science and engineering courses common to all four concentrations is provided below, followed by a tabular listing of the course requirements for the degree Bachelor of Science in Biomedical Engineering for each concentration.
BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING

Core curriculum (Courses common to all 4 concentrations)

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<tr>
<th>COMMON CORE - MATHEMATICS AND SCIENCE</th>
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<tbody>
<tr>
<td>MTH 151 Calculus I for Engineers</td>
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<tr>
<td>MTH 162 Calculus II</td>
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<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>3</td>
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<tr>
<td>BIL 150 General Biology</td>
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<td>BIL 151 General Biology Laboratory</td>
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<tr>
<td>CHM 111 Principles of Chemistry I</td>
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<tr>
<td>CHM 112 Principles of Chemistry II</td>
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<td>CHM 114 Chemistry Laboratory II</td>
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<td>PHY 209 University Physics III Lab</td>
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<td><strong>TOTAL COMMON CREDITS</strong></td>
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<th>COMMON CORE - ENGINEERING</th>
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<td>BME 112 Introduction to Engineering II</td>
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<tr>
<td>BME 265 Medical Systems Physiology</td>
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<tr>
<td>BME 310 Mathematical Analysis in Biomedical Engineering</td>
<td>3</td>
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<tr>
<td>BME 311 Matlab for Biomedical Engineers</td>
<td>1</td>
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<tr>
<td>BME 330 Foundations of Medical Imaging</td>
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<td>BME 335 Biomaterials</td>
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<td>BME 375 Fundamentals of Biomechanics</td>
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<td>BME 440 Biomedical Measurements</td>
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<td>BME 450 Biomedical Transport Phenomena</td>
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<td>EEN 201 Electrical Circuit Theory</td>
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# BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
Electrical Concentration (133 credits)

## FRESHMAN YEAR

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<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>BME 111 Introduction to Engineering I</td>
<td>BME 112 Introduction to Engineering II</td>
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<tr>
<td>ENG 105 English Composition I</td>
<td>CHM 111 Principles of Chemistry I</td>
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<td>MTH 151 Calculus I for Engineers</td>
<td>ENG 107 Writing about Science</td>
</tr>
<tr>
<td>PHY 205 University Physics I</td>
<td>MTH 162 Calculus II</td>
</tr>
<tr>
<td>People and Society Cognate (P&amp;S Elective)*</td>
<td>PHY 206 University Physics II</td>
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<td>PHY 208 University Physics II Lab</td>
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## SOPHOMORE YEAR

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<tbody>
<tr>
<td>BIL 150 General Biology</td>
<td>BME 265 Medical Systems Physiology</td>
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<td>BME 310 Mathematical Analysis in BME</td>
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<td>EEN 204 Electrical Circuits Laboratory</td>
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<tr>
<td>EEN 201 Electrical Circuit Theory</td>
<td>IEN 311 Applied Probability &amp; Statistics</td>
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<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>PHY 209 University Physics III Lab</td>
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<td>PHY 207 University Physics III</td>
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## JUNIOR YEAR

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<tr>
<th>Fall Semester</th>
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<tbody>
<tr>
<td>BME 311 Matlab for Biomedical Engineers</td>
<td>BME 330 Foundations of Medical Imaging</td>
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<tr>
<td>BME 375 Fundamentals of Biomechanics</td>
<td>BME 335 Biomaterials</td>
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<td>EEN 315 Digital Design Laboratory</td>
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## SENIOR YEAR

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<td>BME 540 Computer Based medical Instrumentation</td>
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<td>BME 480 Biomedical Instrumentation</td>
<td>BME 541 Medical Electronics Systems Laboratory</td>
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<td>BME 507 LabView Applications for Biomedical Engineering</td>
<td>BME 570 Biomedical Signal Processing</td>
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*** Technical Elective Labs are selected from BME506, BME566 or BME395.
# BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
## Mechanical Concentration (133 credits)

### FRESHMAN YEAR

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<td>BME 575</td>
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# BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING

Biomaterials and Tissue Concentration (133 credits)

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<th>FRESHMAN YEAR</th>
<th>Spring Semester</th>
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<td>BME 111 Introduction to Engineering I</td>
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<td>ENG 105 English Composition I</td>
<td>CHM 111 Principles of Chemistry I</td>
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<td>MTH 151 Calculus I for Engineers</td>
<td>CHM 113 Chemistry Laboratory I</td>
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<td>PHY 205 University Physics I</td>
<td>ENG 107 Writing about Science</td>
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<td>People and Society Cognate (P&amp;S Elective)*</td>
<td>MTH 162 Calculus II</td>
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**SOPHOMORE YEAR**

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<td>BME 440 Biomedical Measurements</td>
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<td>CHM 201 Organic Chemistry I (Lecture)</td>
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<td>CHM 202 Organic Chemistry II (Lecture)</td>
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<td>People and Society Cognate (P&amp;S Elective)*</td>
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BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
Premed Concentration (133 credits)

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<td>PHY 206 University Physics II</td>
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<td>FALL SEMESTER</td>
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<td>BIL 150 General Biology</td>
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** Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

*** Advanced Bioscience Elective is to be chosen from BMB260, BIL250, BIL255, BIL268,MIC301, CHM202, or BMB402. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both

**** Technical or Science Elective Lab is selected from BME506, BME507, BME566 or BME395 or from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).

***** Technical Elective Lab is selected from BME506, BME507, BME566 or BME395.
BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
(Any of the three Concentrations) AND
MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

- Juniors from any of the three BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credits to meet the requirements of the Graduate School.
- The participants are excused from BME 402/403 Senior Design II and III, but are required to complete BME 605/606 Master Design Project I and II.
- Up to twelve credits of Technical electives earned during the fourth year are counted toward the 30 credits required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credits per semester in their senior year.
- Students can register for a maximum of 6 graduate credits per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for all four concentrations.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.
## BS/MS IN BIOMEDICAL ENGINEERING
### Electrical Concentration

### FRESHMAN YEAR

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<td>ENG 105 English Composition I</td>
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<td>Spring</td>
<td>BME 112 Introduction to Engineering II</td>
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### SOPHOMORE YEAR

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<td>BME 310 Mathematical Analysis in BME</td>
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<td>EEN 118 Introduction to Programming</td>
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### JUNIOR YEAR

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<tr>
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<td>BME 375 Fundamentals of Biomechanics</td>
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<td>EEN 304 Logic Design</td>
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<td>BME 330 Foundations of Medical Imaging</td>
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### SENIOR YEAR

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<td>BME 480 Biomedical Instrumentation</td>
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<td>BME 540 Computer Based medical Instrumentation</td>
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### FIFTH YEAR (GRADUATE)

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<td>Technical Elective (600 level)***</td>
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* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

** Technical Elective Labs are selected from BME506, BME566 or BME395.

*** All Technical Electives are taken as graduate courses. They are graduate-level courses (500 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credits of technical electives must be taken at the 600 level. Non-BME courses need to be approved by the advisor and the chairperson.

**** The undergraduate elective is any undergraduate level course with a number of credits sufficient to ensure that the student is enrolled for a total of 12 undergraduate credits during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.
# BS/MS in Biomedical Engineering
## Mechanical Concentration

### Freshman Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>BME 111 Introduction to Engineering I</td>
<td>BME 112 Introduction to Engineering II</td>
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<td>ENG 105 English Composition I</td>
<td>CHM 111 Principles of Chemistry I</td>
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<td>MTH 151 Calculus I for Engineers</td>
<td>MTH 162 Calculus II</td>
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<td>PHY 206 University Physics II</td>
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<td>PHY 208 University Physics II Lab</td>
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### Sophomore Year

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<tr>
<td>BIL 150 General Biology</td>
<td>BME 265 Medical Systems Physiology</td>
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<td>BIL 151 General Biology Laboratory</td>
<td>BME 310 Mathematical Analysis in BME</td>
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<tr>
<td>CHM 112 Principles of Chemistry II</td>
<td>CAE 210 Mechanics of Solids I</td>
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<td>EEN 118 Introduction to Programming</td>
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<td>EEN 201 Electrical Circuit Theory</td>
<td>EEN 204 Electrical Circuits Laboratory</td>
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<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>PHY 209 University Physics III Lab</td>
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<td>PHY 207 University Physics III</td>
<td>Humanities and Arts Cognate (H&amp;A Elective)*</td>
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### Junior Year

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<tr>
<td>BME 311 Matlab for Biomedical Engineers</td>
<td>BME 335 Biomaterials</td>
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<tr>
<td>BME 330 Foundations of Medical Imaging</td>
<td>BME 401 Senior Project I</td>
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<tr>
<td>BME 375 Fundamentals of Biomechanics</td>
<td>BME 440 Biomedical Measurements</td>
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<td>BME 470 Biomedical Signal Analysis</td>
<td>BME 450 Biomedical Transport Phenomena</td>
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<td>MAE 202 Dynamics</td>
<td>IEN 311 Applied Probability &amp; Statistics</td>
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<td>Humanities and Arts Cognate (H&amp;A Elective)*</td>
<td>People and Society Cognate (P&amp;S Elective)*</td>
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### Senior Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tr>
<td>BME 480 Biomedical Instrumentation</td>
<td>BME 460 Physiological fluid mechanics</td>
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<tr>
<td>BME 506 Computer-Aided Design for Biomedical</td>
<td>BME 587 Finite Element Analysis for Engineers</td>
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<td>BME 575 Tissue Mechanics</td>
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### Fifth Year (Graduate)

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* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

** Technical Elective Labs are selected from BME506, BME566 or BME395.

*** All Technical Electives are taken as graduate courses. They are graduate-level courses (500 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credits of technical electives must be taken at the 600 level. Non-BME courses need to be approved by the advisor and the chairperson.

**** The undergraduate elective is any undergraduate level course with a number of credits sufficient to ensure that the student is enrolled for a total of 12 undergraduate credits during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.
## BS/MS IN BIOMEDICAL ENGINEERING
Biomaterials and Tissue Concentration

### FRESHMAN YEAR

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<tr>
<td>BME 111 Introduction to Engineering I</td>
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<td>ENG 105 English Composition I</td>
<td>CHM 111 Principles of Chemistry I</td>
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<td>MTH 151 Calculus I for Engineers</td>
<td>CHM 113 Chemistry Laboratory I</td>
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<tr>
<td>PHY 205 University Physics I</td>
<td>ENG 107 Writing about Science</td>
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<tr>
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<td>MTH 162 Calculus II</td>
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| Freshman Year Total: 17 Credits       |                                       |

### SOPHOMORE YEAR

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<td>BME 302 Cellular Engineering</td>
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<td>BIL 151 General Biology Laboratory</td>
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<td>BME 310 Mathematical Analysis in BME</td>
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<td>EEN 118 Introduction to Programming</td>
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<td>EEN 204 Electrical Circuits Laboratory</td>
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<td>MTH 311 Ordinary Differential Equations</td>
<td>PHY 209 University Physics Lab III</td>
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<td>PHY 207 University Physics III</td>
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| Sophomore Year Total: 17 Credits      |                                       |

### JUNIOR YEAR

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<tbody>
<tr>
<td>BME 311 Matlab for Biomedical Engineers</td>
<td>BME 375 Fundamentals of Biomechanics</td>
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<tr>
<td>BME 330 Foundations of Medical Imaging</td>
<td>BME 401 Senior Project I</td>
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<tr>
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<td>BME 440 Biomedical Measurements</td>
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| Junior Year Total: 17 Credits         |                                       |

### SENIOR YEAR

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<tbody>
<tr>
<td>BME 450 Biomedical Transport Phenomena</td>
<td>BME 480 Biomedical Instrumentation</td>
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<td>BME 565 Tissue Engineering</td>
<td>BME 535 Advanced Biomaterials</td>
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| Senior Year Total: 15 Credits         |                                       |

### FIFTH YEAR (GRADUATE)

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<tbody>
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| Fifth Year Total: 9 Credits           |                                       |

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### BS/MS IN BIOMEDICAL ENGINEERING
#### Premed Concentration

<table>
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<th>FRESHMAN YEAR</th>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
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<td><strong>Spring Semester</strong></td>
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<td>CHM 113 Chemistry Laboratory I</td>
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<td>EEN 118 Introduction to Programming</td>
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<tr>
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<td>BME 440 Biomedical Measurements</td>
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<td>BME 470 Biomedical Signal Analysis</td>
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* Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits). Students in the Premed Concentration are highly encouraged to choose cognates that include PSY101 and SOC 101.

** Advanced Bioscience Elective is to be chosen from BMB260, BIL250, BIL255, BIL268,MIC301, CHM202, or BMB402. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both

*** Technical or Science Elective Lab is selected from BME506, BME507, BME566 or BME395 or from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).

**** Technical Elective Lab is selected from BME506, BME507, BME566 or BME395.

***** All Technical Electives are taken as graduate courses. They are graduate-level courses (500 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credits of technical electives must be taken at the 600 level. Non-BME courses need to be approved by the advisor and the chairperson.
***** The undergraduate elective is any undergraduate level course with a number of credits sufficient to ensure that the student is enrolled for a total of 12 undergraduate credits during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.
DUAL MAJOR

The College of Engineering offers a dual major in Biomedical Engineering for students that are majoring in another engineering Department. In order to obtain the dual major in Biomedical Engineering, the student will have to obtain, in parallel, a major in one of the fundamental engineering programs, plus 24 credit-hours of course work, including 18 credits of required course work and 6 credits of elective course work from the lists given below. Of this total of 24 credits, at least 12 have to be at the level of 400 and above.

The required courses for the dual major are:

- BME265, Medical Systems Physiology 3 credits
- BME 335. Biomaterials I 3 credits
- BME 375. Foundations of Biomechanics 3 credits
- BME 440. Biomedical Measurements 4 credits
- BME 470, Biomedical Signal Analysis 3 credits
- BME 480. Biomedical Instrumentation 3 credits

The electives are to be chosen from the BME course list.

DEPARTMENTAL HONORS

Upon request departmental honor is noted in a student’s diploma and transcript upon fulfillment of the requirements specified in the College Bulletin.
MISSION STATEMENT

The mission of the Department of Civil, Architectural, and Environmental Engineering is to:

- Provide high-quality undergraduate and graduate education in civil, architectural, and environmental engineering that will prepare graduates for professional careers and a lifetime of learning
- Conduct high-quality research that will advance the body of knowledge and improve the quality of human life
- Serve the engineering profession and society through active involvement in professional organizations and contribution of professional expertise

The department offers three undergraduate degrees: Bachelor of Science in Civil Engineering, Bachelor of Science in Architectural Engineering and Bachelor of Science in Environmental Engineering.

CIVIL ENGINEERING
Civil engineers are leaders in the planning, design, construction, and operation of systems that are essential to modern life. These systems include: buildings, highways, airports, pipelines, bridges, dams, irrigation systems, drainage systems, water-supply and distribution systems, and wastewater collection and treatment works. Civil engineers are employed by government agencies, public utility companies, private consulting firms, construction companies, architectural firms, and universities.

ARCHITECTURAL ENGINEERING
Architectural engineers are leaders in the planning, design, construction, and operation of engineered systems for commercial, industrial, and institutional buildings and other facilities. These engineered systems include electrical, communications and control, lighting, heating, ventilating, air conditioning, fire protection, plumbing, acoustic, and structural components. Architectural engineers are employed by consulting firms, construction companies, facility management companies, HVAC equipment manufacturers, architectural firms, government agencies, and universities.

ENVIRONMENTAL ENGINEERING
Environmental engineers are leaders in the application of engineering principles to improve and maintain the environment for the protection of human health, for the protection of nature’s beneficial ecosystems, and for environment-related enhancement of the quality of human life. Environmental engineers are employed by government agencies, consulting firms, and universities.
EDUCATIONAL OBJECTIVES

The objectives of the Civil Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to civil engineering or
2. Pursuing a graduate or professional degree.

The objectives of the Architectural Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to architectural engineering or
2. Pursuing a graduate or professional degree.

The objectives of the Environmental Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to the water environment or
2. Pursuing a graduate or professional degree.

DEGREE PROGRAMS

Civil Engineering Curriculum

The Civil Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and civil engineering design. The first two years of the Civil Engineering curriculum provide a strong foundation in mathematics, basic sciences, and engineering sciences. During the next two years of the four-year program, the Civil Engineering curriculum integrates engineering sciences with design applications in the areas of structural, environmental, geotechnical, and water resources engineering. The curriculum culminates with a major senior-level design project that includes design applications from the major specialty areas of civil engineering.

Graduate study is offered leading to the degrees of Master of Science and Doctor of Philosophy in Civil Engineering. For detailed information on graduate studies, see the Graduate Studies Bulletin.

A tabular listing of the course requirements for the degree of Bachelor of Science in Civil Engineering is shown on the following page.
## Civil Engineering

### Freshman Year:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CAE 111</td>
<td>Introduction to Engineering I</td>
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<td>ENG 105</td>
<td>English Composition I</td>
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</tr>
<tr>
<td>MTH 151</td>
<td>Calculus I for Engineers</td>
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</tr>
<tr>
<td>PHY 205</td>
<td>University Physics I</td>
<td>3</td>
</tr>
<tr>
<td>CAE 112</td>
<td>Introduction to Engineering II</td>
<td>2</td>
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<td>ENG 107</td>
<td>Writing About Science</td>
<td>3</td>
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<tr>
<td>MTH 162</td>
<td>Calculus II</td>
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<tr>
<td>PHY 206</td>
<td>University Physics II</td>
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<tr>
<td>PHY 208</td>
<td>University Physics II Lab</td>
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<td>CAE 210</td>
<td>Mechanics of Solids I</td>
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### Sophomore Year:

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<tbody>
<tr>
<td>CAE 211</td>
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<tr>
<td>CAE 212</td>
<td>Structural Laboratory</td>
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<tr>
<td>IEN 311</td>
<td>Applied Probability and Statistics</td>
<td>3</td>
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<tr>
<td>PHY 207</td>
<td>University Physics III</td>
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<td>PHY 209</td>
<td>University Physics III Lab</td>
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<td>MTH 211</td>
<td>Calculus III</td>
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<tr>
<td>CAE 310</td>
<td>Structural Analysis</td>
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<td>MTH 311</td>
<td>Ordinary Differential Equations</td>
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<td>CHM 151</td>
<td>Chemistry for Engineers</td>
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<td>CHM 153</td>
<td>Chemistry Lab for Engineers</td>
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### Junior Year:

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<tr>
<td>CAE 330</td>
<td>Fluid Mechanics</td>
<td>3</td>
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<tr>
<td>CAE 340</td>
<td>Intro to Environmental Engineering</td>
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<tr>
<td>CAE 350</td>
<td>Transportation Engineering I</td>
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<tr>
<td>MAE 303</td>
<td>Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>MAE 311</td>
<td>Steel Structures</td>
<td>3</td>
</tr>
<tr>
<td>CAE 370</td>
<td>Geotechnical Engineering I</td>
<td>3</td>
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<td>CAE 371</td>
<td>Geotechnical Laboratory</td>
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<td>CAE 430</td>
<td>Water-Resources Engineering I</td>
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<td>CAE 440</td>
<td>Water Quality Control Systems</td>
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### Senior Year:

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<td>CAE 403</td>
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<td>CAE 470</td>
<td>Foundations &amp; Earth Retaining Sys.</td>
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<td>CAE 530</td>
<td>Water Resources Engineering II</td>
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<td>CAE 402</td>
<td>Professional Engineering Practice</td>
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<td>CAE 404</td>
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<td>CAE 405</td>
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$^5$Only offered once a year; $^{55}$CAE 520 or CAE 521

*To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates), Technical, Design, and Basic Science electives. Students take a minimum of 3 courses (9 credits) in HA cognate and 3 courses in PS Cognate (9 credits)

## Architectural Engineering Curriculum

The Architectural Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and architectural engineering design. The Architectural Engineering program integrates design applications across the curriculum, beginning with building construction and architectural design in the sophomore year, and continuing with structural, building mechanical and electrical systems design, and construction management in the junior and senior years. The curriculum culminates with a major comprehensive design experience that includes applications from the major specialty areas of architectural engineering.

Graduate study is offered leading to the degree of Master of Science in Architectural Engineering. For detailed information on graduate studies, see the Graduate Studies Bulletin.

A tabular listing of the course requirements for the degree of Bachelor of Science in Architectural Engineering is shown on the following page.

---

### Architectural Engineering Curriculum (Continued)

Graduate study is offered leading to the degree of Master of Science in Architectural Engineering. For detailed information on graduate studies, see the Graduate Studies Bulletin.

A tabular listing of the course requirements for the degree of Bachelor of Science in Architectural Engineering is shown on the following page.

---

348
### Architectural Engineering

#### Freshman Year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<td>CAE 111</td>
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<td>CAE 210</td>
<td>Mechanics of Solids I</td>
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#### Sophomore Year:

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<tbody>
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<td>ARC 294*</td>
<td>Intro. to Develop. of Architecture</td>
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<td>PHY 207</td>
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<td>PHY 209</td>
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<td>IEN 311</td>
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**Total** 17

#### Junior Year:

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<td>MAE 303</td>
<td>Thermodynamics I</td>
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<td>CAE 321*</td>
<td>Steel Structures</td>
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<td>CAE 370*</td>
<td>Geotechnical Engineering I</td>
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<td>CAE 371*</td>
<td>Geotechnical Laboratory</td>
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<td>CAE 380*</td>
<td>Electrical &amp; Illum. Sys for Bldgs.</td>
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<tr>
<td>CAE 381*</td>
<td>Fundamentals of HVAC</td>
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<td>MTH 517</td>
<td>Energy Eff. Bldg. Design</td>
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<tr>
<td>ARC 517*</td>
<td>Arch Methods (ARC 517 or 594) (HA Cognate) (HA Elective*)</td>
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**Total** 18

#### Senior Year:

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>CAE 403*</td>
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<tr>
<td>CAE 470*</td>
<td>Found. Eng. &amp; Earth Retaining Sys</td>
<td>3</td>
</tr>
<tr>
<td>CAE 480*</td>
<td>Plumbing &amp; Fire Safety</td>
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</tr>
<tr>
<td>CAE 481*</td>
<td>HVAC Systems</td>
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<td>CAE 482</td>
<td>Professional Engineering Practice</td>
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<td>CAE 460*</td>
<td>Construction Management</td>
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<td>PS Cognate (Adv. PS Elective*)</td>
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**Total** 16

### Environmental Engineering Curriculum

The Environmental Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and environmental engineering design. The first two years of the Environmental Engineering curriculum provide a strong foundation in mathematics, basic sciences, and engineering sciences. The next two years of the four-year program, integrate engineering sciences with design applications with particular emphasis in the areas of water and wastewater engineering.

Design courses emphasize an integrated approach that considers all environmental media in the prevention and control of environmental problems. The curriculum culminates with a major senior-level design project that includes design applications from the major specialty
areas of environmental engineering. A tabular listing of the course requirements for the degree of Bachelor of Science in Environmental Engineering is shown below:

### Environmental Engineering

#### Freshman Year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAE 111 Introduction to Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 151 Calculus I for Engineers</td>
<td>5</td>
</tr>
<tr>
<td>PHY 205 University Physics I</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Sophomore Year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAE 210 Mechanics of Solids I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 209 University Physics III Lab</td>
<td>1</td>
</tr>
<tr>
<td>CHM 111 Principles of Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHM 113 Chemistry Laboratory I</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Junior Year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAE 330 Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>MAE 303 Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>MSC 111 Introduction to Marine Science</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Senior Year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Eng. Course^5</td>
<td>3</td>
</tr>
<tr>
<td>CAE 402 Professional Engineering Practice</td>
<td>3</td>
</tr>
<tr>
<td>RSMAS Course</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: students must select the RSMAS course from the list of required (non-elective) courses in either the Ocean Engineering Track or the Marine Policy Track. A minor in Marine Science will be awarded for 15 credits of MSC, AMP or other RSMAS courses provided these include MSC 111, MSC 301 and at least 6 credits at the 300 level or higher. Required courses in the track count towards the 6 credits at the 300 level or higher.

#### RSMAS Track 1: Ocean Engineering

- MSC 403 (Introduction to Ocean Engineering)
- AMP 509 (Coastal Physics & Engineering)

One 3-credit elective that can be any MSC course or any RSMAS 500-level course

#### RSMAS Track 2: Marine Policy

- MSC340 (Ocean Policy); MSC313 (Coastal Law); MSC314 (Ocean Law)
  *These courses fulfill the requirements of People and Society electives for General Education
DUAL-DEGREE PROGRAM
A six-year dual degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Science in Architecture is available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion of this program, graduates are eligible for professional registration as both an engineer and an architect. The course requirements for the BSAE/MArch program are:

**Bachelor of Science in Architectural Engineering and Master of Architecture**

key: BSAE Curriculum, M. Arch Curriculum, & Shared BSAE/M. Arch Curriculum

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Summer (REQUIRED 10 week semester)</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAE 111 Introduction to Engineering I</td>
<td>CAE 112 Introduction to Engineering II</td>
<td>CAE 310 Structural Analysis</td>
<td>ARC 503 Architecture Design III</td>
<td>CAE 480 Plumbing &amp; Fire Safety</td>
<td>CAE 403 Senior Design Project I</td>
<td>ARC 652 Management of Professional Practice</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>ENG 210 Mechanics of Solids I</td>
<td>CHM 151 Chemistry for Engineers I</td>
<td>CAE 370 Geotechnical Engineering I</td>
<td>History of Arch. (ARC 268 or 476)</td>
<td>CAE 371 Geotechnical Laboratory I</td>
<td>CAE 581* Energy Ef. Bldg. Design</td>
</tr>
<tr>
<td>MTH 151 Calculus I for Engineers</td>
<td>MTH 162 Calculus II</td>
<td>CHM 153 Chemistry Lab for Engineers I</td>
<td>CAE 402 Professional Engineering Practice</td>
<td>ARC 504 Architecture Design IV (Comprehensive)</td>
<td>ARC 460 Construction Management (Arch Elective)</td>
<td>Architecture Elective</td>
</tr>
<tr>
<td>PHY 205 University Physics I</td>
<td>PHY 206 University Physics II</td>
<td>MTH 311 Ordinary Differential Equations</td>
<td>ARC 501 Architecture Design I (ARC 292)</td>
<td>Technical Elective*</td>
<td>ARC 531 Building Tech II</td>
<td>ARC 609 Architecture Design</td>
</tr>
<tr>
<td>ARC 121 Architecture &amp; Culture</td>
<td>PHY 208 University Physics II Lab</td>
<td>MAE 303 Thermodynamics I</td>
<td>ARC 511 Drawing I</td>
<td>ARC 513 Computing I</td>
<td>ARC 658 Architecture History II</td>
<td>PS Cognate* (Adv. PS Elective*)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHM 204 Physical Chemistry</td>
<td>ARC 381 Fundamentals of HVAC (ARC 562)</td>
<td>CAE 517 Construction Documents</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total 17</td>
<td>Total 16</td>
<td>Total 16</td>
<td>Total 18</td>
<td>Total 16</td>
<td>Total 17</td>
<td>Total 12</td>
</tr>
</tbody>
</table>
* To be selected from approved lists of P/S (or applicable cognates) and Technical Electives. Students take a minimum of 3 courses (9 credits) in HA cognate and 3 courses in PS Cognate (9 credits). Students have to select an HA Cognate that includes this class. This class is a required class for the completion of the degree.

The Department also offers 5-year programs leading to the B.S. and the M.S. degrees. These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and score more than 1000 (310 new scale) on the Graduate Record Examination. The course requirements for any of the five-year BS/MS programs can be met as follows:

**Senior Year:**
1) Take PS or HA Cognate course in freshman semester;
2) Delete CAE 403; and
3) Add the following courses as G.:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAE 603* Master Design Project I</td>
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</tr>
<tr>
<td>Graduate Level Course</td>
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<tr>
<td>Total</td>
<td>12</td>
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</tbody>
</table>

**Graduate Year:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Level Course</td>
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</tr>
<tr>
<td>Graduate Level Course</td>
<td>3</td>
</tr>
<tr>
<td>Graduate Level Course</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
</tr>
</tbody>
</table>

**MINOR IN CIVIL, ARCHITECTURAL OR ENVIRONMENTAL ENGINEERING**
(for students in the College of Arts and Sciences and the School of Architecture)

A Minor in Civil, Architectural, or Environmental Engineering requires 15 credits passed with a grade of C or higher. Students are required to satisfy the prerequisites for all courses, and are required to complete the core course, CAE 210, plus an additional 12 or 13 credits within an area of specialization. The additional credits required for minors in civil, architectural, and environmental engineering are as follows:

**Minor in Civil Engineering**

**GEOTECHNICAL TRACK**
CAE 211, CAE 330, CAE 370, CAE 470

**STRUCTURAL TRACK**
CAE 211, CAE 310, and any two of: CAE 320, CAE 321, CAE 520 and CAE 521

**Minor in Architectural Engineering**
STRUCTURAL TRACK
CAE 211, CAE 310, CAE 320, and CAE 321

MECHANICAL/ELECTRICAL Systems TRACK
CAE 330, CAE 380, CAE 381, and CAE 480

Minor in Environmental Engineering
CAE 330, CAE 340, CAE 430, and CAE 440

Civil, Architectural & Environmental Engineering Course Listing
MISSION STATEMENT

The mission of the Department of Electrical and Computer Engineering is to achieve and maintain, through a continuous improvement process, excellence in undergraduate and graduate education, research, and service to the community and the nation. We endeavor to accomplish this by providing high-quality education and research programs which will impart the requisite knowledge and skills to our students enabling them to assume leadership roles in contributing to the advancement of the underlying electrical and computer engineering technologies which sustain the current world economy, to promote a strong commitment to life-long learning, to prepare them for a variety of alternative career paths and to participate as responsible citizens in a rapidly changing and shrinking global community.

INTRODUCTION

Electrical and Computer Engineering are complementary disciplines that are at the forefront of the continuing development and evolution of our modern technological society. Electrical and computer engineers have initiated and contributed to the development of such important and diverse areas as integrated electronics and photonics, telecommunication systems and computer networks, computer hardware and software, image processing and computer vision, automation and robotics, electrical power generating and transmission systems, as well as participated in the development of significant applications to biotechnology. These technologies have significantly transformed how our evolving society will live, learn, work, communicate and do business in the 21st century and are critical to the development of a sustainable world economy. It is an exciting and challenging discipline offering a variety of rewarding career paths. The Department of Electrical and Computer Engineering offers a number of innovative academic and research programs to help prepare students to achieve a variety of career goals.

The Department offers two undergraduate degree programs:

1. Bachelor of Science in Electrical Engineering degree program (B.S.E.E.)
2. Bachelor of Science in Computer Engineering degree program (B.S.Cp.E.)

The Electrical Engineering and the Computer Engineering degree programs are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

In addition, the Department offers graduate courses leading to the Degree of Master of Science in Electrical and Computer Engineering (M.S.E.C.E.), and the Doctor of Philosophy degree (Ph.D.). For further information see the Bulletin of the Graduate School.
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (B.S.E.E.)

The Electrical Engineering degree program has two options:

1- Electrical Engineering Option;
2- Audio Engineering Option;

These options require specialized courses as well as the 49 Engineering Credit Hours required in the accredited Electrical Engineering degree program.

**Electrical Engineering** is concerned with the design, analysis and implementation of a variety of systems, components and devices, primarily of an electrical or electronic nature, which form the cornerstone of our complex and technologically oriented society. For example, this ranges from small-scale integrated electronics and photonics systems and devices, the technological drivers of the information technology revolution, to large-scale electrical power systems and power generators, which supply the nation’s energy needs and form the basis for sustained economic growth. Furthermore, Electrical engineering also involves the design of micro and nano devices, integrated circuits, hardware, and large-scale systems for telecommunications and networking that engender our increasingly networked life. Therefore, electrical engineering is a vast and rich discipline involved in the design of systems, components, and devices for a variety of applications and areas such as portable electronics (e.g., cell phones), communications and networks, biomedical sensing and medical systems, energy harvesting, next generation displays, lasers, optical and wireless transmission, audio/video compression and recognition, radar and tracking/guidance systems, and remote sensing systems. The University of Miami’s electrical engineering curriculum is focused on the fundamentals of the discipline, in the first two years building a firm foundation in mathematics, basic science, and basic engineering principles such as basic circuits, electronics, software and programming, computer hardware, and signal and system analysis. The students build upon this foundation through more advanced courses and focused specialization, culminating in a capstone major design experience. We continually update our curriculum and laboratories to incorporate new scientific and technological developments, and industry practices. Our graduates have gone on to successful careers in industry, or to graduate school in science and engineering, as well as law school, business school, and medical school.

**Audio Engineering** offers students, who have a deep interest in sound and music, the opportunity to combine a rigorous electrical engineering education with additional specialized courses offered both by the UM ECE department as well as the Frost School of Music. In particular, the Audio Engineering option combines traditional electrical engineering studies with audio studies in areas such as acoustics, speech and audio signal processing, digital audio, transducers, speech and audio coding and transmission systems, post-production, noise cancellation, architectural acoustics, and recording, thereby providing a multi-disciplinary education. Our Audio Engineering graduates are highly sought by industry and have been pursuing successful careers in music/entertainment, multimedia, telecommunications, analog and digital electronics, and in the hearing aid/medical instrumentation industries, or have chosen graduate study. Students enrolled in Audio Engineering have access to a variety of well-equipped laboratories, both in the UM ECE Department, as well as in the Frost School of Music. For example, students have access to the Gusman Concert Hall, which houses a professional recording studio with automated console and multi-track recording. There, students can record live concerts ranging from small jazz groups to a symphony orchestra. In addition, Audio Engineering students use the Weeks Center for Recording and Performance, which also features a fully professional recording studio, analog and digital signal processing equipment and audio test equipment.
EDUCATIONAL OBJECTIVES

The educational objectives of the Electrical Engineering Degree Program are to produce graduates who have the:

1. knowledge of mathematics, physics and the engineering sciences as well as the skill needed to plan, design, and develop successful solutions to electrical engineering problems.

2. broad educational background, professional and ethical context, and communication and team skills expected from a successful and responsible practicing electrical engineer.

3. background, preparation and experience necessary to be successful in graduate and professional degree programs, and a variety of alternative career paths.

4. foundations for independent learning and commitment to life-long education to continually improve, refine, and broaden their skills and competencies in the face of evolving technological developments and global needs.

This degree program endeavors to achieve its objectives by imparting to its students the fundamental principles underlying modern electrical engineering, along with the necessary skills and experiences to apply standard practices, methodologies and available tools for solving electrical engineering problems. The major areas of Electrical Engineering include electronics, analog and digital circuits, microprocessors, communications and control systems. The design sequence is spread throughout the educational experience curricula, culminating in the two-semester senior design project. Graduates are expected to keep pace with this rapidly evolving discipline. To this end, the faculty stresses the importance of continued education and life-long professional development by trying to instill in their students a sense of excitement for the prospects of this evolving technology, tempered by a strong sense of responsibility and concern for its potential impacts on society.
### Requirements of the Electrical Engineering Degree Program (B.S.E.E)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Electrical Option</th>
<th>Audio Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 111 Intro. To Engineering I</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 112 Intro. To Engineering II</td>
<td>2</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 118 Intro. To Programming</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 201 Electric Circuits I</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 204 Electric Circuits Lab</td>
<td>1</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 218 Data Structures</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 304 Logic Design</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 305 Electronics I</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 306 Electronics II</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 307 Circuits, Signals, and Systems</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 311 Electronics Lab</td>
<td>1</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 312 Processors: Hardware, Software and Interfacing</td>
<td>4</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 315 Digital Design Lab</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 316 Structured Digital Design</td>
<td>1</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 336 Discrete-Time Signals and Systems</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EEN 415 Senior Design I</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>EEN 416 Senior Design II</td>
<td>2</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>EEN EE Core Elective</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>EEN EE Core Elective</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ECE Design Elective</td>
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<td>✓</td>
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</tr>
<tr>
<td><strong>Total Common Engineering Credits</strong></td>
<td>49</td>
<td>49</td>
<td>49</td>
</tr>
</tbody>
</table>

Additional Engineering and Technical Elective (Courses/# of Credits)

<table>
<thead>
<tr>
<th>course</th>
<th>credits</th>
<th>Electrical Option</th>
<th>Audio Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 301</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE Elect - 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tech Elect - 9</td>
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<tr>
<td>EEN 437-1</td>
<td></td>
<td></td>
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<tr>
<td>EEN 502-3</td>
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<td></td>
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<tr>
<td>EEN 540-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tech Elec-2/3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Additional Engineering and Technical Elective Credits</strong></td>
<td>21</td>
<td>9/10</td>
<td></td>
</tr>
</tbody>
</table>

| **Total Engineering and Tech. Elec. Credits** | 70 | 58/59 |

| MMI (Music Media)+ MTC (Music Theory)       | --  | 16 + 3 |
| Total Math & Basic Sciences Credits         | 33  | 33     |
| Total General Education Credits             | 24  | 24     |
| **Total Credits**                           | 127 | 134/5  |
# MAJOR

## ELECTRICAL ENGINEERING OPTION - 127 credits

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>EEN 111 Introduction to Engineering I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENG 105 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 151 Calculus I For Engineers</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>PHY 205 University Physics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>Spring</td>
<td>EEN 112 Introduction to Engineering II</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ENG 107 Writing about Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 162 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHY 206 University Physics II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 208 University Physics II Lab</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
</tr>
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</table>

### SOPHOMORE YEAR

<table>
<thead>
<tr>
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<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>EEN 201 Electrical Circuit Theory</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EEN 218 Data Structures</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 207 University Physics III</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 209 University Physics III Lab</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>HA Cognate (Humanities and Arts Elective*)</td>
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<tr>
<td>Spring</td>
<td>EEN 204 Electrical Circuits Laboratory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EEN 304 Logic Design</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EEN 305 Electronics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EEN 307 Circuits, Signals, and Systems</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH 210 Vectors and Matrices</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CHM 151 Chemistry for Engineers I</td>
<td>3</td>
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<tr>
<td></td>
<td>CHM 153 Chemistry Laboratory for Engineers</td>
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<tr>
<td></td>
<td></td>
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### JUNIOR YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>EEN 301 Electromagnetic Field Theory</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EEN 306 Electronics II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EEN 311 Electronics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EEN 315 Digital Design Laboratory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EEN 336 Discrete-Time Signals and Systems</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>IEN/EEN 310 Engineering Probability</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PS Cognate (People and Society Elective*)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Spring</td>
<td>EEN 312 Processors: Hardware, Software, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interfacing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EEN 316 Structured Digital Design</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EE Core Elective*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>EE Core Elective*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECE Elective*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PS Cognate (People and Society Elective*)</td>
<td>3</td>
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### SENIOR YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
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<td>ECE Elective*</td>
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<tr>
<td></td>
<td>ECE Design Elective*</td>
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<tr>
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<td>Technical Elective*</td>
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<td>PS Cognate (Adv. PS Elective*)</td>
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</table>

*See description of electives under the Departmental Electives Section.

$ Offered only in the Fall semester
## AUDIO ENGINEERING OPTION – 134/135 Credits

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
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<tbody>
<tr>
<td>EEN 111 Introduction to Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 151 Calculus I For Engineers</td>
<td>5</td>
</tr>
<tr>
<td>PHY 205 University Physics I</td>
<td>3</td>
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<tr>
<td>MTC 109 Music Theory Skills I</td>
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### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>EEN 201 Electrical Circuit Theory</td>
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<tr>
<td>EEN 218 Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHY 207 University Physics III</td>
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</tr>
<tr>
<td>PHY 209 University Physics III Lab</td>
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<tr>
<td>MMI 201 Introduction to Music Recording</td>
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### JUNIOR YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>EEN 306 Electronics II</td>
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<tr>
<td>EEN 311 Electronics Laboratory</td>
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<tr>
<td>EEN 336 Discrete-Time Signals and Systems</td>
<td>3</td>
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<tr>
<td>IEN/EEN 310 Engineering Probability</td>
<td>3</td>
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<tr>
<td>MMI 502 Digital Audio I</td>
<td>3</td>
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### SENIOR YEAR

<table>
<thead>
<tr>
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<th>Spring Semester</th>
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<tbody>
<tr>
<td>EEN 415 Senior Project I*</td>
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<tr>
<td>EEN 437 Real-Time DSP Laboratory</td>
<td>1</td>
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<tr>
<td>EEN 502 Engineering Acoustics</td>
<td>3</td>
</tr>
<tr>
<td>ECE Design Elective*</td>
<td>3</td>
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<tr>
<td>Audio Engineering or Tech. Elective</td>
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<tr>
<td>PS Cognate (People and Society Elective*)</td>
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<tr>
<td>HA Cognate (Adv. HA Elective*)</td>
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</table>

* See description of electives under the Electrical and Computer Engineering Section.

** Note that MMI504 could be substituted for MMI 436

*** Select one from: MCY 124, MCY 127, MCY 131 or any MCY course approved by the academic advisor

§ Offered only in the Fall semester

## DOUBLE DEGREE PROGRAM - B.S.E.E. & B.S.B.E.

A BME student who satisfies the requirement of the B.S.B.E. degree with electrical orientation as described in this Bulletin may also qualify for the B.S.E.E. degree by taking the following additional courses: EEN 218, 301, 306, 311, 312, 316, 336, one ECE Design Elective, two EE Core Electives, three ECE Electives as well as having an ECE Faculty as co-sponsor of the Senior Project.

## THE FIVE-YEAR B.S.E.E.-M.S.E.C.E. DUAL DEGREE PROGRAM
This is a structured and integrated program with a minimum of 152 approved credits including two required courses EEN 615 & 616. At least thirty credits must be at the graduate (500 or 600 level). Of these at least 12 credits must be at the 600 level.

Note that:
- Interested EEN Juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the MSECE portion of the program.
- A student wishing to drop out of the five-year program without the MSECE degree could receive the BSEE degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination before beginning their fifth-year courses.
- To qualify for the MSECE degree, students must meet all the pertinent Graduate School requirements, including an acceptable GRE score and a minimum of 3.0 GPA in the 30 credits applied towards the MSECE degree.
- The student is awarded both the BSEE and the MSECE degrees after the requirements for both degrees are satisfied.

**COURSE REQUIREMENT FOR THE BSEE-MSECE FIVE YEAR DUAL DEGREE PROGRAM (152 credits)**

The first three years are the same as in the undergraduate B.S.E.E. program with 97 credits. The remaining 55 credits shown below should include at least ten graduate courses of which, at least four are at the 600 level. Also see description of electives under the Electrical and Computer Engineering Section.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SPRING SEMESTER</th>
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<tbody>
<tr>
<td><strong>FALL SEMESTER</strong></td>
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<tr>
<td>EEN 111 Introduction to Engineering I</td>
<td>EEN 112 Introduction to Engineering II</td>
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<tr>
<td>EEN 118 Introduction to Programming</td>
<td>EEN 204 Electrical Circuits Laboratory</td>
</tr>
<tr>
<td>MTH 151 Calculus For Engineers</td>
<td>EEN 304 Logic Design</td>
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<tr>
<td>PHY 205 University Physics I</td>
<td>EEN 305 Electronics I</td>
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<tr>
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<td>EEN 307 Circuits, Signals, and Systems</td>
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<td>MTH 210 Vectors and Matrices</td>
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<td></td>
<td>CHM 151 Chemistry for Engineers I</td>
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<td>CHM 153 Chemistry Laboratory for Engineers</td>
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<table>
<thead>
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<td><strong>FALL SEMESTER</strong></td>
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<tr>
<td>EEN 201 Electrical Circuit Theory</td>
<td>EEN 204 Electrical Circuits Laboratory</td>
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<tr>
<td>EEN 218 Data Structures</td>
<td>EEN 304 Logic Design</td>
</tr>
<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>EEN 305 Electronics I</td>
</tr>
<tr>
<td>PHY 207 University Physics III</td>
<td>EEN 307 Circuits, Signals, and Systems</td>
</tr>
<tr>
<td>PHY 209 University Physics III Lab</td>
<td>MTH 210 Vectors and Matrices</td>
</tr>
<tr>
<td>HA Cognate (Humanities and Arts Elective*)</td>
<td>CHM 151 Chemistry for Engineers I</td>
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<tr>
<td></td>
<td>CHM 153 Chemistry Laboratory for Engineers</td>
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<td>HA Cognate (Humanities and Arts Elective*)</td>
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<table>
<thead>
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<th>JUNIOR YEAR</th>
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<tbody>
<tr>
<td><strong>FALL SEMESTER</strong></td>
<td><strong>SPRING SEMESTER</strong></td>
</tr>
<tr>
<td>EEN 301 Electromagnetic Field Theory</td>
<td>EEN 312 Processors: Hardware, Software, and Interfacing</td>
</tr>
<tr>
<td>EEN 306 Electronics II</td>
<td>EEN 316 Structured Digital Design</td>
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<tr>
<td>EEN 311 Electronics Laboratory</td>
<td>EEN Core Elective*</td>
</tr>
<tr>
<td>EEN 315 Digital Design Laboratory</td>
<td>EEN Core Elective*</td>
</tr>
<tr>
<td>EEN 336 Discrete-Time Signals and Systems</td>
<td>ECE Elective*</td>
</tr>
<tr>
<td>IEN/EEN 310 Engineering Probability</td>
<td>HA Cognate (Humanities and Arts Elective*)</td>
</tr>
<tr>
<td>PS Cognate (People and Society Elective*)</td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>
**MINOR IN ELECTRICAL ENGINEERING**

Non-ECE Students wishing to minor in Electrical Engineering should satisfy a 15 credit requirement specified as follows:

1. A core of seven credits consisting of EEN 201, EEN 204, and EEN 305.

2. Eight or more credits of Electrical Engineering Electives at the 300 level or above and subject to approval of an academic advisor.

3. Students with a major in Computer Engineering wishing to add a minor in Electrical Engineering must take six Electrical Engineering course credits in addition to those needed to satisfy their degree requirements.

4. A 2.0 grade point average in all EEN courses taken.
BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (B.S.Cp.E.)

Computer engineering is concerned with the characterization, design, analysis and implementation of hardware, software and the overall architecture of computers and computer systems, and with the development of applications enabled by such configurations. This ranges from embedded microprocessors and associated software supporting a variety of familiar devices, to large-scale distributed computer systems interconnected by high-speed telecommunication networks controlled by sophisticated communication protocols. Since modern electronic computing systems are digital in nature, the program provides in-depth coverage of a range of topics dealing with digital information processing systems. Among the topics covered are digital system design, computer organization and architecture, operating systems, software engineering, programming, data structures, algorithms, database systems, microprocessor-based systems, and embedded systems.

The department also offers electives in digital communications, computer networks, wireless and mobile networks, very large scale integration (VLSI), microelectronics, nanotechnology, application specific integrated circuits (ASIC), microelectromechanical systems (MEMS), image processing and computer vision, artificial intelligence, machine learning, data mining, and agent technology.

Computer engineering is a rapidly changing and evolving discipline driven by new technology developments and marketplace conditions. To adequately train students to meet the challenges of the future and to assume leadership roles in the practice of computer engineering, the department offers an up-to-date curriculum that reflects new technology developments that have the potential for significantly impacting professional practice in the industry. The curriculum is constantly updated to incorporate new technological, scientific and economic developments.

Alternatively, students can earn a Bachelor of Science in Computer Engineering under the Software Engineering option, which is primarily focused on the systematic and disciplined development of software systems. This option focuses on the application of computer engineering and computer science principles and practices to the creation, operation, and maintenance of software applications and systems.

EDUCATIONAL OBJECTIVES

The educational objectives of the Computer Engineering Degree Program are to produce graduates who have the:

1. knowledge of mathematics, physics and the engineering sciences as well as the skill needed to plan, design, and develop successful solutions to computer engineering problems.

2. broad educational background, professional and ethical context, and communication and team skills expected from a successful and responsible practicing computer engineer.

3. background, preparation and experience necessary to be successful in graduate and professional degree programs, and a variety of alternative career paths.
4. foundations for independent learning and commitment to life-long education to continually improve, refine, and broaden their skills and competencies in the face of evolving technological developments and global needs.

DEGREE PROGRAM

This degree program endeavors to achieve its objectives by imparting to its students the fundamental principles underlying modern computer engineering, along with the necessary skills and experiences to apply standard practices, methodologies and modern tools for solving computer engineering problems.

The computer engineering design sequence is spread throughout the curriculum, culminating in a two semester senior design project.

Graduates are expected to keep pace with this rapidly-evolving discipline. To this end, the faculty stress the importance of continued education and life-long professional development, by trying to instill in the students a sense of excitement for the prospects of this evolving technology, tempered by a strong sense of responsibility and concern for its potential impacts on society.

The Computer Engineering degree program has two options:

1. Computer Engineering Option
2. Software Engineering Option

These options require a common engineering core, which is followed by specialized courses in each area along with elective courses.
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Computer Option</th>
<th>Software Option</th>
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<tbody>
<tr>
<td>EEN 111 Intro. To Engineering I</td>
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<td>✓</td>
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<td>EEN 112 Intro. To Engineering II</td>
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<td>✓</td>
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<tr>
<td>EEN 118 Intro. To Programming</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>EEN 201 Electric Circuits I</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>EEN 204 Electric Circuits Lab</td>
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<tr>
<td>EEN 218 Data Structures</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
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<td>EEN 304 Logic Design</td>
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<td>✓</td>
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<td>EEN 305 Electronics I</td>
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<td>EEN 312 Processors: Hardware, Software, and Interfacing</td>
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<td>EEN 315 Digital Design Lab</td>
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<td>EEN 316 Structured Digital Design</td>
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<td>EEN 318 Algorithms</td>
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<td>EEN 322 Systems Programming</td>
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<td>EEN 414 Computer Organization and Design</td>
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<td>EEN 418 Senior Project Planning</td>
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<td>✓</td>
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<td>EEN 419 Senior Project</td>
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<tr>
<td>EEN 514 Computer Architecture</td>
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<td>✓</td>
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<tr>
<td>EEN 521 Operating Systems</td>
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<td>✓</td>
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<tr>
<td>EEN 567 Database Design and Management</td>
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**Total Common Engineering Credits** 48

**Additional Engineering and Technical Electives**

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<td>EEN 307 – 3</td>
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<td>EEN 311 – 1</td>
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<td>EEN 417 – 3</td>
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<td>EEN 512 – 3</td>
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<td>EEN 513 – 3</td>
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<td>EEN 570 – 3</td>
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<td>CE Tech.Elec – 9</td>
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</table>

**Total Additional Engineering and Technical Elective Credits** 22 18

**Total Engineering and Technical Elective Credits** 70 66

**Computer Science Credits** - 6

**Total Math and Basic Sciences Credits** 35 32

**Total General Education Credits** 24 24

**Total Credits** 129 128
## COMPUTER ENGINEERING OPTION CURRICULUM – 129 Credits

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>EEN 111 Introduction to Engineering I</td>
<td>EEN 112 Introduction to Engineering II</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>EEN 118 Introduction to Programming</td>
<td>EEN 218 Data Structures</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>ENG 107 Writing about Science</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MTH 151 Calculus I For Engineers</td>
<td>MTH 162 Calculus II</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
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<tr>
<td></td>
<td>PHY 205 University Physics I</td>
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<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>EEN 304 Logic Design</td>
<td>EEN 201 Electric Circuits I</td>
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<tr>
<td>3</td>
<td>3</td>
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<tr>
<td>EEN 318 Algorithms</td>
<td>EEN 312 Processors: Hardware, Software, and</td>
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<tr>
<td>3</td>
<td>Interfacing</td>
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<tr>
<td>MTH 210 Introduction to Linear Algebra</td>
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<tr>
<td>PHY 206/207 University Physics II/III</td>
<td>EEN 315 Digital Design Laboratory</td>
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<tr>
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<tr>
<td>PHY 208/209 University Physics II/III Lab</td>
<td>EEN/IEN 310 Engineering Probability</td>
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<tr>
<td>HA Cognate (Humanities and Arts Elective*)</td>
<td>MTH 309 Discrete Mathematics I</td>
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<td>PS Cognate (People and Society Elective*)</td>
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### JUNIOR YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 204 Electric Circuits Laboratory</td>
<td>EEN 306 Electronics II</td>
</tr>
<tr>
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<td>3</td>
</tr>
<tr>
<td>EEN 305 Electronics I</td>
<td>EEN 307 Circuits, Signals, and Systems</td>
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<tr>
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<td>3</td>
</tr>
<tr>
<td>EEN 316 Structured Digital Design</td>
<td>EEN 454 Digital System Design and Testing</td>
</tr>
<tr>
<td>1</td>
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</tr>
<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>EEN 455 Design-for-Testability Laboratory</td>
</tr>
<tr>
<td>3</td>
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<tr>
<td>Basic Science Elective*</td>
<td>EEN 567 Database Design and Management</td>
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<tr>
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<tr>
<td>Basic Science Lab Elective*</td>
<td>Basic Science Elective*</td>
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### SENIOR YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 311 Electronics Laboratory</td>
<td>EEN 419 Senior Project</td>
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<td>EEN 322 Systems Programming</td>
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*See description of electives under the Departmental Electives Section.
‡Offered only in the Fall semester
COMPUTER ENGINEERING – SOFTWARE ENGINEERING OPTION

Software Engineering is concerned primarily with the systematic and disciplined approach to developing software systems. It requires the application of both computer engineering and computer science principles and practices to the creation, operation, and maintenance of software systems and applications. The Software Engineering Option of the Bachelor of Science in Computer Engineering degree at the University of Miami is a unique interdisciplinary program developed and administered collaboratively by the Department of Electrical and Computer Engineering and the Department of Computer Science. This Option prepares students for successful careers in software engineering. Software systems are becoming increasingly complex, and emerging technologies are pushing the boundaries of reusable components and software quality assurance. To prepare students to meet these challenges, this Option establishes a solid foundation of software system fundamentals, coupled with strong hands-on experience and an understanding of professional practice and conduct. In addition to the core curriculum in software engineering, students are introduced to the paradigms of real-time, adaptive, and collaborative software systems, through a wide range of technical elective courses in the departments of Electrical and Computer Engineering, Computer Science, and other departments in the University of Miami. The technical electives allow students to apply the knowledge they have gained to different application areas. This provides valuable hands-on experience in contemporary application areas, which enhances the students’ potential career development opportunities.

Students pursuing the Software Engineering Option of the Bachelor of Science in Computer Engineering degree must earn at least 15 credits in Computer Science as part of their degree requirements.
SOFTWARE ENGINEERING OPTION CURRICULUM - 128 credits

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<thead>
<tr>
<th>FRESHMAN YEAR</th>
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<tr>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>EEN 111 Introduction to Engineering I</td>
<td>EEN 112 Introduction to Engineering II</td>
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<tr>
<td>EEN 118 Introduction to Programming</td>
<td>EEN 218 Data Structures</td>
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<tr>
<td>ENG 105 English Composition I</td>
<td>ENG 107 Writing About Science</td>
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<tr>
<td>MTH 151 Calculus I For Engineers</td>
<td>MTH 162 Calculus II</td>
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<td>PHY 205 University Physics I</td>
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<td><strong>Fall Semester</strong></td>
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<td>MTH 162 Calculus II</td>
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<td>PHY 205 University Physics I</td>
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| SOPHOMORE YEAR | | |
|---------------|----------------|
| **Fall Semester** | **Spring Semester** |
| EEN 304 Logic Design | EEN 201 Electric Circuits I |
| EEN 318 Algorithms | EEN/IEN 310 Engineering Probability |
| MTH 210 Introduction to Linear Algebra | Interfacing |
| PHY 206/207 University Physics II/III | EEN 315 Digital Design Laboratory |
| PHY 208/209 University Physics II/III Lab | MTH 309 Discrete Mathematics I |
| PS Cognate (People and Society Elective*) | PHI 115 Social and Ethical Issues in Computing (HA Cognate)(Humanities and Arts Elective*) |
| | 16 |

| JUNIOR YEAR | | |
|---------------|----------------|
| **Fall Semester** | **Spring Semester** |
| EEN 204 Electrical Circuits Lab | EEN 316 Structured Digital Design |
| EEN 305 Electronics I | EEN 513 Software Design and Verification |
| EEN/CSC 322 Systems Programming | EEN/CSC 521 Computer Operating Systems |
| EEN 512 Software Architecture | EEN 567 Database Design and Management or |
| Basic Science Elective* | CSC 523 Databases Systems |
| Basic Science Lab Elective* | Basic Science Elective* |
| PS Cognate (People and Society Elective*) | HA Cognate (Humanities and Arts Elective*) |
| | 17 |

| SENIOR YEAR | | |
|---------------|----------------|
| **Fall Semester** | **Spring Semester** |
| EEN 414 Computer Organization and Design | EEN 419 Software Eng. Senior Project |
| EEN 418 Software Eng. Senior Project Planning$ | EEN 514 Computer Architecture |
| CSC 517 Algorithms and Data Structures | EEN 570 Network Client-Server Programming |
| Software Engineering Technical Elective* | CSC 519 Programming Languages |
| Software Engineering Technical Elective* | Software Engineering Technical Elective* |
| PS Cognate (Adv. PS Elective*) | HA Cognate (Adv. HA Elective*) |
| | 16 |

*See description of electives under the Departmental Electives Section.
$ Offered only in the Fall semester

**Students must earn at least 15 credits in Computer Science (CSC)**

**Students must have at least 32 credits of Math and Science**
THE FIVE-YEAR B.S.Cp.E.-M.S.E.C.E. DUAL DEGREE PROGRAM
This is a structured and integrated program that includes seven additional courses and replaces three technical elective courses as well as one senior design course currently required under the B.S.Cp.E. Degree as follows:

- Four required courses: EEN 418, 615, 616, and a Computer Engineering Technical Elective.
- Two Electrical Engineering Technical elective courses from: EEN 505, 516, 532, 533 or approved EEN elective.
- Two Computer Engineering Software elective courses from: EEN 511, 512, 513, 519 or approved EEN elective.
- Five Computer Engineering Advanced elective courses from the following: Electrical Engineering Technical electives, Computer Engineering Software electives, EEN 336, 436, 534, 536, 537, 538, 540, 548, 553, 570, 572, 574-577, 587, 634, 638, 653, as well as CSC 544, 529.
  Computer Engineering Advanced electives are to be selected in consultation with the advisor.
- At least thirty credits must be at the graduate (500 or 600) level. Of these, at least twelve credits must be in courses open to graduate students only (600 level).
- Interested Computer Engineering juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.Cp.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable GRE score and a minimum of 3.0 GPA in the 30 credits applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.Cp.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.
# COURSE REQUIREMENT FOR THE B.S.Cp.E. – M.S.E.C.E. FIVE YEAR DUAL DEGREE PROGRAM (154 credits)

## FRESHMAN YEAR

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<td>ENG 107 Writing about Science</td>
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## SOPHOMORE YEAR

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<tr>
<td>EEN 318 Algorithms</td>
<td>EEN 312 Processors: Hardware, Software, and</td>
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<td>Interfacing</td>
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<td>MTH 210 Introduction to Linear Algebra</td>
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<td>PHY 315 Digital Design Laboratory</td>
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<td>EEN/IEN 310 Engineering Probability</td>
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<td>MTH 309 Discrete Mathematics I</td>
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## JUNIOR YEAR

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<td>EEN 305 Electronics I</td>
<td>EEN 307 Circuits, Signals, and Systems</td>
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<td>EEN 316 Structured Digital Design</td>
<td>EEN 454 Digital System Design and Testing</td>
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<td>MTH 311 Ordinary Differential Equations</td>
<td>EEN 455 Design-for-Testability Laboratory</td>
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<td>Basic Science Elective*</td>
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## FOURTH YEAR

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<td>EEN 414 Computer Organization and Design</td>
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<td>EEN 417 Embedded Systems</td>
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<td>Computer Engineering Software Elective</td>
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## FIFTH YEAR (GRADUATE CREDITS ONLY)

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<tr>
<td>EEN 615 M.S. Design Project I</td>
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<td>Electrical Engineering Technical Elective</td>
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*See description of electives under the Departmental Electives Section.
‡ Offered only in the Fall semester
All courses shown in red should be taken as Graduate (G) courses.
MINOR IN COMPUTER ENGINEERING

Students wishing to minor in Computer Engineering must satisfy the following requirements:

1. A core of thirteen credits consisting of EEN 118, 218, 304, and 312.

2. At least five credits of computer engineering electives selected from the following courses: EEN 315, 316, 318, 322, 414, 454/455, 511, 512, 513, 519, 521, 534, 537, 567.

3. Students with a major in Electrical Engineering wishing to add a minor in Computer Engineering must take six Computer Engineering course credits in addition to those needed to satisfy their degree requirements.

4. A minimum grade point average of 2.0 in all EEN courses taken.

DEPARTMENTAL LABORATORIES

The Department maintains a variety of well-equipped laboratories and computers adequate for undergraduate instruction and graduate research. The laboratories and computer facilities include:

Electronics Laboratory
Digital Signal Processing Laboratory
Electrical Energy Conversion Laboratory
Digital Design Laboratory
Information Technology Laboratory
Microprocessor Laboratory
Electro-Optics and Micro-Devices Laboratory
Distributed Decision Environments Laboratory
Computer Vision and Image Processing Laboratory
Embedded Systems Laboratory
Underwater Imaging Laboratory
Networks Laboratory
Multimedia Laboratory (Arnold Center for Confluent Media Studies)
Digital Audio and Speech Processing Laboratory
Optics and Fiber Communications Laboratory

DEPARTMENTAL ELECTIVES

1. Humanities and Arts/People and Society Electives: selected from the appropriate table found in this Bulletin under the Engineering section.

2. EE Core Electives: EEN 308, 402, 404, 405 and 436

3. ECE Electives: All EEN classes at the 300 level or above
4. Technical electives: All ECE or any 200 level or above CoE courses, as well as courses from Math, Physics, Chemistry, Biology, Computer Science, selected in consultation with, and with the approval of, the academic advisor.

5. EE Design Elective: Select one from EEN 454 & 455, 516, 532, 552 or any EEN course approved by the Academic Advisor.

6. Basic Science (/Lab) Electives are selected in consultation with the Academic Advisor from courses in Biology, Chemistry, Environmental Science, Geological Science, Marine Science, or Physics.

7. Computer Engineering Technical Electives are selected in consultation with the Academic Advisor from the following list of courses: EEN 511, 512, 513, 519, 532, 534, 537, 538, 548, 553, 570, 572, 574, 575, 576, 577, 579, and 587 or advisor-approved 300-level (or above) technical course. In addition, one computer engineering elective course may be selected from the following computer science courses: CSC 517, 518, 527, 529, 540, and 555.

8. Software Engineering Technical Electives are selected in consultation with the Academic Advisor from the following list of courses: CSC329, CSC507, CSC527, CSC529, CSC540, CSC547, CSC555, EEN511, EEN537, EEN548, EEN553, EEN562, EEN572, EEN574, EEN575, EEN576, EEN577, EEN579, EEN587, (EEN534 or CSC524), (EEN537 or CSC545) or advisor-approved 300-level (or above) technical course.

**INTERNSHIP PROGRAM**

The Department of Electrical and Computer Engineering encourages its students to take advantage of the College of Engineering Internship Cooperative Program with Industry. Students could do that either on a part-time or a full-time arrangement. Students who wish to intern full-time for one semester or for twelve weeks in the summer may apply to earn as much as three credit hours that could be applied to their degree requirement as a Technical Elective. Students interested in such a possibility need to submit a proposal to the ECE Department describing the type of work they expect to accomplish approved by the industrial supervisor. If the proposal is approved the student will be assigned a Faculty Supervisor and will be able to register under EEN499. At the end of the Internship Program, the Student is expected to submit to the ECE Department a technical report with comments from the student industrial supervisor. The Faculty advisor will review the report and submit the appropriate grade for EEN499.

**NOTE 1:** An EEN course for which another EEN course is a prerequisite may not be taken unless the student has completed the EEN prerequisite course with a grade of C- or better.

**NOTE 2:** All EEN courses at the 300 level or above must be taken at UM.

**DEPARTMENTAL HONORS**

See College of Engineering section.
ENGINEERING SCIENCE

INTRODUCTION

The curricula in the engineering sciences have been designed to prepare a student to fill the gap between the pure and applied sciences. The programs have been planned to enable the graduate to meet, work, and communicate with scientists and engineers at all levels of research and development, design and production, sales and distribution and to participate in the rapid and efficient translation of the latest scientific discoveries into technological achievements.

The general curriculum outlined below has been developed to give the student a firm foundation in the engineering sciences supported by a thorough grounding and facility in mathematics, physics and chemistry. In addition, each student will choose an area of specialization in at least one of the Engineering fields of architectural, civil, biomedical, electrical, industrial, or mechanical, and mathematics, chemistry or physics. By being well grounded in both the basic and applied sciences, the student, upon graduation, will be well prepared to assume responsibilities in his/her field of specialization or continue his/her professional development through graduate studies.

The engineering science program is intended primarily for students who expect to pursue graduate studies, and it will not satisfy the licensure requirements for professional engineering registration.

Premedical Studies: When BIL 150 and 160 are added to the course sequence for engineering science, basic premedical requirements are satisfied. Additional specific courses, such as genetics or biochemistry, may be required for admission to certain medical schools. For optimum timing and course selection students who combine premedical studies and engineering science should consult the faculty advisor for engineering science and the Coordinator, Committee on Premedical Studies.

Because of the nature of the curriculum and its goals, the student must maintain a B average. The degree of Bachelor of Science Engineering Science is awarded upon successful completion of the program.

The required curriculum for the degree of Bachelor of Science in Engineering Science (General Concentration) is shown below as is a typical premed curriculm. A Professional Chemistry Concentration in the Engineering Science Program is available (the Professional Chemistry Program, approved by the American Chemical Society, is also available in the College of Arts and Sciences).
### MISSION STATEMENT

The mission of the Engineering Science program is to provide excellent undergraduate and graduate education in engineering that will prepare graduates to meet Societies changing needs and aspirations.

### EDUCATIONAL OBJECTIVES

The objectives of the Engineering Science program are to educate engineers who:

- have a sound background in the fundamentals of engineering science grounded in mathematics, physics and chemistry
- have abilities and knowledge expected by graduate programs
- are prepared to enter graduate programs with a strong background in pure science

### DEGREE PROGRAMS

**ENGINEERING SCIENCE CURRICULUM (General Concentration) 123-124 credits**

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<td><strong>Fall Semester</strong></td>
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<td>ENG 107 Writing about Science</td>
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<td><strong>Fall Semester</strong></td>
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<tr>
<td>MAE 207 Mechanics of Solids II</td>
<td>EEN 201 Electrical Circuit Theory</td>
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<td>CHM 111 Principles of Chemistry I</td>
<td>MAE 202 Dynamics</td>
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<td>CHM 113 Chemistry Laboratory I</td>
<td>CHM 112 Principles of Chemistry II</td>
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<td>MTH 210 Vectors and Matrices</td>
<td>CHM 114 Chemistry Laboratory II</td>
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<tr>
<td>PHY 207 University Physics III</td>
<td>MTH 310 Multivariable Calculus</td>
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<tr>
<td>IEN 311 Applied Probability and Statistics</td>
<td>EEN 204 Electrical Circuits Laboratory</td>
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<td>MAE 303 Thermodynamics I</td>
<td>MAE 241 Measurements Laboratory</td>
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<td>MTH 311 Ordinary Differential Equations</td>
<td>MAE 309 Fluid Mechanics</td>
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<td>PHY 350 Intermediate Electricity and Magnetism</td>
<td>CHM 201 Organic Chemistry I (Lecture)</td>
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<td>** Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.</td>
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* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits)

** Electives are advanced courses selected in coordination with the Faculty Advisor and require his/her approval.
INDUSTRIAL ENGINEERING - Dept. Code: IEN
http://www.ie.miami.edu

Mission Statement

The Department of Industrial Engineering’s mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

Overview

Industrial Engineering combines science and technical knowledge with human sciences to design, plan, and analyze systems that involve people, materials, money, energy, equipment, and other resources. Industrial engineers work with personnel in research and development, accounting, engineers in other disciplines, maintenance, human resources, and production to increase organizational productivity, improve quality, reduce health care costs, conserve energy, develop public transportation systems, and improve industrial safety conditions. Industrial engineering distinguishes itself from other engineering professions because it has applications in manufacturing, service, commercial, and governmental activities. It is the major branch of engineering concerned not only with technology, but with people, making industrial engineers a prime source of management talent.

Through consultation with his/her academic advisor, a student is assisted in choosing electives which will prepare him/her for a degree of specialization compatible with his/her future goals. The available concentrations are Engineering Management and Manufacturing. Specific courses required in each concentration are described in Degree Programs Section.

The Department of Industrial Engineering offers graduate programs leading to the Master of Science in Industrial Engineering, Master of Science in Environmental Health and Safety, and Master of Science in Management of Technology. The Department also offers a Ph.D. program in Ergonomics and Human Factors and a Ph.D. in Industrial Engineering. For further information, see the Bulletin of the Graduate School.

The Department of Industrial Engineering in cooperation with the School of Business Administration offers a dual MSIE/MBA weekend executive program. For more details of this program contact the Department of Industrial Engineering.

EDUCATIONAL OBJECTIVES

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

Industrial Engineering Program Educational Objectives

The major goal of the Industrial Engineering program at the University of Miami is to prepare graduates to contribute to the economy by virtue of employment in a variety of industries: manufacturing (heavy and light, traditional and high technology) and service (health care, retail, transportation, logistics, government, consulting, banking, and insurance). In striving to achieve this goal, the objective of the faculty is to provide all
graduates with the mathematical, scientific, and design tools required to formulate problems accurately, generate alternative solutions, evaluate those alternatives, and present the best solutions to clients or decision makers in a fashion that facilitates decision-making processes. In addition, superior students are prepared for graduate studies and research. Within the first several years following graduation from the Industrial Engineering program, graduates are expected to be:

1. Working as professionals by adding value in any one of the following sectors:
   - Service
   - Government
   - Consulting
   - Retail
   - Manufacturing

2. Pursuing or holding a graduate degree and/or developing professionally through continuing education, licensure, certification and seminars in a new area or their chosen areas of expertise.

The curriculum includes required courses in mathematics and the physical sciences that ensure a firm scientific background while advanced departmental courses provide specialization. Required courses in the people and society - humanities and arts give students the social, ethical and ecological awareness needed in their profession. The courses are designed with the prerequisite structure in mind so that students have to draw from previously acquired knowledge to successfully complete upper level course requirements.

The engineering design experience is interwoven in the curriculum throughout the students’ four years of study.

- Starting with IEN 111 *Introduction to Engineering I* and IEN 112 *Introduction to Engineering II*, an introduction to Engineering graphics, Auto CAD, MATLAB, C++, advanced Excel and Access are given.
- The students then move on to take IEN 201 *Methods Analysis and Work Measurement* where they perform work measurement projects in industry, write reports, and make oral presentations to management. In the Spring of their Junior year, the students take IEN 363 *Project Management for Engineers* and they are exposed to techniques and tools in project management such as use of network flow and MS Project.
- Students take IEN 361 *Industrial Cost Analysis* and IEN 380 *Engineering Economy* where they become aware of the impact of productivity on the economic and social well-being of industry and countries. The students are also introduced to basic models of decision making such as the formulation and evaluation of an economic strategy.
- IEN 406 *Computer-Aided Manufacturing* introduces the students to product design in manufacturing and modern concepts of CAD/CAM/Automation.
- IEN 441 *Deterministic Models in Operations Research* focuses on the formulation of linear programming problems and solutions by the simplex method. Related topics include sensitivity analysis, duality theory and network programming. Engineering applications are emphasized.
- IEN 442 *Stochastic Models in Operations Research* focuses on basic concepts and techniques of random processes that are used to develop models for a variety of engineering and managerial problems. Topics include the Poisson Process, Markov chains, renewal theory, queuing models, and reliability.
• IEN 465 **Production and Inventory Control** provides a thorough treatment of modern production and inventory management policies, and their ramifications on supply chain management.

• Theory and applications of decision support systems in industrial engineering are covered in IEN 524 **Decision Support Systems in IE**. The topics include the study of model-based data-based, knowledge-based, and communication-based decision support systems.

• In IEN 557 **Ergonomics and Human Factors Engineering** both laboratory projects and real-world projects are designed, discussed, and conducted.

• Industry based projects are embedded into several other courses such as IEN 512 **Statistical Quality Control and Quality Management**, IEN 547 **Computer Simulation Systems**, and IEN 568 **Materials Handling and Facilities Planning**.

• IEN 494 **Senior Project** is a capstone project course where the students pool all of their knowledge and previous design experience into one major project integrating all components of the curriculum together. These projects are usually industry-based. Students prepare written and oral presentations. These presentations are made before top management or engineers of the organization where the projects were conducted in the presence of the faculty representatives from the department.

Real world projects are an integral part of most junior and senior level courses. In these courses, communication is emphasized through requirements for oral presentation and written technical reports. This experience provides the graduates with valuable industrial experience and communications skills while studying at the University of Miami.

The teaching laboratories meet current program needs and are constantly being improved. Equipment and experiments are geared to provide instruction in the areas of production system design, work methods and measurement, human factors engineering, manufacturing processes, computer applications in industrial engineering and operations research.
## Degree Programs

### Requirements of the Industrial Engineering Degree Program (BSIEN)

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BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING (125 Credits)

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*To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credits) in HA cognate and 3 courses in PS Cognate (9 credits).
1Students have to select a PS Cognate that includes this course. This course is a required course for the completion of the degree.
**The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BME (except BME 320), CAE, ECO, EEN, IEN, MEN, ACC, FIN, MGT(Except MGT 303), MAS, MKT.
***IEN Electives are selected from courses at the 300 level or above, offered by the Department of Industrial Engineering.

INDUSTRIAL ENGINEERING CONCENTRATIONS
- Engineering Management Concentration
- Manufacturing Engineering Concentration
- Pre-Medical Concentration
# Bachelor of Science in Industrial Engineering

## Engineering Management Concentration (125 Credits)

### Freshman Year

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### Sophomore Year

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<td>IEN 512 Statistical Quality Control and Quality Management</td>
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<td>IEN 547 Computer Simulation Systems</td>
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# BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

## MANUFACTURING ENGINEERING CONCENTRATION (125 Credits)

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<td>IEN 465 Production and Inventory Control</td>
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<td>IEN 505 Robotics</td>
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1Students have to select a PS Cognate that includes this course. This course is a required course for the completion of the degree.
### BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

#### PRE-MEDICAL CONCENTRATION (138 Credits)

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**Advanced Bioscience Elective is to be chosen from BIL250, BIL255, BIL268, MIC301, CHM202, or BMB402.

**Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both.

***Technical or Science Elective Lab is selected from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).
FIVE-YEAR BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING AND MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING (FIVE-YEAR BSIE/MSIE PROGRAM)

This program is specifically designed for those students who want to pursue their graduate study as soon as they complete their undergraduate study in Industrial Engineering. The special conditions for this Five-Year BSIE/MSIE Program are as follows:

1. The student must declare his/her intent to participate before the end of the Junior year by submitting an official application to the department graduate committee for admission into the MSIE portion of the program. Exceptions to this rule must be approved by the department faculty.

2. A student wishing to withdraw from the Five-Year Program without the MSIE degree must complete all the requirements for the BSIE program, including the IEN 494 Senior Project in order to get his/her BSIE degree.

3. To qualify for the MSIE degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA.

4. The student is awarded both the BSIE and MSIE degrees at the end of the fifth year when all undergraduate and graduate requirements are satisfied.
## FIVE-YEAR BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING AND MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING

### FRESHMAN YEAR

#### Fall Semester
- IEN 111 Introduction to Engineering I  3
- ENG 105 English Composition I  3
- MTH 151 Calculus I for Engineers  5
- PHY 205 University Physics I  3
- 14

#### Spring Semester
- IEN 112 Introduction to Engineering II  2
- ENG 107 Writing about Science  3
- MTH 162 Calculus II  4
- ECO 211 Economic Principles and Problems (PS Cognate) (PS Elective*)  3
- PHY 206 University Physics II  3
- PHY 208 University Physics II Lab  1
- 16

### SOPHOMORE YEAR

#### Fall Semester
- ECO 212 Economic Principles and Problems (PS Cognate) (PS Elective*)  3
- IEN 201 Methods Analysis & Work Measurements  3
- MTH 210 Vectors and Matrices  3
- PHY 207 University Physics III  3
- PHY 209 University Physics III Laboratory  1
- HA Cognate (HA Elective*)  3
- 16

#### Spring Semester
- CAE 210 Mechanics of Solids I, or EEN 205 Principles of Electrical Engineering I, or MAE 303 Thermodynamics I  3
- CHM 151 Chemistry for Engineers I  3
- CHM 153 Chemistry Laboratory for Engineers  1
- PS Cognate (Advanced PS Elective*)  3
- MTH 311 Ordinary Differential Equations  3
- 16

### JUNIOR YEAR

#### Fall Semester
- HA Cognate (Advanced HA Elective*)  3
- IEN 310 Introduction to Engineering Probability  3
- IEN 351 Industrial Safety Engineering  3
- IEN 380 Engineering Economy  3
- IEN 441 Deterministic Models in Operations Research  3
- 15

#### Spring Semester
- IEN 312 Applied Statistical Methods  3
- IEN 361 Industrial Cost Analysis  3
- IEN 363 Project Management for Engineers  3
- IEN 406 Computer-Aided Manufacturing  3
- IEN 442 Stochastic Models in Operations Research  3
- Technical Elective**  3
- 18

### SENIOR YEAR

#### Fall Semester
- IEN 465 Production and Inventory Control  3
- IEN 512 Statistical Quality Control and Quality Management  3
- IEN 547 Computer Simulation Systems  3
- IEN 557 Ergonomics and Human Factors Engineering  3
- IEN Elective***  3
- IEN Elective****  3
- 18

#### Spring Semester
- IEN 524 Decision Support Systems in IE  3
- IEN 568 Materials Handling and Facilities Planning  3
- IEN Elective***  3
- IEN Elective****  3
- IEN Elective****  3
- 18

### FIFTH YEAR

#### Fall Semester
- IEN 594 Masters Capstone Design Project  3
- IEN 612 Design of Experiments  3
- IEN 642 Linear Programming and Extensions  3
- IEN Elective****  3
- 12

#### Spring Semester
- IEN 657 Ergonomics and Occupational Biomechanics  3
- IEN 665 Ergonomics and Occupational Biomechanics  3
- Management of Technological Innovation  3
- IEN 666 Advanced Production Systems  3
- 9

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1 Students have to select an PS Cognate that includes this course. This course is a required course for the completion of the degree.

2 The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BME (except BME 320), CAE, ECO, EEN, IEN, MEN, ACC, FIN, MGT(Except MGT 303), MAS, MKT.

3 IEN Electives are selected from courses at the 300 level or above, offered by the Department of Industrial Engineering.
IEN Electives are selected from courses at the 500 or 600 level, offered by the Department of Industrial Engineering.
FIVE-YEAR BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING  
(ENGINEERING MANAGEMENT CONCENTRATION)  
AND  
MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING

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<td>IEN 512 Statistical Quality Control and Quality Management</td>
<td>IEN 568 Materials Handling and Facilities Planning</td>
</tr>
<tr>
<td>IEN 547 Computer Simulation Systems</td>
<td>IEN 570 Engineering Management</td>
</tr>
<tr>
<td>IEN 557 Ergonomics and Human Factors Engineering</td>
<td>IEN 572 Management of Technological Innovation</td>
</tr>
<tr>
<td>IEN 571 Engineering Entrepreneurship</td>
<td>IEN Elective*</td>
</tr>
<tr>
<td>IEN Elective**</td>
<td>IEN Elective**</td>
</tr>
<tr>
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<table>
<thead>
<tr>
<th>FIFTH YEAR</th>
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</tr>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
<td><strong>Spring Semester</strong></td>
</tr>
<tr>
<td>IEN 594 Masters Capstone Design Project</td>
<td>IEN 657 Ergonomics and Occupational Biomechanics</td>
</tr>
<tr>
<td>IEN 612 Design of Experiments</td>
<td>IEN 664 Supply Chain Management</td>
</tr>
<tr>
<td>IEN 642 Linear Programming and Extensions</td>
<td>IEN 665 Advanced Production Systems</td>
</tr>
<tr>
<td>IEN Elective**</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
</tr>
</tbody>
</table>

*To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) or applicable cognates). Students take a minimum of 3 courses (9 credits) in HA cognate and 3 courses in PS Cognate (9 credits).

1 Students have to select an PS Cognate that includes this course. This course is a required course for the completion of the degree.

**IEN Electives are selected from courses at the 500- or 600-level, offered by the Department of Industrial Engineering.
MINOR

INDUSTRIAL ENGINEERING MINOR
A student majoring in another discipline who chooses to take a minor in Industrial Engineering must complete 15 credits of coursework consisting of the following two Courses:
IEN 201
IEN 310 or IEN 311 or equivalent, and three courses from the following list:
IEN 351
IEN 361
IEN 363
IEN 380
IEN 557
IEN 570
IEN 571
IEN 572

Substitutions may be accepted with the permission of the Department Chairman.

Industrial Engineering Course Listing
INTRODUCTION

Engineering is the art of applying the knowledge of science for the benefit of humanity. Mechanical Engineering is the most broadly based area of engineering. It is concerned with the analysis, design, development and application of equipment for such diverse fields as energy conversion, transportation, production machinery, consumer goods, and environmental control. Today’s advanced technology is largely a result of the skill of mechanical engineers who are heavily represented in most fields of modern industry.

Because of the varied careers and opportunities which are available to the Mechanical Engineering graduates, the curriculum emphasizes education in the fundamentals of the physical, mathematical, and engineering sciences, including materials science, solid mechanics, fluid mechanics and thermodynamics. These basic subjects are followed by courses in their application to the design and analysis of engineering devices and systems. Computers are utilized for analysis and design throughout the curriculum.

Aerospace Engineering is concerned with the analysis, design and development of a wide variety of aircraft and space vehicles and systems. The undergraduate aerospace engineering program is designed to provide a broad based foundation in aeronautics and astronautics, including topics such as aerodynamics, propulsion, aerospace structures and materials, flight dynamics, control and performance.

In the junior and senior years, the student is assisted in choosing technical electives in preparation for a degree of professional specialization or for further study in engineering, law, business or medicine. With the aid of an advisor and the concurrence of the department chairman, the student may select courses compatible with a variety of career goals.

The department offers two undergraduate degrees: Bachelor of Science in Mechanical Engineering and Bachelor of Science in Aerospace Engineering. Within the Bachelor of Science in Mechanical Engineering program, sequences of courses are available to provide advanced knowledge in such traditional areas as electromechanical design, heat transfer, solid mechanics, fluid mechanics, and materials science. There are concentrations in Aerospace Engineering, Environmental Engineering, Energy Engineering, Automobile Engineering, Combustion Engines/Exhaust Emissions, and Heating, Ventilation and Air Conditioning. In addition, a Biomedical Engineering concentration is offered in conjunction with the Department of Biomedical Engineering and the Medical School.

MISSION STATEMENTS

Mission of Mechanical and Aerospace Engineering Department
The mission of the Department of Mechanical and Aerospace Engineering is to provide excellent undergraduate education in aerospace engineering and undergraduate and graduate education in mechanical engineering that will prepare graduates to meet Society’s changing needs and aspirations.

Mission of the Mechanical Engineering Program
The mission of the Mechanical Engineering program is to provide excellent undergraduate education in Mechanical Engineering that will prepare graduates to meet society’s changing needs and aspirations.

**Mission of the Aerospace Engineering Program**
The mission of the Aerospace Engineering program is to provide excellent undergraduate education in Aerospace Engineering that will prepare graduates to meet society’s changing needs and aspirations.

**EDUCATIONAL OBJECTIVES**

The objectives of the mechanical engineering program are to educate engineers who:

1. have a sound background in the fundamentals of engineering
2. have the abilities and knowledge expected by industry
3. are prepared for entry-level jobs in mechanical engineering
4. are prepared for graduate work in mechanical engineering

The objectives of the aerospace engineering program are to educate engineers who:

1. have a sound background in the fundamentals of engineering
2. have the abilities and knowledge expected by industry
3. are prepared for entry-level jobs in aerospace engineering
4. are prepared for graduate work in aerospace engineering

**GRADUATE STUDIES**
Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy are offered by the Department with options in various engineering and interdisciplinary fields. Detailed information is available in the Bulletin of the Graduate School.
# DEGREE PROGRAMS

## MECHANICAL ENGINEERING CURRICULUM (126 credits)

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 111 Introduction to Engineering I</td>
<td>MAE 112 Introduction to Engineering II</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>CAE 210 Mechanics of Solids I</td>
</tr>
<tr>
<td>MTH 151 Calculus I for Engineers</td>
<td>ENG 107 Writing about Science</td>
</tr>
<tr>
<td>PHY 205 University Physics I</td>
<td>MTH 162 Calculus II</td>
</tr>
<tr>
<td></td>
<td>PHY 206 University Physics II</td>
</tr>
<tr>
<td></td>
<td>PHY 208 University Physics II Lab</td>
</tr>
<tr>
<td>14</td>
<td>16</td>
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</tbody>
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### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
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<tbody>
<tr>
<td>MAE 207 Mechanics of Solids II</td>
<td>MAE 202 Dynamics</td>
</tr>
<tr>
<td>IEN 311 Applied Probability and Statistics</td>
<td>MAE 241 Measurements Lab</td>
</tr>
<tr>
<td>MTH 211 Calculus III</td>
<td>EEN 205 Principles of Electrical Engineering I</td>
</tr>
<tr>
<td>PHY 207 University Physics III</td>
<td>CHM 151 Chemistry for Engineers I</td>
</tr>
<tr>
<td>PHY 209 University Physics III Lab</td>
<td>CHM 153 Chemistry Laboratory for Engineers</td>
</tr>
<tr>
<td>EC0 211 or ECO 212 (PS cognate*) (PS Elective*)</td>
<td>HA Cognate (HA Elective*)</td>
</tr>
<tr>
<td>3</td>
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<tr>
<td>16</td>
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### JUNIOR YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
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<tbody>
<tr>
<td>MAE 302 Mechanical Behavior of Materials</td>
<td>MAE 301 Engineering Materials Science</td>
</tr>
<tr>
<td>MAE 303 Thermodynamics I</td>
<td>MAE 310 Heat Transfer</td>
</tr>
<tr>
<td>MAE 309 Fluid Mechanics</td>
<td>MAE 342 Mechanical Design II</td>
</tr>
<tr>
<td>MAE 341 Mechanical Design I</td>
<td>CHM 351 Mechanics Laboratory</td>
</tr>
<tr>
<td>MTH 311 Ordinary Differential Equations</td>
<td>MAE 362 Computer Analysis of Mech &amp; Aerospace Eng Problems</td>
</tr>
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<td>MAE Technical Elective**</td>
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### SENIOR YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 404 Experimental Engineering Laboratory</td>
<td>MAE 443 Capstone Design Project - II</td>
</tr>
<tr>
<td>MAE 412 System Dynamics</td>
<td>MAE 415 Automatic Control</td>
</tr>
<tr>
<td>MAE 441 Design of Fluid and Thermal Systems</td>
<td>MAE Technical Elective**</td>
</tr>
<tr>
<td>MAE 442 Capstone Design Project - I</td>
<td>HA Cognate (Adv. HA Elective*)</td>
</tr>
<tr>
<td>Energy Elective***</td>
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<tr>
<td>HA Cognate (HA Elective*)</td>
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</tbody>
</table>

* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

** Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

*** Energy Electives are selected with approval of Faculty Advisor, e.g., MAE 408, MAE 420, MAE 503, MAE 506, MAE 509, MAE 510, MAE 528, MAE 540, MAE 570.

# Students have to select a PS Cognate that includes this class. This class is a required class for the completion of the degree.
AEROSPACE ENGINEERING CURRICULUM (126 CREDITS)

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
<td>MAE 111 Introduction to Engineering I</td>
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</tr>
<tr>
<td>Fall</td>
<td>ENG 105 English Composition I</td>
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<tr>
<td>Fall</td>
<td>MTH 151 Calculus I for Engineers</td>
<td>5</td>
</tr>
<tr>
<td>Fall</td>
<td>PHY 205 University Physics I</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 112 Introduction to Engineering II</td>
<td>2</td>
</tr>
<tr>
<td>Spring</td>
<td>CAE 210 Mechanics of Solids I</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>ENG 107 Writing about Science</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MTH 162 Calculus II</td>
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</tr>
<tr>
<td>Spring</td>
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<tr>
<td>Spring</td>
<td>PHY 208 University Physics II Lab</td>
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**SOPHOMORE YEAR**

<table>
<thead>
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<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
<td>MAE 207 Mechanics of Solids II</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>IEN 311 Applied Probability and Statistics</td>
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<tr>
<td>Fall</td>
<td>MTH 211 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>PHY 207 University Physics III</td>
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</tr>
<tr>
<td>Fall</td>
<td>HA Cognate (HA Elective*)</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 202 Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 241 Measurements Lab</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>EEN 205 Principles of Electrical Engineering I</td>
<td>3</td>
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<tr>
<td>Spring</td>
<td>CHM 151 Chemistry for Engineers I</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>CHM 153 Chemistry Laboratory for Engineers</td>
<td>1</td>
</tr>
<tr>
<td>Spring</td>
<td>PS Cognate (PS- Elective*)</td>
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**JUNIOR YEAR**

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<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
<td>MAE 302 Mechanical Behavior of Materials</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>MAE 303 Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>MAE 309 Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>MAE 341 Mechanical Design I</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>MTH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>HA Cognate (-HA Elective*)</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 310 Heat Transfer</td>
<td>3</td>
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<tr>
<td>Spring</td>
<td>MAE 351 Mechanics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 470 Introduction to Aerospace Structures</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 371 Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE Technical Elective**</td>
<td>3</td>
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<tr>
<td>Spring</td>
<td>PS Cognate (PS Elective*)</td>
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**SENIOR YEAR**

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<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>Fall</td>
<td>MAE 570 Aerospace Propulsion</td>
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<tr>
<td>Fall</td>
<td>MAE 404 Experimental Engineering Laboratory</td>
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<tr>
<td>Fall</td>
<td>MAE 471 Flight Dynamics and Orbital Mechanics</td>
<td>3</td>
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<tr>
<td>Fall</td>
<td>MAE 472 Design of Aerospace Structures</td>
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<tr>
<td>Fall</td>
<td>MAE 444 Capstone Design Project - I Aerospace</td>
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</tr>
<tr>
<td>Fall</td>
<td>MAE 446 Aircraft Design</td>
<td>3</td>
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<tr>
<td>Spring</td>
<td>MAE 415 Automatic Control</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>MAE 445 Capstone Design Project – II Aerospace</td>
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</tr>
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</tr>
<tr>
<td>Spring</td>
<td>HA Cognate (Adv. HA Elective*)</td>
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<td>Spring</td>
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<td>3</td>
</tr>
</tbody>
</table>

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** Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

CONCENTRATIONS IN MECHANICAL ENGINEERING

Aerospace Engineering Concentration
The mission of the aerospace engineer is to design and manufacture payload carrying vehicles to travel distances at the lowest cost in the shortest period of time. The training of the aerospace engineer is by demand multidisciplinary and by spirit pioneering. It includes aerodynamics, propulsion, advanced materials, structures, controls, robotics, electronics and computer usage.
An option has been developed to allow students at the University of Miami to have a concentration of courses in Aerospace Engineering. This concentration in aerospace is built on the existing accredited degree program in Mechanical Engineering.
Energy Engineering Concentration
This concentration provides the fundamentals and applications of various aspects of energy such as solar, hydrogen, electric and nuclear energy sources; energy conversion; internal combustion engines; and energy utilization in heating, ventilating, air conditioning and refrigeration systems. The technical electives related to this concentration include MAE 408, MAE 420, MAE 503, MAE 508, MAE 509, MAE 510, MAE 512, MAE 514, MAE 528, MAE 538, MAE 539, and MAE 540. Students can take special project courses in Internal Combustion Engines, Dorgan Solar Energy, Pollution Control, Fluid and Thermal Sciences, and Two-Phase Flow Laboratories.

Biomedical Engineering Concentration
This concentration is built around a 9-credit course sequence which has been developed to familiarize graduate and advanced undergraduate students with the rudiments of anatomy, physiology, biochemistry, and clinical medicine. Completion of the program is intended to aid the student in pursuing a career in medicine or in engineering and design in such areas as extracorporeal life-support systems and prosthetic devices.

The student should take Chemistry 201 as a prerequisite to Biomedical Engineering 501 and 502, Unified Medical Sciences I and II. These Biomedical Engineering courses satisfy the requirements for electives in the Mechanical Engineering Program, but under current regulations, the student will require 131 credits to graduate.

Automotive Engineering Concentration (Internal Combustion Engines)
This program is designed to acquaint the mechanical engineering student with the fundamental science and engineering underlying the design of both conventional and high performance internal combustion engines and the fundamentals of emission formation in combustion systems, automobile mechanisms and structures including vibrations and noise. Included are studies of conventional fuels and synthetic fuels of the future such as hydrogen and methanol.

Technical Electives are MAE 503, 514 and 521.

Environmental Engineering Concentration
In the students junior and senior years he or she should select three People and Society/Humanities and Arts electives from List A below, including one of the 500-level courses, and two Technical Electives from List B.

<table>
<thead>
<tr>
<th>List A</th>
<th>List B</th>
</tr>
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<tbody>
<tr>
<td>Socio-Humanistic elective sequences recommended:</td>
<td>Technical electives recommended:</td>
</tr>
<tr>
<td>ECO 211, 212</td>
<td>MAE 408, 503, 508, 512, 521, 520</td>
</tr>
<tr>
<td>SOC 101, 344</td>
<td>CAE 430, 541</td>
</tr>
<tr>
<td>POL 211, 212</td>
<td>IEN 465</td>
</tr>
<tr>
<td>GEG 341</td>
<td>MAS 547</td>
</tr>
<tr>
<td></td>
<td>BIL 150, 160</td>
</tr>
</tbody>
</table>
HVAC Systems Concentration
This concentration is offered to specialize the mechanical engineering student with the theory and applications of HVAC systems. At least the HVAC Technical Electives MAE 408, MAE 508, and MAE 539 should be selected. The design project for MAE 442-443 will involve air-conditioning component and system design.

Sustainable Engineering Concentration
The Sustainable Engineering concentration focuses on engineering that maximizes the benefits of technology to society while it minimizes the non-renewable resources utilized and the associated impact on the environment of producing and disposing of that technology. Projects in the design courses MAE 342, MAE 441 and MAE 442-443 will focus on Sustainable Engineering, and there will be a Special Project in the laboratory course MAE 404.

Other Concentrations
Concentrations may also be elected in electro-mechanical design, heat transfer, fluid mechanics, solid mechanics, computer aided design, nuclear engineering, materials science and chemical technology by judicious selection of technical electives.

MECHANICAL ENGINEERING CURRICULUM
AEROSPACE ENGINEERING CONCENTRATION (129 credits)

| FRESHMAN YEAR |  |
|---------------|  |
| **Fall Semester** | **Spring Semester** |
| MAE 111 Introduction to Engineering I | MAE 112 Introduction to Engineering II |
| 3 | 2 |
| ENG 105 English Composition I | MAE 210 Mechanics of Solids I |
| 3 | 3 |
| MTH 151 Calculus I for Engineers | ENG 107 Writing about Science |
| 3 | 3 |
| PHY 205 University Physics I | MTH 162 Calculus II |
| 14 | 4 |
| | PHY 206 University Physics II |
| | 3 |
| | PHY 208 University Physics II Lab |
| | 1 |
| | 16 |

| SOPHOMORE YEAR |  |
|----------------|  |
| **Fall Semester** | **Spring Semester** |
| MAE 207 Mechanics of Solids II | MAE 202 Dynamics |
| 3 | 3 |
| IEN 311 Applied Probability and Statistics | MAE 241 Measurements Lab |
| 3 | 3 |
| MTH 211 Calculus III | EEN 205 Principles of Electrical Engineering I |
| 3 | 3 |
| PHY 207 University Physics III | CHM 151 Chemistry for Engineers I |
| 3 | 3 |
| PHY 209 University Physics III Lab | CHM 153 Chemistry Laboratory for Engineers |
| 1 | 1 |
| ECO 211 or ECO 212 (PS Cognate*) (PS Elective*) | HA Cognate (-HA Elective*) |
| 3 | 3 |
| 16 | 16 |

| JUNIOR YEAR |  |
|-------------|  |
| **Fall Semester** | **Spring Semester** |
| MAE 302 Mechanical Behavior of Materials | MAE 301 Engineering Materials Science |
| 3 | 3 |
| MAE 303 Thermodynamics I | MAE 310 Heat Transfer |
| 3 | 3 |
| MAE 309 Fluid Mechanics | MAE 342 Mechanical Design II |
| 3 | 3 |
| MEN 341 Mechanical Design I | MAE 351 Mechanics Laboratory |
| 3 | 2 |
| MTH 311 Ordinary Differential Equations | MAE 371 Aerodynamics |
| 15 | 3 |
| | MAE 362 Computer Analysis of Mech & Aerospace Eng Problems |
| | 3 |
| | 17 |

| SENIOR YEAR |  |
|-------------|  |
| **Fall Semester** | **Spring Semester** |
| MAE 404 Experimental Engineering Laboratory | MAE 443 Capstone Design Project - II |
| 2 | 2 |
| MAE 412 System Dynamics | MAE 415 Automatic Control |
| 3 | 3 |
| MAE 441 Design of Fluid and Thermal Systems | MAE 470 Introduction to Aerospace Structures |
| 3 | 3 |
| MAE 471 Flight Dynamics and Orbital Mechanics | HA Cognate (-HA Elective*) |
| 3 | 3 |
| MAE 570 Aero Propulsion | PS Cognate (Adv. PS- Elective*) |
| 3 | 3 |

| Total | 129 |

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University of Miami Bulletin, 2013-2014
Undergraduate, College of Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MAE 442 Capstone Design Project - I</td>
<td>3</td>
</tr>
<tr>
<td>MAE 446 Aircraft Design</td>
<td>3</td>
</tr>
<tr>
<td>HA Cognate (Adv. HA Elective*)</td>
<td>3</td>
</tr>
</tbody>
</table>

* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

# Students have to select a PS Cognate that includes this class. This class is a required class for the completion of the degree.

**DUAL-DEGREE PROGRAM**

A dual-degree program leading to the two degrees, Bachelor of Science in Aerospace Engineering and Bachelor of Science in Mechanical Engineering, is available as per the following curriculum.

**BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING AND BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING CURRICULUM (147 CREDITS)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>MAE 111 Introduction to Engineering I</td>
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<tr>
<td>ENG 105 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 151 Calculus I for Engineers</td>
<td>5</td>
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<tr>
<td>PHY 205 University Physics I</td>
<td>3</td>
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<tr>
<td>MAE 112 Introduction to Engineering II</td>
<td>2</td>
</tr>
<tr>
<td>CAE 210 Mechanics of Solids I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 107 Writing about Science</td>
<td>3</td>
</tr>
<tr>
<td>MTH 162 Calculus II</td>
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<td>MAE 207 Mechanics of Solids</td>
<td>3</td>
</tr>
<tr>
<td>IEN 311 Applied Probability and Statistics</td>
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<tr>
<td>MTH 211 Calculus III</td>
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<tr>
<td>PHY 207 University Physics III</td>
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<tr>
<td>PHY 209 University Physics III Lab</td>
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<tr>
<td>ECO 211 or ECO 212 (PS Cognate*) (PS Elective*)</td>
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<tr>
<td>MAE 202 Dynamics</td>
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<tr>
<td>MAE 241 Measurements Lab</td>
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<tr>
<td>EEN 205 Principles of Electrical Engineering I</td>
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<tr>
<td>CHM 151 Chemistry for Engineers I</td>
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<tr>
<td>CHM 153 Chemistry Laboratory for Engineers</td>
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<td>MAE 302 Mechanical Behavior of Materials</td>
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<tr>
<td>MAE 303 Thermodynamics I</td>
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<tr>
<td>MAE 309 Fluid Mechanics</td>
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<tr>
<td>MAE 341 Mechanical Design I</td>
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<tr>
<td>MTH 311 Ordinary Differential Equations</td>
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<tr>
<td>PS Cognate (HA Elective*)</td>
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<tr>
<td>MAE 310 Heat Transfer</td>
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<tr>
<td>MAE 301 Engineering Materials Science</td>
<td>3</td>
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<tr>
<td>MAE 470 Introduction to Aerospace Structures</td>
<td>3</td>
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<tr>
<td>MAE 371 Aerodynamics</td>
<td>3</td>
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<tr>
<td>MAE 362 Computer Analysis of Mech &amp; Aerospace Eng Problems</td>
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<td>MAE 351 Mechanics Laboratory</td>
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<tr>
<td>MAE 570 Aerospace Propulsion</td>
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<tr>
<td>MAE 404 Experimental Engineering Laboratory</td>
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<tr>
<td>MAE 471 Flight Dynamics and Orbital Mechanics</td>
<td>3</td>
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<tr>
<td>MAE 472 Design of Aerospace Structures</td>
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<td>MAE 444 Capstone Design Project I Aerospace</td>
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<td>MAE 446 Aircraft Design</td>
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<tr>
<td>MAE 415 Automatic Control</td>
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<td>MAE 445 Capstone Design Project - II</td>
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<td>MAE Technical Elective**</td>
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<tr>
<td>MAE 457 Design of Mechanical Systems</td>
<td>3</td>
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<tr>
<td>MAE Technical Elective **</td>
<td>3</td>
</tr>
<tr>
<td>MAE 342 Design of Mechanical Systems</td>
<td>3</td>
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<tr>
<td>HA Cognate (HA Elective*)</td>
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</tbody>
</table>

394
FIFTH YEAR

**Fall Semester**

- MAE 441 Design of Fluid and Thermal Systems 3
- MAE 412 System Dynamics 3
- MAE Technical Elective** 3
- MAE Energy Elective*** 3
- PS Cognate (Adv. PS Elective*) 3
- HA Cognate (Adv. HA Elective*) 3

**Total:** 18

# Students have to select a PS Cognate that includes this class. This class is a required class for the completion of the degree.

* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

** Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

*** Energy Electives are selected with approval of Faculty Advisor, e.g., MAE 408, MAE 420, MAE 503, MAE 506, MAE 509, MAE 510, MAE 528, MAE 540, MAE 570.

The five-year BS/MS program leads to both the B.S. degree and the M.S. degree in Mechanical Engineering in five years. The program is intended for exceptional students who are admitted to the graduate program in their junior year. Students applying for this program must have a grade point average of at least 3.0 and must attain a score of more than 1000 on the Graduate Record Examination (taken before the fifth year). The curriculum requirements for this program are as follows:

**BACHELOR of SCIENCE and MASTER of SCIENCE in MECHANICAL ENGINEERING**

### FRESHMAN YEAR

**Fall Semester**

- MAE 111 Introduction to Engineering I 3
- ENG 105 English Composition I 3
- MTH 151 Calculus I for Engineers 5
- PHY 205 University Physics I 3

**Spring Semester**

- MAE 112 Introduction to Engineering II 2
- CAE 210 Mechanics of Solids I 3
- ENG 107 Writing about Science 3
- MTH 162 Calculus II 4
- PHY 206 University Physics II 3
- PHY 208 University Physics II Lab 1

**Total:** 16

### SOPHOMORE YEAR

**Fall Semester**

- MAE 207 Mechanics of Solids II 3
- IEN 311 Applied Probability and Statistics 3
- MTH 211 Calculus III 3
- PHY 207 University Physics III 3
- PHY 209 University Physics III Lab 1
- ECO 211 or ECO 212 (PS Cognate*) (PS Elective*) 3

**Spring Semester**

- MAE 202 Dynamics 3
- MAE 241 Measurements Lab 3
- EEN 205 Principles of Electrical Engineering I 3
- CHM 151 Chemistry for Engineers I 3
- CHM 153 Chemistry Laboratory for Engineers 1
- HA Cognate (HA Elective*) 3

**Total:** 16

### JUNIOR YEAR

**Fall Semester**

- MAE 302 Mechanical Behavior of Materials 3
- MAE 303 Thermodynamics I 3
- MAE 309 Fluid Mechanics 3
- MAE 341 Mechanical Design I 3
- MTH 311 Ordinary Differential Equations 3

**Spring Semester**

- MAE 301 Engineering Materials Science 3
- MAE 310 Heat Transfer 3
- MAE 342 Mechanical Design II 3
- MAE 351 Mechanics Laboratory 2
- MAE 362 Computer Analysis of Mech & Aerospace Eng Problems 3
- MAE Technical Elective** 3

**Total:** 17
SENIOR YEAR

<table>
<thead>
<tr>
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<td>MAE 404 Experimental Engineering Laboratory</td>
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<tr>
<td>MAE 412 System Dynamics</td>
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<tr>
<td>MAE 441 Design of Fluid and Thermal Systems</td>
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<tr>
<td>Energy Elective***</td>
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<tr>
<td>500 Level Technical Elective**</td>
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FIFTH YEAR

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</table>

# Students have to select a PS Cognate that includes this class. This class is a required class for the completion of the degree.

* You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

** At least two must be at 600 Level courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

*** Applied Thermodynamics Electives are selected with approval of Faculty Advisor, e.g., MAE 408, MAE 420, MAE 503, MAE 506, MAE 509, MAE 510, MAE 528, MAE 540, MAE 570.

MINOR

MECHANICAL ENGINEERING MINOR

A student in the College of Arts and Sciences choosing the general field of mechanical engineering as a minor must complete 15 credits consisting of the following:

1. A core of CAE 210 and MAE 111.

2. Nine additional credits of Mechanical Engineering electives. These nine credits must be chosen from one of the following areas of specialization:
   d. Thermal Engineering: MAE 303, MAE 310, MAE 408, MAE 420, MAE 441, MAE 503, MAE 508, MAE 510.

Mechanical and Aerospace Engineering Course Listing
DOROTHY H. AND LEWIS ROSENSTIEL
SCHOOL OF MARINE AND ATMOSPHERIC SCIENCE
UNDERGRADUATE

www.rsmas.miami.edu/academics/undergraduate

INTRODUCTION

The Rosenstiel School of Marine and Atmospheric Science was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation’s leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School’s present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired and additional buildings were constructed to accommodate new wide-ranging projects. In 1969, the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution, made through the Rosenstiel Foundation, to encourage progress in the marine and atmospheric sciences at the University of Miami. In 1977, the Rosenstiel School and College of Arts and Sciences joined together to establish an undergraduate Marine and Atmospheric Science program based on the Coral Gables campus. The degree granting authority for this program was formally transferred to the Rosenstiel School in 2008.

Today the Rosenstiel School has a faculty of over 90 scientists who conduct sponsored research while offering studies leading to the Bachelor of Science, Bachelor of Arts, Master of Arts, Master of Science, Master of Professional Science and Doctor of Philosophy degrees.

Government agencies and private organizations support basic and applied research at the Rosenstiel School. Graduate and undergraduate students are an integral part of the research effort, and research programs, many multidisciplinary in nature, provide the environment within which professors and students interact.

The Rosenstiel School has modern laboratory facilities and a state-of-the-art catamaran, unrivaled worldwide for both shallow and deep water research. The vessel, named the F. G. WALTON SMITH, in honor of the founder of the Rosenstiel School, signals a new era in scientific research.

MISSION

The Rosenstiel School strives to be in the forefront of basic and applied research as it applies to the ocean, atmosphere and global environment, with particular emphasis on subjects of societal significance. Our goal is to provide excellence in graduate and undergraduate education and research training, and to be a strong force towards improved environmental understanding and management.
ACADEMIC POLICIES

Admission

Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the Undergraduate Marine Science and Atmospheric Science Programs is selective and highly competitive. Admission decisions are based on the secondary school record, SAT/ACT score, counselor’s evaluation and the applicant’s essay.

Student Responsibilities

Students of the Rosenstiel School are responsible for planning their own programs and for meeting degree requirements. It is the student’s responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study.

Academic Progress

The Rosenstiel School will review each student’s record at the end of each semester. All students in the Undergraduate Marine and Atmospheric Science Program must maintain a cumulative grade point average of 2.5 or better in order to remain in the program. Only those courses passed with a grade of C- or better may be applied to the major or minor.

DEGREE PROGRAMS

The Rosenstiel School of Marine and Atmospheric Science offers degree programs on both the undergraduate and graduate levels for students interested in marine and atmospheric science as a career.

UNDERGRADUATE DEGREE PROGRAMS

The Atmospheric Science program offers a Bachelor of Science in Marine and Atmospheric Science degree in Meteorology, with a curriculum conforming to the recommendations of the American Meteorological Society. The BS in Meteorology is a single major program, requiring a minor in Mathematics. Students often combine Meteorology with a second major in Mathematics, Physics, or Broadcast Journalism. A five-year course of study culminating in the Master of Professional Science is also available.

The Rosenstiel School Marine Science program offers two undergraduate degree options, a Bachelor of Science in Marine and Atmospheric Science and a Bachelor of Arts in Marine Affairs. The Bachelor of Science degree program is meant for students planning to continue with graduate studies in marine science, or for those who will pursue a technical career in this area in government or private industry.

The Bachelor of Arts degree is designed for students planning either non-technical careers with government agencies or private industries directly or indirectly concerned with the ocean, or graduate studies in such areas as business, law, economics, political science, education, or communication.
In cooperation with the graduate program in Marine Affairs and Policy, a five-year BA/MPS program in Marine Affairs is available. This program enables qualified students to earn a Bachelor of Arts in Marine Affairs in four years with the opportunity to earn a Master of Professional Science in Marine Affairs with only one additional year.

GRADUATE DEGREE PROGRAMS

Graduate courses in the marine and atmospheric sciences are offered through the Graduate School and the Rosenstiel School of Marine and Atmospheric Science and are listed under the following divisional headings of the Rosenstiel School graduate programs entry in the Bulletin:

- Applied Marine Physics
- Marine and Atmospheric Chemistry
- Marine Biology and Fisheries
- Marine Geology and Geophysics
- Meteorology and Physical Oceanography
- Marine Affairs and Policy

Courses at the 500-level may be taken for undergraduate credit with junior standing and departmental consent.
UNDERGRADUATE MAJORS

ATMOSPHERIC SCIENCE PROGRAM – Dept. Code: ATM

METEOROLOGY

Meteorology is the study of the atmosphere, including climate and climate variability, weather forecasting, cloud and precipitation physics, tropical dynamics, severe weather and hurricanes. Atmospheric scientists use computer models and sophisticated observing systems to describe and understand the atmosphere. The curriculum emphasizes math and physics basics, providing a strong foundation for an intensive study of meteorology. The curriculum, conforming to the recommendations of the American Meteorological Society, prepares students for graduate school and for jobs in industry and government.

The Rosenstiel School offers a Bachelor of Science in Marine and Atmospheric Science with a major in Meteorology. In addition to the General Education Requirements, the following courses are required for the Meteorology major:

Atmospheric Science (32 credits):
ATM103, MSC111, ATM118, ATM243, ATM303, ATM305, ATM405, ATM406, ATM407, ATM409, and either ATM220 or ATM307.

Mathematics (20 credits):
MTH161, MTH162, MTH210, MTH224, MTH211 or MTH310, and MTH311 or MTH320. Broadcast meteorology majors must take either MTH224 or MTH311/320, but are not required to take both.

Physics (10 credits): PHY205, PHY206, PHY207, PHY208.

Chemistry (3 or 4 credits): ATM265 or both CHM111 and 113

Computer Science (4 credits): CSC120.

One free elective in Atmospheric Science, Mathematics or science (3 credits).

Six credits of upper level elective, to be approved by advisor. Recommended courses include ATM306, ATM307, ATM321 and MSC301. Both ATM220 and ATM307 may be taken for full credit. 500-level courses are open to undergraduates but typically offered on the RSMAS campus. For Broadcast Meteorology double-majors and minors, the electives may be taken from the School of Communications.

Although Meteorology is approved as a single major program, students often combine Meteorology with a second major in such diverse fields as mathematics, marine science or broadcast journalism. Sample curricula can be found at www.rsmas.miami.edu/academics/undergraduate/meteorology-program.
METEOROLOGY/MATHEMATICS

A double major in Meteorology and Mathematics provides an excellent foundation for students who want to pursue graduate degrees in meteorology and related fields. Tracks in Applied Analysis and Probability and Statistics are available. The double major curriculum is as follows:

Atmospheric Science (29 credits):
ATM103, 118, 243, 303, 305, 405, 406, 407, 409, and either 220 or 307.

Mathematics core (26 credits):
MTH161 and 162 or 171 and 172, 210, 224, 230, 310, 311, and 433 (or 533)

Physics (10 credits): PHY205, PHY206, PHY207, PHY208.

Chemistry (3 or 4 credits): ATM265 or both CHM111 and 113.

Computer Science (4 credits): CSC120.

Six credits of upper level elective, to be approved by advisor.

In addition, students much choose one track:

Applied Analysis (12 credits): MTH512, 542, and one of the following two course sequences: 513 and 514, or 515 and 516.

Probability and Statistics (12 credits): MTH513, 524, 525 and 542

MINOR in Meteorology

A minor in Meteorology requires 15 credits which must include ATM 103. The remainder may be selected from among the following courses: ATM118, ATM220, ATM243, ATM 264, ATM303 and ATM306. Only those courses passed with a grade of “C-” or higher may be applied to the minor.

Atmospheric Science Course Listing
MARINE SCIENCE PROGRAM – Dept. Code: MSC

Marine Science is an interdisciplinary program dealing with the study of the world’s oceans, their physical and biological constituents, the influence of oceanic resources on human society, and the conservation and future development of these resources.

The Bachelor of Science double major in Marine Science prepares students for admission to graduate programs and for careers in teaching and research as well as for technical careers in government and private industries concerned with the oceans. The Bachelor of Science track in Marine Science is a full double major program that requires a major in Marine Science through the Rosenstiel School and a second major in one of the sciences through the College of Arts and Sciences or the College of Engineering. Common double major combinations are marine science/biology, marine science/chemistry, marine science/geological sciences, marine science/physics, and marine science/computer science. Second majors in Applied Physics, Biochemistry, Engineering (all disciplines), Mathematics, Meteorology, and Microbiology & Immunology are also possible. Each of the areas of concentration constitutes a rigorous program requiring 120-130 credits for graduation.

In addition to the courses that fulfill the General Education Requirements, the required courses for each area of concentration are:

**Marine Science/Biology**

- Marine Science 111, 215, 216, 230, 232, 301, and 12 credits of elective in Marine Science, at least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

- Biology 150, 151, 160, 161, 250, 255, 330, 360 and 12 credits of elective as described for Biology majors

- (Marine Science 230 and one advanced biology course may fulfill requirements in both Biology and Marine Science)

- Chemistry 111, 112, 113, 114, 201, 202, 205, 206

- Geological Sciences 110 and 114, or 111

- Mathematics 161-162, one semester of a computer or statistics course. The following classes are approved to satisfy the computer/statistics requirement: MSC204, BIL 311, CSC 120, MTH 224, or PSY 291.

- Physics 205, 206, 207, and either 208 or 209; or Physics 101, 102, 106 and 108 (University Physics is recommended)

- Six credits of upper level elective, to be approved by advisor.
Marine Science/Chemistry

- Marine Science 111, 215, 216, 230, 232, 301, and 12 credits of elective in Marine Science, at least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

- Biology 150, 151 or 160, 161

- Chemistry 111, 112, 113, 114, 201, 202, 205, 206, 304, 316, 320, 360, 364, 365, and one of CHM 401, 441, 520, 563 or BMB 401 or 506 as described for Chemistry majors

- Geological Sciences 110 and 114, or 111

- Mathematics 161-162, one semester of a computer or statistics course. The following classes are approved to satisfy the computer/statistics requirement: MSC 204, MTH 224, CSC 120 or EEN 118.

- Physics 205, 206, 207, and either 208 or 209

- Six credits of upper level elective, to be approved by advisor.

Marine Science/Geological Sciences

- Marine Science 111, 215, 216, 230, 232, 301, and 12 credits of elective in Marine Science, at least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

- Biology 150, 151 or 160, 161

- Chemistry 111, 112, 113, 114

- Geological Sciences 110, 111, 114, 260, 360, 380, 410 or 420, 440, 480, 482, 580, as described for Geological Sciences majors.

- (One course in Geological Sciences may fulfill requirements in both Marine Science and Geology.)

- Mathematics 161-162, one semester of an approved computer or statistics course.

- Physics 205, 206, 207, and either 208 or 209; or Physics 101, 102, 106 and 108 (University Physics is recommended)

- Six credits of upper level elective, to be approved by advisor.
Marine Science/Physics

- Marine Science 111, 215, 216, 230, 232, 301, and 12 credits of elective in Marine Science, at least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

- Biology 150, 151 or 160, 161
- Chemistry 111, 112, 113, 114
- Geological Sciences 110 and 114, or 111
- Mathematics 161-162, 210, 311, and one semester of an approved computer or statistics course.

- Physics 205, 206, 207, 208, 209, 321, 340, 350, 351, 360, 362, 540, 560 as described for Physics majors

- Six credits of upper level elective, to be approved by advisor.

Marine Science/Computer Science

- Marine Science 111, 215, 216, 230, 232, 301, 321 and 9 credits of elective in Marine Science, at least 6 of which must be at the 300-level or higher.

- Biology 150, 151 or 160, 161
- Chemistry 111, 112, 113, 114
- Computer Science 120, 220, 314, 322, 531 and 6 credits of approved elective, as described for Computer Science majors

- Geography 199
- Geological Sciences 110 and 114, or 111
- Mathematics 161-162, 210, 309 and 311, plus an approved statistics course.

- Physics 205, 206, 207 and either 208 or 209

- Three credits of upper level elective, to be approved by advisor.
**Marine Science with a second major in one of:** Applied Physics, Biochemistry, Engineering (all disciplines), Mathematics, Meteorology, and Microbiology and Immunology

- Marine Science 111, 215, 216, 230, 232, 301, and 12 credits of elective in Marine Science, at least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

- Biology 150, 151 or 160, 161

- Chemistry 111, 112, 113, 114

- Geological Sciences 110 and 114, or 111

- Mathematics 161-162, and one semester of an approved computer or statistics course.

- Physics 205, 206, 207, and either 208 or 209; or Physics 101, 102, 106 and 108 (University Physics is recommended)

- Six credits of upper level elective, to be approved by advisor

- Plus all requirements of the second major.

**MINOR in Marine Science**

A minor in Marine Science requires the following courses: MSC111, and 12 credits of Marine Science elective, at least 6 of which must be at the 300-level or higher. Marine Science electives may be chosen from among: MSC 210, 215, 216, 220, 230, 232, 240, 301, 307, 310, 315, 316, 321, 323, 324, 326, 346, 350, 364, 371, 403, 410, 465, and 466, as well as approved 500-level classes from AMP, MAC, MBF, MGG, MPO and RSM. The Marine Science minor fulfills the requirements of a STEM cognate.

Only those courses passed with a grade of “C-” or higher may be applied to the major or minor.

[Marine Science Course Listing]
MARINE AFFAIRS

The ocean is acquiring an ever-increasing significance as an avenue of worldwide commerce and communication and as a source of food, energy, minerals and fuels. As nations and private concerns become more involved in the ocean, the need increases for qualified professionals to deal with the commercial and legal complexities of marine affairs. In order to meet this need, the Rosenstiel School offers a Bachelor of Arts degree with a minor in Marine Affairs combined with a minor in Anthropology, Economics, Ecosystem Science and Policy, Geography, International Studies, Latin American Studies, Political Science, or an approved field within the School of Business Administration. Students in the School of Communication may include Marine Affairs as a second major. This program is designed for students who wish to prepare themselves for graduate studies and careers in ocean related areas of business, policy, management, law, and communication.

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Affairs are:

- Biology 150, 160
- Chemistry 111, 112
- Marine Science 111, 215, 230, 313 or 314, 310 or 340, 345, 460 and six credits of approved elective in marine affairs.
- Geological Sciences 110 or 111
- Economics 211
- One approved course in computer programming or statistics
- Nine credits of upper level elective, to be approved by advisor.

Marine Affairs courses offered through the graduate Marine Affairs and Policy division at the Rosenstiel School may be taken by upper class students with permission.

5 Year BA/MPS Program in Marine Affairs

The Rosenstiel School offers a 5 year BA/Master of Professional Science (MPS) Program in Marine Affairs. This program enables qualified Marine Affairs students to earn a Bachelor of Arts in Marine Affairs in four years with the opportunity to earn a Master of Professional Science in Marine Affairs in one additional year. Conditional acceptance to the graduate Marine Affairs and Policy Division is based on the student’s GPA at the end of the sophomore year. Students must then apply for acceptance to the graduate program at the Rosenstiel School during their junior year.

MINOR in Marine Policy

A minor in Marine Policy (15 credits) requires the following courses: MSC111, and 12 credits of Marine Policy electives chosen from among: MSC310, 313, 314, 340, 345, 346, 410, 415, and 420, as well as MAF501, 504, 510, 512, 518 and 530. For students in Marine Science, MSC111 will be replaced by an additional elective, and all electives must be above and beyond those used for the major. The Marine Policy minor fulfills the requirements of a People and Society cognate.

Marine Policy Course Listing
HONORS

Honors in the Marine and Atmospheric Science Program may be earned by students who have a 3.5 GPA and have completed 6 credits of independent research and a senior thesis.

REQUIREMENTS FOR GRADUATION

In addition to satisfying the course requirements for graduation with majors in Marine Science, Meteorology and Marine Affairs (specified above under “Undergraduate Majors”), students are expected to satisfy the School’s General Education Requirements. General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge. Courses taken for the major, the minor, and the writing requirement may also be used to satisfy the General Education Requirements.

AREAS OF PROFICIENCY

A) English Composition: 3-6 credits

Students (except those first enrolling in English 103) must take English 105 and either 106 or 107, or their approved equivalents, in the first year of residence.

Students with an appropriate score on the Advanced Placement [AP] language and literature examination, or with an appropriate score on the International Baccalaureate [IB] higher level English examination, may earn 6 credits in English 105 and English 106. Those with an appropriate score on the SAT verbal or ACT verbal exams may be exempted from English 105. Those with transfer credit for English 105 will take English 106 or its equivalent in the first year of residence.

B) Writing Across the Curriculum

Every student must complete five (5) writing-oriented (W) courses beyond ENG 105 and 106. Students are required to write at least 4000 words in each W course. Writing assignments will be graded on both content and style. All literature and foreign language literature courses receive writing credit. Transfer students must satisfy at least three (3) courses of the writing requirement at the University of Miami.

C) Mathematics

Bachelor of Arts in Marine Affairs: one of MTH 108, MTH 113, MTH 130, or MTH 161, plus an approved course in statistics or computer science.

Bachelor of Science in Marine and Atmospheric Science: two semesters of Calculus (MTH 161-162 or equivalent), plus an approved course in statistics or computer science.

The following classes are approved to satisfy the statistics/computer science requirement: MSC204, BIL 311, MTH 224, PSY 291, CSC 120, EEN 118.
AREAS OF KNOWLEDGE

As described under the section *General Education Requirements* under *General University Information*, students must complete one cognate in each of three the Areas of Knowledge, Arts and Humanities, People and Society (Social Sciences) and Science, Technology, Engineering and Mathematics (STEM). All undergraduate students in the Rosenstiel School will fulfill their STEM cognate requirement through their major requirements. Students in Marine Affairs will fulfill their People and Society cognate requirement through their minor. Students in Marine Science may elect to fulfill the People and Society cognate requirement with a Marine Policy cognate. Students in Meteorology may elect to fulfill the People and Society cognate requirement with a Broadcast Meteorology cognate. Cognates integrating Study Abroad courses are also available. See program advisors for details.
INTRODUCTION

The University of Miami Frost School of Music awards the Bachelor of Music degree with majors in nine areas: Composition, Performance, Music Education, Music Engineering Technology, Music Business and Entertainment Industries, Music Therapy, Studio Music and Jazz, and Bachelor of Science in Music Engineering.

The Bachelor of Arts in music degree is a non-professional degree designed for talented musicians who wish to pursue a broad liberal arts education. Curriculum flexibility affords students the opportunity for a variety of pre-professional studies, including premedical and prelegal. A minor outside the Frost School of Music is required. A second major outside the School of Music can sometimes be pursued.

The Master of Music is offered with majors in Music Education, Music Therapy, Theory, Composition, Performance (voice, piano, conducting, harp, woodwind, multi-woodwinds, brass, percussion, and stringed instruments), Musicology, Accompanying and Chamber Music, Jazz Performance, Jazz Pedagogy, Music Business and Entertainment Industries, Studio Jazz Writing, Media Writing and Production. A joint Doctor of Jurisprudence (JD) and Masters in Music Business and Entertainment Industries is offered jointly with the School of Law. Music Engineering Technology is offered by the School of Music as a Master of Science Degree.

The Doctor of Philosophy degree in Music Education and the Doctor of Musical Arts degree also are offered. Refer to the appropriate section of the Graduate Bulletin for policies concerning admission, course of study, residence, research, tool requirements, examinations, candidacy, and dissertation/final project requirements.

MISSION

As one of the most comprehensive music units in American higher education, and as a free-standing school within a major research university, the Frost School of Music perpetuates a historic commitment to the values inherent in the juxtaposition of professional and general studies in undergraduate curricula. The comprehensiveness of the School’s undergraduate and graduate programs manifests a philosophy that places importance upon establishing and maintaining connections between its instructional and associated activities and the broad spectrum of music and music-related fields for which it seeks to prepare its students.

In broadest terms, the four-fold mission of the Frost School of Music is to provide a high quality music education and training for its undergraduate and graduate majors; foster advancements in music performance, creativity, scholarship, and teaching among its faculty; serve the general student population of the University; and act as an educational and cultural resource for the University, South Florida, and as appropriate, for national and international constituencies.
ACCREDITATION

The Frost School of Music has been a member of the National Association of Schools of Music since 1939. The requirements for entrance and for graduation as set forth in this Bulletin are in accordance with the published regulations of this Association.

GOALS

The primary goals are:

1. to provide music majors with a high quality pre-professional education,

2. to provide opportunities for other University students to increase their musical skill, understanding, and appreciation,

3. to provide the music faculty with opportunities for creative activity and scholarly inquiry, and

4. to serve as an educational and cultural resource for the University, South Florida, and global communities.

PHYSICAL FACILITIES


Henry Fillmore Band Hall (1958) has a rehearsal hall, uniform and instrument storage, the band library, offices, and the Henry Fillmore Museum.

Nancy Greene Hall (1960) contains a rehearsal hall, studio-offices, and ensemble library.

The Percussion Building (1968) is the percussion teaching studio and office.

The Bertha Foster Memorial Music Building (1960, with second story addition completed in 1970), contains practice rooms and teaching studios, pipe organ studio, an electronic music laboratory, and two studios equipped for audio and video recording.

The Gusman Concert Hall (1975) houses the administrative offices, data processing center, and the Music Engineering Technology center. The 600 seat sound chamber is one of the finest concert facilities in the Southeast.

The L. Austin Weeks Center for Recording and Performance (1994) contains the 150 seat Victor E. Clarke Recital Hall, featuring adjustable acoustics, a pre-function area, a green room, and a state-of-the-art recording studio. The recording area of the building features 48-track digital recording capabilities with a computer automated console, and a multimedia workstation.

The Marta and Austin Weeks Music Library and Technology Center (2005) contains a 15,300 square-foot library which houses collections of books, scores, recordings, special collections, reference works, and computer facilities. The 5,200 square-foot advanced technology center contains six labs, each servicing a specific program for higher-level work, including a music engineering lab, two keyboard/computer labs, a multimedia instruction and learning lab, an
electronic and computer music lab, and a media-writing and production lab.

PERFORMING ENSEMBLES

Through regular rehearsals and public concerts, ensembles provide performing experience for all students on the University of Miami campus. Membership in each of these performing ensembles is based on auditions. Students interested in instrumental music may participate in any of the following:

Accompanying
American Music Ensemble (Songwriters)
Avant Garde Ensemble
“Band of the Hour” Marching Band
Bluegrass Ensemble
Blues Ensemble
Brass Chamber Music
Brass Choir
Clarinet Choir
Classical Guitar Ensemble
Concert Jazz Band
Contemporary Music Ensemble
E.C.M. Ensemble
Electronic Music Ensemble
Flute Choir
Funk/Fusion Ensemble
Horace Silver Ensemble
Jazz Bass Ensemble
Jazz Guitar Ensemble
Jazz Keyboard Ensemble
Jazz Saxophone Ensemble
Laptop Ensemble
Mallet Ensemble
Monk/Mingus Ensemble
Percussion Chamber Music
Rock Ensemble
Salsa Ensemble
 Saxophone Ensemble
Small Jazz Ensembles
String-Keyboard Chamber Music
Studio Jazz Band
Studio Rhythm Section
Symphonic Winds
Symphony Orchestra
Synthesizer Ensemble
The Other Music Ensemble
Trombone Choir
Tuba Ensemble
University Band
Wind Ensemble
Woodwind Chamber Music
Jazz Band III
Vocal experience may be gained through participation in the

Chamber Singers
Jazz Vocal I-III
Men’s Chorale - Maelstrom
Musical Theatre Workshop
Opera Theater
Symphonic Choir
University Chorale
Women’s Chorale - Cantilena

PUBLIC PERFORMANCES

During the academic year, the Frost School of Music presents more than 300 student forums, student and faculty recitals, concerts, lectures, master classes, and guest artist recitals. Student ensembles and faculty present numerous master classes, recitals, and concerts throughout the United States and abroad.

Students are encouraged to attend recitals, concerts, master classes, and festivals which are presented within the Frost School of Music as well as throughout metropolitan Miami.

PROFESSIONAL SOCIETIES and STUDENT ORGANIZATIONS

In addition to other extra-curricular activities of the University, the Frost School of Music has established active chapters of Phi Mu Alpha Sinfonia, Sigma Alpha Iota, Music Educators National Conference (student), American Musicological Society, Tau Beta Sigma, Pi Kappa Lambda, Music Entertainment Industry Student Association, Audio Engineering Society, and the Society of Composers, Inc.

SCHOOL OF MUSIC SCHOLARSHIPS

The Frost School of Music grants scholarships based on musical talent. All domestic students seeking scholarship funds are encouraged to complete a Free Application for Federal Student Aid and/or other required forms. Please consult with the Office of Financial Assistance Services for further information.

SPECIAL PROGRAMS

Workshops and clinics are offered to enrich the musical knowledge of in-service teachers and professional musicians during the academic year. The program of activities continues through the summer when special workshops and seminars are offered. Opportunities for pre-college students are provided in all areas of music and dance throughout the year.

MUSIC FOR NON-MUSIC DEGREE STUDENTS

Certain music courses are available to students not enrolled in a music degree program. Pre-college students, matriculating University of Miami students, and interested community adults may enroll in these courses. Students who are not currently enrolled at the University of Miami but who wish to pursue courses will need to apply as a special student through the Frost School of Music Office of Admission.
Non-music majors wishing to enroll in performance study are required to audition and may, with the permission of the appropriate faculty member and the undergraduate or graduate dean, register for one or two credits a semester upon payment of tuition and an applied music fee of $300.00 per credit. Performance study by non-music majors is subject to teacher availability.

ACADEMIC POLICIES

REQUIREMENTS FOR ADMISSION

ADMISSION TO THE FROST SCHOOL OF MUSIC

Students admitted to the Frost School of Music must successfully complete a dual admission process. In addition to the general requirements for admission to the University, the undergraduate student must meet the following requirements of the Frost School of Music:

1. Submit a Frost School of Music Application directly to the Frost School of Music Admission Office.

2. Submit an Application for Undergraduate Study directly to the University Office of Undergraduate Admission.

3. Demonstrate performance proficiency by auditioning on campus, at designated regional audition centers, or by recording. The audition will be evaluated by appropriate faculty committees.

4. After being admitted to the University each student will be required to participate in placement auditions and exams in theory and applied music (performance). These examinations will be given immediately prior to registration in the fall.

5. Transfer students who are admitted to the University will receive a tentative evaluation of their previous work from the office of Admission. Validation of credits in music will be based on the results of auditions and placement examinations discussed above. The Assistant Dean for Undergraduate Studies of the Frost School of Music determines which transferred courses will meet specific requirements for graduation.

6. Admission is granted in Fall semesters only.

Students who are admitted to the Frost School of Music must begin a program of specialized requirements in music during their first semester.

ADMISSION TO THE UNIVERSITY (UNDERGRADUATE STUDENTS)

Application forms and bulletins for undergraduate students may be secured from the University of Miami web site at www.miami.edu. The University Office of Admission receives and processes all undergraduate applications, evaluates credentials, and mails letters of acceptance to applicants who qualify for entrance. Because of the University’s selective admissions policy and limited enrollment only those applicants are accepted who present evidence of intellectual promise, unusual talent and potential, and strong personal qualifications. Admission as a transfer student requires a 3.0 grade point average from the previous institution. Admission to the University in all cases is determined by the University Office of Admission and the Frost School of Music.
Prospective students should make formal application for admission in the fall of the senior year in high school. The Frost School of Music does not participate in the Early Decision or Early Action program.

**PLACEMENT TESTS**

Upon entering the Frost School of Music, students must demonstrate through placement auditions college-level performance on their instrument and in music theory. Results of placement tests will enable music advisors to assist students in selecting the appropriate program and level of study.

**ENGLISH and MATHEMATICS REQUIREMENTS**

Students requiring English 105, English 106, or Mathematics 101 must enroll for these classes during the first year in residence and are not permitted to drop.

**AUDIT**

Due to the nature of music courses, it is not possible for a student to audit courses offered in the Frost School of Music.

**PERFORMANCE STUDY**

**BULLETIN DESCRIPTION**

The study of a musical instrument privately or in a small group. Prerequisite: Audition.

**PERFORMANCE MAJOR**

A Performance Major aspires to a professional career in music performance.

**PRINCIPAL INSTRUMENT**

Non-Performance Majors study a principal instrument to develop their music performance skills to the fullest extent possible.

**PERFORMANCE INSTRUCTION**

The letter designations A through R classify the levels of undergraduate and graduate performance instruction. The letters A through H signify undergraduate study; letters I through L, master’s study; and letters M through R, doctoral study. Transfer students enroll in Level A for the first semester and are placed at an appropriate classification level of study based on the results of the Jury at the end of each semester.

**CREDIT FOR LESSONS**

The number of credit hours awarded for performance study is determined by the student’s curriculum. Students enrolled for two credits of performance study are required to perform a Jury at the end of each semester.

**JURY**

The purpose of the Jury is to evaluate student musicianship and technique progress. Students enrolled for 2 credits of private lessons are required to play a Jury before a panel of performance faculty at the end of each semester. Juries are held during Reading Days. Students perform technical requirements and repertoire as assigned by their performance study teacher.
The private teacher prepares a Jury Sheet that lists the repertoire covered during the semester and the studio grade, for each student. The grade is recorded on the Jury Sheet and placed in the student’s file. The final grade can be lowered as a result of poor recital attendance or other requirements specific to the student’s program of study.

**PERFORMANCE WARNING, PROBATION AND DISMISSAL**

The following applies to all majors and programs in the Frost School of Music:

Students earning a grade of C+ or lower in performance study will be placed on Performance Warning for one semester. A subsequent grade of C+ or lower in performance study will result in Performance Probation for one semester. Following Probation, an additional grade of C+ or lower in performance study will result in dismissal from the Frost School of Music.

**Students Who Fail to Successfully Complete a Music Course**

Students who fail to successfully complete a music course after the second enrollment will be dismissed from the Frost School. Courses may not be dropped during the second enrollment.

**SUMMER LESSONS**

During each of the five-week summer sessions, students may register for one credit of performance study and receive a one-hour lesson per week. Summer lessons do not fulfill degree requirements.

**SPECIAL FEES**

Students studying a secondary instrument beyond the required four semesters of secondary piano will be assessed a per-credit fee and must have the approval of the undergraduate dean and program director or department chair. Students who require an accompanist may be assessed an accompanying fee.

**REQUIREMENTS FOR GRADUATION**

The general requirements for graduation from the University of Miami are described in the General Information section of this Bulletin. These general requirements are included in the specific listing of requirements for various majors under the appropriate department in the Frost School of Music. Outlines of achievement levels in applied music for each major are available in the Office of the Dean of the Frost School of Music. The student should consult regularly with his/her advisor and download their Academic Credit Evaluations which track all courses taken to see that all requirements for his/her particular area of concentration degree requirements are being met. Changes or deviations from the printed requirements must be approved in writing by the Dean.

**WRITING COURSES**

Frost School of Music students are expected to complete five writing-intensive courses in addition to English 105 and 106. Courses designated to meet this requirement are identified in the semester course schedule.
Courses satisfying this requirement are those which involve a substantial amount of writing. The preparation of papers in these courses are corrected for diction, syntax, style, and content.

**Non Music or Free Electives**

Non – Music or Free Electives may be chosen from any courses offered by the University except ESS courses numbered below 140.

**Double Degrees**

The only courses that may count for both degrees are the general education requirements (English 105 and 106, People and Society, Natural World, Math, and Humanities). For each degree a student must have a different major and minor if a minor is required. The major for one degree may not be a minor for the other degree.

**MINORS**

**MUSIC MINOR**

Any student wishing to declare a minor in music must audition on an instrument and be approved by the Frost School of Music as a minor. The approval form can be picked up at the Undergraduate Dean’s Office at the Gusman Concert Hall. A fee is assessed for private instruction. Please note that a minor in certain instruments may not be available. Minors are not available in Jazz Instruments or Jazz Voice. Availability on other instruments and voice varies from year to year depending on studio space.

**A minor in music consists of 20 credits (at least 16 credits must be earned at the University of Miami):**

- Music theory (MTC) 109, 110 6 Credits
- Music literature (MCY) 131, and 3 credit MCY elective 6 Credits
- Music performance (Instrument/Voice, 4 semesters of 1 credit lessons) 4 Credits
- Ensembles 2 Credits
- Music Electives 2 Credits

**HONORS**

See general Honors program described elsewhere in Bulletin.
UNDERGRADUATE ACADEMIC PROGRAMS

DANCE – Dept. Code: DAN

There is currently no Undergraduate degree for Dance.

MINOR IN DANCE

A minor in dance is intended for students interested in developing basic teaching skills for elementary and secondary dance education. Prospective students interested in this minor are required to audition for acceptance as well as maintain a grade point average of 3.0 in dance courses. 20 credits are required.

Orientation to Dance (DAN 130) This course is a prerequisite for all students who are interested in the minor in Dance 2 credits
Advanced studio technique (DAN 311 or 411 and DAN 211 and 311 or DAN 311 and 411) 6 credits
Dance education and history (DAN 385 or DAN 585 and DAN 450 or DAN 550) 6 credits
Dance education electives (DAN 285, 286, and 290) 2 credits
Studio Electives (DAN 111, DAN 190, DAN 140, DAN 240, DAN 340, DAN 280, and DAN 380) 4 credits

Dance courses are open to all university students with the approval of their advisor. For further information, contact the Dance coordinator.

Dance Course Listing
PERFORMANCE

INTRODUCTION

The mission of the Bachelor of Music Degree is to (1) provide the highest quality of education possible in the areas of musicianship that will provide the foundation for graduate degree work which will lead toward a professional performance career as a classical artist; (2) to provide performance opportunities that integrate the skills learned in music and other classes and to foster creativity and research (3) to provide audition skills and repertoire as well as the skills for building and managing the non-performance aspects of a professional career.

EDUCATIONAL OBJECTIVES

- Students will develop musicianship skills and technique adequate for acceptance into graduate study for fostering a professional career as a solo classical performer.
- Students will be able to sight-read and prepare musical performances without assistance.
- Students will develop musicianship skills and technique for working within an ensemble adequate for acceptance into graduate study leading towards a professional career as a classical performer. Ensemble requirements will vary by applied area.
- Students will develop skills for acceptance into graduate study for fostering a professional career as a solo classical performer.
- Students will have a broad knowledge of music literature in their applied area as well as an understanding of stylistic and theoretical principles of the various musical and historical periods.

DEGREE PROGRAMS

Bachelor of Music in Performance

MAJOR

Instrumental Performance (MIP)
Keyboard Performance (MKP)
Vocal Performance (MVP)

Keyboard Performance Course Listing
Instrumental Performance Course Listing
# BACHELOR OF MUSIC: INSTRUMENTAL PERFORMANCE

**Experiential Music Curriculum**

**Major Code:** MIP

*The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.*

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
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<td>MIP Principal Instrument Forum</td>
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<td>MIP Principal Instrument (Level A)</td>
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<tr>
<td>MTC 140 Music Theory I*</td>
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<tr>
<td>MCY 140 Experiencing Music*</td>
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</tr>
<tr>
<td>MKP 140 Keyboard Studies I*</td>
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<tr>
<td>MTC 107 Skills Ensemble I*</td>
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<tr>
<td>Large Ensemble</td>
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<tr>
<td>Chamber Ensemble</td>
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</tr>
<tr>
<td>ENG 105 English Composition I</td>
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<tr>
<td>MTH 101 Algebra for College Students**</td>
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<td>UMX Freshman Experience</td>
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<td>MTC 240 Music Theory III*</td>
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<td>MKP 240 Keyboard Studies III*</td>
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<td>MMI 240 Music Technology I*</td>
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<tr>
<td>MTC 207 Skills Ensemble III*</td>
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<td>Large Ensemble</td>
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<tr>
<td>Chamber Ensemble</td>
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<tr>
<td>Humanities</td>
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<td>People &amp; Society</td>
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<td>MIP Principal Instrument (Level E)</td>
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<tr>
<td>MIP 307 Classical Improvisation</td>
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<td>Chamber Ensemble</td>
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<tr>
<td>MTC 313 18th Century Counterpoint</td>
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</tr>
<tr>
<td>MTC 416 Orchestration</td>
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<tr>
<td>MCY 541 Music of the Mediaeval, Renaissance &amp; Baroque Periods or Approved MCY Elective</td>
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<tr>
<td>Natural World</td>
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<td><strong>Total</strong></td>
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<td>MIP 407 Skills Ensemble VII* Conducting &amp; Arranging</td>
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<tr>
<td>Chamber Ensemble</td>
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</tr>
<tr>
<td>MMI 310 Music Business Essentials*</td>
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<tr>
<td>Approved Elective</td>
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<tr>
<td>Non-Music Elective</td>
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<td><strong>Total</strong></td>
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</table>

* Must pass with grade of C or above.
** If math placement is higher than MTH 101, a 3-credit academic elective will be required.
*** Must be enrolled in this course in the semester the recital will be performed.
# Bachelor of Music: Keyboard Performance

**Experiential Music Curriculum**

**Major Code:** MKP

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.

## Freshman Year

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<thead>
<tr>
<th>Fall Semester</th>
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<tbody>
<tr>
<td>MKP 006 Piano Forum</td>
<td>MKP 006 Piano Forum</td>
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<tr>
<td>Piano (MKP PIA)*</td>
<td>Piano (MKP PIB)*</td>
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<td>MTC 140 Music Theory I*</td>
<td>MTC 141 Music Theory II*</td>
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<td>MTC 107 Skills Ensemble I*</td>
<td>MTC 141 Musical Trends &amp; Traditions*</td>
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<tr>
<td>MCY 140 Experiencing Music*</td>
<td>MCY 141 Musical Trends &amp; Traditions*</td>
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<tr>
<td>Ensemble (can include Chamber Ensemble)</td>
<td>Ensemble (can include Chamber Ensemble)</td>
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<tr>
<td>Accompanying (MKP 189, 190, or 191)</td>
<td>Accompanying (MKP 189, 190, or 191)</td>
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<tr>
<td>ENG 105 English Composition I</td>
<td>ENG 106 English Composition II</td>
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<td>MTH 101 Algebra for College Students**</td>
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<td>UMX Freshman Experience</td>
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## Sophomore Year

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<td>MKP 006 Piano Forum</td>
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<td>Piano (MKP PIC)*</td>
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<td>MTC 240 Music Theory III*</td>
<td>MTC 241 Music Theory IV*</td>
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<td>MMI 240 Music Technology I*</td>
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## Junior Year

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<td>Piano (MKP PIE)*</td>
<td>Piano (MKP PIF)*</td>
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<tr>
<td>MTC 313 Eighteenth Century Counterpoint*</td>
<td>MKP 399 Junior Recital*#</td>
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<td>MIP 307 Skills Ensemble V*</td>
<td>MIP 307 Twentieth Century Techniques*</td>
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<td>MCY 541 Music of the Mediaeval, Renaissance &amp; Baroque Periods or</td>
<td>MIP 308 Skills Ensemble VI*</td>
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<td>MCY Elective</td>
<td>MCY 542 Music of the Classical, Romantic, &amp; Modern Periods or</td>
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<tr>
<td>MKP 547 Keyboard Pedagogy</td>
<td>MCY Elective</td>
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<td>Ensemble (can include Chamber Ensemble)</td>
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<tr>
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<td>Accompanying (MKP 189, 190, or 191)</td>
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## Senior Year

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<td>MKP 006 Piano Forum</td>
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<td>Piano (MKP PIF)*</td>
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<td>MTC 526 Keyboard Literature I*</td>
<td>MKP 499 Senior Recital*#</td>
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<td>MMI 310 Music Business Essentials*</td>
<td>MMI 530 Entrepreneurship for Musicians*</td>
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<td>MTC 311 Analysis &amp; Experience</td>
<td>MTC 416 Orchestration*</td>
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<td>Ensemble (can include Chamber Ensemble)</td>
<td>Ensemble (can include Chamber Ensemble)</td>
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<tr>
<td>Accompanying (MKP 189, 190, or 191)</td>
<td>Accompanying (MKP 189, 190, or 191)</td>
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</table>

* Must pass with grade of C or above.
** Required if math placement is MTH 101 or lower.
# Must be enrolled in this course in the semester the recital will be performed.
BACHELOR OF MUSIC: VOCAL PERFORMANCE

Experiential Music Curriculum

Major Code: MVP

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>MVP 008 Voice Forum</td>
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<tr>
<td>MVP Voice (Level A)</td>
<td>MVP Voice (Level B)</td>
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<tr>
<td>MTC 140 Music Theory I*</td>
<td>MTC 141 Music Theory II*</td>
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<tr>
<td>MCY 140 Experiencing Music*</td>
<td>MCY 141 Musical Trends &amp; Traditions*</td>
</tr>
<tr>
<td>MKP 140 Keyboard Studies I*</td>
<td>MKP 141 Keyboard Studies II*</td>
</tr>
<tr>
<td>MTC 107 Skills Ensemble I*</td>
<td>MTC 108 Skills Ensemble II*</td>
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<td>MVP 188 Opera Theater</td>
<td>MVP 189 Opera Theater II</td>
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<td>Choral Ensemble</td>
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<td>ENG 105 English Composition I</td>
<td>ENG 106 English Composition II</td>
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<td>MTH 101 Algebra for College Students**</td>
<td>ITA 101 Italian***</td>
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| Total | 17 |

**SOPHOMORE YEAR**

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<td>MVP 182 Choral Conducting II</td>
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<td>MVP 252 German Diction for Singers</td>
<td>MVP 253 French Diction for Singers</td>
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**JUNIOR YEAR**

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<td>MVP Voice (Level F)</td>
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<td>MCY 542 Music of the Classical, Romantic, and Modern Periods</td>
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<td>MVP 389 Opera Theater VI</td>
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<td>MKP PIE Piano</td>
<td>MCY 522 Operatic Literature or</td>
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<tr>
<td>Natural World</td>
<td>MCY 525 Art Song Literature</td>
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<tr>
<td>People &amp; Society</td>
<td>MKP PIF Piano</td>
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| Total | 17 |

**SENIOR YEAR**

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<td>MVP 489 Opera Theater VIII</td>
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<td>Choral Ensemble</td>
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<td>MMI 310 Music Business Essentials*</td>
<td>MMI 530 Entrepreneurship for Musicians*</td>
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<td>MVP 552 Vocal Performance Preparation</td>
<td>MVP 552 Vocal Performance Preparation</td>
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<td>MVP 538 Vocal Pedagogy</td>
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<td>MCY 522 Operatic Literature or</td>
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<tr>
<td>Natural World</td>
<td>MCY 525 Art Song Literature</td>
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| Total | 15 |

* Must pass with grade of C or above.
** Requires if math placement is MTH 101 or lower
*** Foreign language requirements: one semester each of Italian, French, and German and at least one additional semester of Italian, French, or German.
# Must be enrolled in this course in the semester the recital will be performed.
INTRODUCTION

A basic premise of the Music Education program is that music teachers must be both musicians and teachers; thus, competency as a musician is equally as important as having a strong theoretical and practical foundation in music education. The instructional program should prepare students for teaching all areas of the instructional specialization (e.g. choral, general, instrumental music) while allowing them to develop a specialization in a given area of music teaching. The theoretical and practical foundations in our series of music education techniques and methods courses incorporate ideas drawn from theory, research, and the practical experiences of the faculty and other successful practitioners.

Program Goals:

- Help students develop the musical and teaching competencies necessary to enable them to demonstrate the generic and subject area competencies and the Florida Educational Accomplished Practices (FEAP) for becoming successful music teachers.
- Enable students to apply the musical and instructional skills developed in the program (and reinforced during field experience and student teaching) to teach music in elementary, middle, and senior high schools.
- Prepare students to plan and sequence music instruction at all levels.
- Help students to develop the skills and desire to continue music-making as a lifetime endeavor both personally and professionally.
- Help students develop skills in integrating information from the diverse professional literature into their teaching.

EDUCATIONAL OBJECTIVES

- Students must demonstrate generic competencies required by the University in general education courses.
- Students must demonstrate competencies related to the core Professional Education courses required by the State of Florida, including 13 credits in Teaching and Learning (TAL) and a minimum of 32 credits in Music Education (MED).
- Students must demonstrate musical competencies related to the requirements of the Bachelor of Music degree, including 66 credits in music.
- Students must demonstrate teaching competencies related to the core courses in the music education specialization, including a minimum of 32 credits in Music Education.

DEGREE PROGRAMS
Bachelor of Music

MAJOR
Music Education (MED)

The Music Education curriculum is designed to prepare students to teach music in public and private schools at both the elementary and secondary grade levels. All Music Education majors must perform at a high level either vocally or on an instrument. Students must successfully complete the Florida General Knowledge Examination (FGKE) to be admitted to teacher candidacy and the Florida Teacher Certification Examination (FCTE) to graduate.

Instrumental majors must develop knowledge of and performance ability on wind, string, and percussion instruments sufficient to teach beginning students. All choral and general music majors must develop adequate vocal skills to assure effective use of the voice in teaching.

Admission to and/or retention in the music education curriculum leading to Florida Teacher Certification requires that students be formally screened with respect to specific criteria. Following are the Requirements for Admission to Teacher Candidacy and for Admission to Associate Teaching:

Admission to Teacher Candidacy

1. Acceptance as a major in the music education program.

2. Satisfactory performance on the FGKE and the FCTE.

3. Completion of 55 semester hours of credit. (Transfer students must have at least 12 semester hours of credit earned at the University of Miami.)

4. No grade less than a C in TAL & MED courses.


6. Required Background Check completed.

Admission to Student Teaching

1. Approval of MED faculty members.

2. Completion of 90 semester hours of credit.

3. Completion of at least three-fourths of the courses in the teaching major, verified by advisor.

4. Completion of a C or better in all MED & TAL courses

5. Completion of pre-internship field experiences with above-average evaluations.

Music Education and Music Therapy Course Listing
BACHELOR OF MUSIC: MUSIC EDUCATION  
Experiential Music Curriculum  
Major Code: MED

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development

### FRESHMAN YEAR

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<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>MED 015 Music Education Forum</td>
<td>MED 015 Music Education Forum</td>
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<tr>
<td>Principal Instrument/Voice Forum</td>
<td>Principal Instrument/Voice Forum</td>
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<tr>
<td>Principal Instrument/Voice (Level A)</td>
<td>Principal Instrument/Voice (Level B)</td>
</tr>
<tr>
<td>MTC 140 Music Theory I*</td>
<td>MTC 141 Music Theory II*</td>
</tr>
<tr>
<td>MCY 140 Experiencing Music*</td>
<td>MCT 141 Musical Trends &amp; Traditions*</td>
</tr>
<tr>
<td>MKP 140 Keyboard Studies I*</td>
<td>MKP 141 Keyboard Studies II*</td>
</tr>
<tr>
<td>MTC/MSJ 107 Skills Ensemble I*</td>
<td>MCT 108 Skills Ensemble II*</td>
</tr>
<tr>
<td>Large Ensemble</td>
<td>Large Ensemble</td>
</tr>
<tr>
<td>Ensemble</td>
<td>Ensemble</td>
</tr>
<tr>
<td>MED Technique Class*</td>
<td>MED Technique Class*</td>
</tr>
<tr>
<td>ENG 105 English Composition I</td>
<td>TAL 304 Reading in the Content Area*</td>
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<tr>
<td>TAL 103 Psychological &amp; Technological Foundations of Education*</td>
<td>Natural World</td>
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<td>UMX Freshman Experience</td>
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### SOPHOMORE YEAR

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<tbody>
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<td>MED 015 Music Education Forum</td>
<td>MED 015 Music Education Forum</td>
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<tr>
<td>Principal Instrument/Voice Forum</td>
<td>Principal Instrument/Voice Forum</td>
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<tr>
<td>Principal Instrument/Voice (Level C)</td>
<td>Principal Instrument/Voice (Level D)</td>
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<td>MTC 240 Music Theory III*</td>
<td>MTC 241 Music Theory IV*</td>
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<td>MKP 240 Keyboard Studies III*</td>
<td>MKP 241 Keyboard Studies IV*</td>
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<td>MMI 240 Music Technology I*</td>
<td>MMI 241 Music Technology II*</td>
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<td>MTC/MSJ 207 Skills Ensemble III*</td>
<td>MTC/MSJ 208 Skills Ensemble IV*</td>
</tr>
<tr>
<td>Large Ensemble</td>
<td>Large Ensemble</td>
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<tr>
<td>Ensemble</td>
<td>Ensemble</td>
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<tr>
<td>MED Technique Class*</td>
<td>MED Technique Class*</td>
</tr>
<tr>
<td>MVP 250 Language Diction for Singers</td>
<td>MIP/MVP 182 Conducting II</td>
</tr>
<tr>
<td>TAL 305 Classroom and Behavior Management*</td>
<td>Natural World</td>
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### JUNIOR YEAR

<table>
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<tr>
<td>MED 015 Music Education Forum</td>
<td>MED 015 Music Education Forum</td>
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<td>Principal Instrument/Voice Forum</td>
<td>Principal Instrument/Voice Forum</td>
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<td>Principal Instrument/Voice (Level F)</td>
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<tr>
<td>Large Ensemble</td>
<td>Large Ensemble</td>
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<tr>
<td>Ensemble</td>
<td>Ensemble</td>
</tr>
<tr>
<td>MTC 311 Analysis &amp; Experience</td>
<td>MTC 416 Orchestration or MTC 515 Choral Arranging</td>
</tr>
<tr>
<td>MCY 541 Music of the Mediaeval, Renaissance &amp; Baroque Periods or Approved MCY Elective</td>
<td>MCY 542 Music of the Classical, Romantic, &amp; Modern Periods or Approved MCY Elective</td>
</tr>
<tr>
<td>MED 542 Teaching Elementary General Music (K-5)*</td>
<td>MED 543 Teaching Elementary and Secondary Instrumental Music*</td>
</tr>
<tr>
<td>MED 549 Teaching Secondary Choral Music*</td>
<td>MED 544 Teaching Secondary General Music (6-12)*</td>
</tr>
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<td>MIP/MVP 281 Conducting III</td>
<td>MIP/MVP 282 Conducting IV</td>
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### SENIOR YEAR

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<th>Fall Semester</th>
<th>Spring Semester</th>
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<tr>
<td>MED 015 Music Education Forum</td>
<td>MED 433 Senior Seminar in Music Education*</td>
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<tr>
<td>Principal Instrument/Voice Forum</td>
<td>MED 471 Student Teaching in Elementary School Music (K-5)***</td>
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<td>Principal Instrument/Voice (Level G)</td>
<td>MED 473 Student Teaching in Secondary School Music (6-12)***</td>
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<td>TAL 580 Seminar on Teaching*</td>
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<tr>
<td>MED 245 Functional Techniques</td>
<td>MED 475 Student Teaching (12 credits) can be substituted for MED 471 &amp; MED 473</td>
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<tr>
<td>MED 340 Marching Band Fundamentals* or MIP 549 String Repertoire and Pedagogy*</td>
<td>TAL 506 Issues and Strategies for ESOL*</td>
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<tr>
<td>MIP 549 String Repertoire and Pedagogy*</td>
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<td>MMI 530 Entrepreneurship for Musicians*</td>
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<tr>
<td>TAL 506 Issues and Strategies for ESOL*</td>
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**NOTE:** Two semesters of MIP 170 Marching Band required of all brass, percussion, and woodwind principals. Must pass all courses in MED and TAL with grade of C or above.
MUSIC THERAPY - Dept Code MTY

INTRODUCTION

The music therapy program provides students with the opportunity to develop comprehensive musicianship as well as clinical knowledge and skills within a rich musical, scholarly and communicative environment. Music therapy majors must demonstrate musical proficiency, either vocally or instrumentally, and must acquire musical competency on guitar, piano, voice and percussion.

Graduates of this program are prepared for careers as professional music therapists in a variety of health care and educational settings. Furthermore, graduates are eligible to take the Board Certification Exam in music therapy, leading to the credential, Music Therapist Board Certified (MT-BC). The music therapy curriculum is approved by the American Music Therapy Association, and is based on the clinical and research paradigm known as Neurologic Music Therapy.

To remain in the Music Therapy program, students must earn a minimum 2.5 GPA each semester. Additionally, music therapy core courses must be completed with a grade of C or higher. All internship applications must include a written letter of recommendation from a music therapy faculty member.

EDUCATIONAL OBJECTIVES

The music therapy program is designed to address three primary objectives:

- Comprehensive musicianship: through intensive music study and performance experiences, students will articulate knowledge of music structure and style, produce aesthetically pleasing musical performances, and modify music for specific contexts.

- Knowledge of human behavior: by studying both theory and scientific evidence, students will develop an in-depth understanding of the systems of the human body, the intricacies of human behavior, as well as developmental norms and deviations in each domain of functioning.

- Knowledge of Music Therapy: students will engage in rigorous exploration of the theories and scientific evidence that support the use of music in a therapeutic context. Following the neurologic music therapy approach, all techniques learned in this program are based on scientific evidence regarding music perception and behavior. Furthermore, students have ample opportunity to establish and refine their therapeutic skills through six consecutive semesters of clinical practica in addition to a six-month, full-time clinical internship.
DEGREE PROGRAMS
Bachelor of Music in Music Therapy

MAJOR
Music Therapy (MTY)

BACHELOR OF MUSIC: MUSIC THERAPY
Experiential Music Curriculum

Major Code: MTY
The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>MED 010 Music Therapy Forum</td>
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<tr>
<td>Principal Instrument/Voice Forum</td>
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<td>Principal Instrument/Voice (Level A)</td>
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<tr>
<td>MED 159 Introduction to Music Therapy</td>
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<td>ENG 105 English Composition I</td>
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<td>MTH 101 Algebra for College Students**</td>
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<td><strong>Spring Semester</strong></td>
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<td>Principal Instrument/Voice (Level B)</td>
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<td>ENG 106 English Composition II</td>
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<td>PSY 110 Introduction to Psychology</td>
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<td>MED 149 Functional Techniques in MTY I</td>
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<tr>
<td>ENG 106 English Composition II</td>
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<tbody>
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<tr>
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<td>MED 249 Functional Techniques in MTY II</td>
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<td>MED 576 Music &amp; Development</td>
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<td>MIP 181 Choral Conducting</td>
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<td>PSY 202 Introduction to Psychobiology</td>
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<td><strong>Spring Semester</strong></td>
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<td>Principal Instrument/Voice (Level F)</td>
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<td>MCY 542 Music of the Classical, Romantic, and Modern Periods</td>
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<td>MED 245 Functional Music Techniques</td>
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<td>MED 362 Music Therapy Practicum 2B</td>
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<td>MED 545 Music in Rehabilitation</td>
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<td>PSY 352 Abnormal Psychology</td>
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### SENIOR YEAR

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<th>Spring Semester</th>
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<td>MED 450 Introduction to Research in Music</td>
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<td>MTC Arranging/Orchestration Elective</td>
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<td>Natural World</td>
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<td>PSY 440 Abnormal Child Psychology</td>
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<td>PSY 204 Introductory Biobehavioral Statistics</td>
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</table>

**NOTE:** Must pass all courses in MED with grade of C or above.

* Must pass with grade of C or above.

** MTH 101 required if math placement is MTH 101 or lower.

*** All internship applications must include a written letter of recommendation from a music therapy faculty member.

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### THE MUSIC THERAPY EQUIVALENCY PROGRAM

The equivalency program is designed for the individual who has already completed a bachelor’s degree in a related discipline, including the following courses:

- Music Theory I, II, III and IV;
- Music History I and II;
- Conducting, Arranging, Applied Lessons (6 semesters), Performing Ensembles (8 semesters), Piano Competency (4 semesters of either lessons or group piano) and Introduction to Psychology.

Beyond these courses, the program consists of 50 credit hours that can be completed in two years, followed by a six-month clinical internship. All internship applications must include a written letter of recommendation from a music therapy faculty member. Please contact the Music Therapy Program Director for a listing of the 50 credit hours.

If any of the prerequisite courses have not yet been completed, they can be taken at the University of Miami. Taking these additional courses, however, may lengthen the amount of time required to complete the equivalency program. In certain situations, alternate courses from other universities can substitute for the required courses. Depending on the nature of the course, this decision will be made by the undergraduate dean, in consultation with the Music Therapy Program Director.

In order to determine exactly how many credits are required to complete the equivalency program, the student should obtain official transcripts for their previous degree and meet with the music therapy program director. Following completion of the course and internship, students are then eligible to sit for the music therapy board certification exam and can become professional members of the American Music Therapy Association (AMTA).

For students wishing to pursue graduate studies in music therapy, the equivalency program can be combined with the master’s degree in music therapy.

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### MUSIC MEDIA AND INDUSTRY - Dept. Code: MMI
The Department of Music Media and Industry includes two programs, Music Engineering Technology and Music Business and Entertainment Industries.

**MUSIC BUSINESS AND ENTERTAINMENT INDUSTRIES INTRODUCTION**

The Bachelor of Music in Music Business and Entertainment Industries is a professional degree program designed to prepare qualified musicians for careers in the business management, financial, legal, and artistic areas of the music industry. Music, business, and music business courses are combined in an interdisciplinary curriculum which includes a minor in Marketing, Legal Studies, Business Administration, Management, Finance, Computer Information Systems, Public Relations, or other approved business-related area. The MBEI program also features a capstone music or entertainment industry internship.

**EDUCATIONAL OBJECTIVES**

- Students will have a conceptual understanding of the structures and inter-relationships of the music and entertainment industries.
- Students will acquire knowledge and understanding of the vocabulary and terminology associated with the music and entertainment industries.
- Students will be able to comprehend and apply basic music publishing procedures including copyright administration, mechanical licensing and royalties distribution.
- Students will know how to promote and sell a music industry product.
- Students will have an understanding of the performing artist as a major economic factor in the marketplace.
- Students will develop a set of skills applicable to the music industry including: financial and project management, create and enact marketing and promotional plans, the ability to write basic agreements and licenses, and copyright management and administration.

**DEGREE PROGRAMS**

**Bachelor of Music**

**MAJORS**

Music Business & Entertainment Industries (MBEI)
Music Business & Entertainment Industries with Entrepreneurship and Management Emphasis and a minor in Creative American Music (MBEC)

**MINORS**

**MINOR IN MUSIC BUSINESS AND ENTERTAINMENT INDUSTRIES (MBEI)** (No audition required)

A minor in Music Business and Entertainment Industries consists of 12 credits:

- Multinational Recorded Music Industry (MMI 173) 3 Credits or *(for Music Majors only)*
  Music Business Essentials (MMI 310) 3 Credits
- Introduction to Music Copyright Law (MMI 274) 3 Credits
- 6 Additional Credits from the following choices:
  - Artist Development and the Live Entertainment Industry (MMI 273) 3 Credits
  - Entertainment Industry Contract Basics (MMI 378) 3 Credits
MINOR IN CREATIVE AMERICAN MUSIC (CAM)
(See below under The Bruce Hornsby Creative American Music Program)

BACHELOR OF MUSIC: MUSIC BUSINESS & ENTERTAINMENT INDUSTRIES
“With Approved Business, Communications, or Entertainment-Related Minor”

Experiential Music Curriculum
Major Code: MBEI

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development

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<th>FRESHMAN YEAR</th>
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430
THE BRUCE HORNSBY CREATIVE AMERICAN MUSIC PROGRAM

The Bruce Hornsby Creative American Music Program is designed to develop the creative skills of talented performing songwriters by immersing them in the diverse traditions that form the foundation of modern American songwriting. This rigorous approach will require students to become intimate, both in understanding and practice, with the vast and varied legacy that is American music. The CAM Program is open to all Frost School of Music students by audition. Those who successfully complete the program will earn a Minor in Creative American Music.

Courses Leading to a Minor in Creative American Music

<table>
<thead>
<tr>
<th>Courses</th>
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<tr>
<td>MCY 211 African American Song Traditions</td>
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<td>MMI 207 African American Song Workshop</td>
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<td>MCY 212 Anglo American Song Traditions</td>
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<tr>
<td>MMI 208 Anglo American Song Workshop</td>
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<td>MCY 311 Modern American Popular Music</td>
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<td>MMI 307 Modern American Pop Workshop I</td>
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<td><strong>Total Credits:</strong></td>
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THE CONTEMPORARY PERFORMANCE PRINCIPAL

Recognizing that many talented songwriters may not always have a background in traditional performance areas, the Contemporary Performance Principal accommodates Creative American Music students who are not classical or jazz musicians. Contemporary instruments include Guitar, Voice, Bass, Keyboard, Media (Alternate Controllers), and Percussion (Drums). The Contemporary Performance Principal is restricted to songwriters who are also applying to the Creative American Music Program and to the following majors: Music Business and Entertainment Industries, Music Engineering Technology, Media Writing and Production, Music Education, and Music Therapy. Pre-screening and audition required.

BACHELOR OF MUSIC: MUSIC BUSINESS & ENTERTAINMENT INDUSTRIES
With Double Minor in Creative American Music & Business Administration for Contemporary Performance Principals

Experiential Music Curriculum

Major Code: MBEC

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development

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<td>MMI 107 Skills Ensemble I*</td>
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<td>ENG 105 English Composition I</td>
<td>ENG 173 Multinational Recorded Music Industry</td>
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<td>MTH 113 Finite Mathematics**</td>
<td>ECO 211 Economic Principles &amp; Problems</td>
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<td>MCY 211 African American Song Traditions</td>
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<td>MMI 273 Artist Development &amp; Live Performance</td>
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<td>ACC 211 Principles of Financial Accounting</td>
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### JUNIOR YEAR

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<td>MGT 304 Organizational Behavior</td>
<td>MMI 455 Internship in Entertainment Industry or</td>
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1 Contemporary Performance is available in Guitar, Bass, Drums, Keyboards, Media, and Voice by audition only upon acceptance into the Creative American Music Program.

NOTES: Students must maintain a minimum GPA of 2.70 to remain in the MBEI Program.

* Must pass with grade of C or above.
MUSIC ENGINEERING TECHNOLOGY

INTRODUCTION

The mission of the Music Engineering Technology program is to (1) provide the highest quality education in the field of music engineering; (2) promote advancements in the fidelity and creativity of music recording, production and reproduction; and (3) promote advancements in the invention, design and implementation of audio hardware and software. The goals of the Music Engineering Technology program are to (1) further enhance the program's national and international stature; (2) obtain teaching infrastructure and resources needed to provide contemporary education in the field of music engineering technology; (3) ensure that curricular offerings are current and able to educate students in new and future theory and practice; and (4) to help graduates find professional career positions.

EDUCATIONAL OBJECTIVES

- Understanding the theoretical basis of sound recording, processing and reproduction.
- Understanding the practice techniques used in sound recording, processing and reproduction.
- Designing and implementing original audio hardware and/or software.
- Understanding the principles of computer science (Bachelor of Music) or electrical engineering (Bachelor of Science).

DEGREE PROGRAMS

Bachelor of Science in Music Engineering Technology (MUE)

MAJORS

Music Engineering (MUE)

The Music Engineering Technology curriculum is designed for musicians interested in pursuing a career in music recording, audio hardware and software design, and related professions in the audio, audio-video, multimedia, and internet industries. The program is interdisciplinary in nature; it includes courses in music, music engineering, computer science, electrical engineering, and mathematics. This program includes a minor in Electrical Engineering or a double major in Computer Science. Freshman students are expected to enroll in calculus, which carries a prerequisite of Trigonometry and Analytical Geometry. Prospective students are expected to have a strong background in music performance and in mathematics.

BACHELOR OF SCIENCE: MUSIC ENGINEERING TECHNOLOGY
**With Minor in Electrical Engineering and/or Computer Engineering**

**Experiential Music Curriculum**

**Major Code: MUE**

The General Education course requirements listed in this curriculum may be subject

to change under a new Cognate system currently under development

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<td>PHY 205 University Physics I</td>
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<td>EEN 218 Intermediate Computer Programming</td>
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<td>EEN 305 Electronics I</td>
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<td>MMI 361 Acoustics</td>
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<td>EEN 304 Logic Design</td>
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<td>MMI 503 Digital Audio II</td>
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<td>#EEN 306 Electronics II or #EEN 318 Advanced Computer Programming or #EEN 424 Unix Systems &amp; Servers</td>
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<td>MMI 501 Transducer Theory</td>
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**NOTES:**

A minimum 2.7 GPA is required to remain in the Music Engineering Technology program.
A minimum 2.0 GPA is required in all EEN courses taken.

* Must pass with grade of C or above.
* For electrical engineering minor, take EEN 306.
* For computer engineering minor, take EEN 318 or EEN 424.
* For dual minor, take EEN 306 and either EEN 318 or EEN 424.
* @ Adv. Approved Mus. Eng. Tech. Elective - 12 credits to be selected

Approved courses at 400+ level which contain substantial technical/creative content. Some examples:

- MMI 460 (Recital Recording & Sound Reinforcement) (max of 3 cr)
- MMI 465 (Internship in Music Engineering) (3 cr)
- MMI 504 (Audio Analysis & Synthesis)
- MMI 505 (Advanced Audio Signal Processing)
- MTC 416 (Orchestration)
- CMP 594 (Motion Picture - Sound Design/Sound Theory)
Students may use one of the above electives to satisfy a minor in either Electrical or Computer Engineering.

MUSICOLGY – Dept. Code: MCY

Undergraduate students who are interested in musicology, music history or ethnomusicology are encouraged to enroll in the Bachelor of Arts in Music degree, through which they can pursue these and related subjects within a liberal arts music curriculum. [There is no Bachelor of Music degree in Musicology.]

BACHELOR OF ARTS IN MUSIC

INTRODUCTION

The mission of the Bachelor of Arts in Music is to provide students with the highest quality education possible in music, provide a broad education in the liberal arts, and provide in-depth study in an academic area outside of the Frost School of Music.

EDUCATIONAL OBJECTIVES

- Students will acquire a thorough knowledge of music theory and music history, and develop advanced competence in musical performance.
- They will develop the ability to think, speak, and write clearly with the capacity to explain and defend their views effectively and rationally based on substantive knowledge of the liberal arts.
- The student will acquire competency in a selected non-music academic area that includes a broad understanding of the area and contemporary thought within the area.

DEGREE PROGRAMS

Bachelor of Arts in Music

MAJOR

Bachelor of Arts in Music (BAM)

The Bachelor of Arts in music degree is a non-professional degree designed for talented musicians who wish to pursue a broad liberal arts education. Curriculum flexibility affords students the opportunity for a variety of pre-professional studies, including premedical and prelegal. A minor outside the Frost School of Music is required. Students in the BA in Music Program must earn a minimum 2.5 GPA each semester to remain in the program.
**Experiential Music Curriculum**

**Major Code: MUS**

*The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.*

## FRESHMAN YEAR

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<tr>
<th>Fall Semester</th>
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<td>MCT 140 Experiencing Music*</td>
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<td>MKP 140 Keyboard Studies I*</td>
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<td>MTC 107 Skills Ensemble I*</td>
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## SOPHOMORE YEAR

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<td>People &amp; Society</td>
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## JUNIOR YEAR

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<td>MCY 300+ Music History Elective</td>
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<td>Natural World</td>
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<td>Arts</td>
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<td>Humanities</td>
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## SENIOR YEAR

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<td>Non-Music Elective</td>
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<td>Minor</td>
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<td>Humanities</td>
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<td>Natural World</td>
<td>3</td>
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**NOTE:** Many students take 2 credits of Instrumental/Voice in order to receive a full hour lesson per week (1 credit lessons are a half hour per week).

* Must pass with grade of C or above.

** Required if Math placement is MTH 101 or lower

*** Music courses can count for Arts courses

Courses for Minor (or second Major) depend upon requirements of the department.
MUSIC THEORY-COMPOSITION - Dept. Code: MTC

INTRODUCTION

The Bachelor of Music in Composition is designed to (1) provide students with a learning environment conducive to the pursuit, fostering, development, and exchange of ideas and information, particularly as it pertains to music composition, production, and performance; (2) to provide student access varied composition communities; (3) to continue to build upon the Frost School of Music's reputation as an innovative, forward-thinking, and first-rate center for advanced study; and (4) to maintain the highest educational, professional, and ethical standards. Goals of the program are (1) to provide students with training to be fluent in basic compositional skills; (2) to help students understand various directions that available to composers in the 21st century; and (3) to help students perform, produce, or realize their music.

The Commercial Music & Production track within the Theory & Composition curriculum is designed to prepare undergraduate students for the many issues facing today’s commercial music writers and producers. In this specialized program, successful students complete diverse compositional assignments, develop technical and practical skills in the recording studio, and acquire an understanding of the music industry. Prospective students should furnish evidence of outstanding compositional ability as well as basic sequencing and music notation skills.

EDUCATIONAL OBJECTIVES

- Students develop basic compositional skills of varying lengths and genres.
- Students compose or produce works utilizing various compositional techniques and styles.
- Students compose works for varied instrumentation and/or media.

DEGREE PROGRAMS

Bachelor of Music in Composition

MAJOR

Music Theory and Composition (MTC)
Commercial Music & Production (MWP)
MINOR

MINOR IN MUSIC COMPOSITION

A minor in music composition is primarily intended for students in the Frost School of Music who are pursuing majors in other fields within the Frost School. Students interested in this minor are required to submit a portfolio to the chairman of the department for approval before declaring the minor. The minor consists of 15 credits.

Composition I (MTC 101) 2 credits
Composition II (MTC 102) 2 credits
Composition III (MTC 201) 2 credits
Composition IV (MTC 202) 2 credits
Composition Workshop (MTC 182) 4 credits
Orchestration (MTC 416) or Twentieth Century Techniques (MTC 312) 3 credits

The curriculum in Composition is designed for those students intending to pursue a career as a composer and/or to pursue graduate degrees in Theory or Composition. Prospective students are expected to furnish evidence of compositional ability.

Music Theory - Composition Course Listing
### Major Code: MTC

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
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<td>MTC 012 Composition Forum</td>
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<td>MTC 140 Music Theory I*</td>
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<td>MCY 140 Experiencing Music*</td>
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<td>MTC 107 Skills Ensemble I*</td>
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<tr>
<td>MTC 101 Composition I</td>
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<tr>
<td>MTC 182 Composition Workshop</td>
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<td>ENG 105 English Composition I</td>
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<td>MKP 240 Keyboard Studies III*</td>
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<td>MTC 201 Composition III</td>
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<td>MTC 182 Composition Workshop</td>
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<td>MTC 182 Composition Workshop</td>
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<td>MCY 541 Music of the Mediaeval, Renaissance, and Baroque</td>
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<td>MIP 317 Basic Conducting or MVP 181 Choral Conducting</td>
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<td>MTC 506 MIDI and Control Processing</td>
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* Must pass with grade of C or above.

** Required if Math placement is MTH 101 or lower.
# BACHELOR OF MUSIC: COMPOSITION
(Commercial Music & Production)

Experiential Music Curriculum

**Major Code:** MWP

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.

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<td>MTC 182 Composition Workshop</td>
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<td>ENG 105 English Composition I</td>
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<td>MTH 113 Finite Mathematics</td>
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<td>Second Ensemble</td>
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<td>MTC 203 Pop Composition I</td>
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<td>MTC 167 Electronic Music Seminar (Studio Licensing)</td>
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<td>MTC 303 Music for Media</td>
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<td>MMI 520 Audio Technology for Musicians or MSJ 519 Advanced Modern Arranging I</td>
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<td>MMI 520 Audio Technology for Musicians or MSJ 519 Advanced Modern Arranging I</td>
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## SENIOR YEAR

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STUDIO MUSIC AND JAZZ - Dept. Code: MSJ

INTRODUCTION

The mission of the Studio Music and Jazz Performance Program is to: (1) prepare jazz instrumentalists to enter the music profession or graduate school; (2) identify, recruit, and retain high quality students who seek to pursue studio/jazz performance as a career; (3) foster faculty creativity and performance which serves as a role model for students; (4) develop, and revise courses in jazz improvisation, jazz arranging/composition and provide on and off campus performance opportunities; (5) produce in our on campus facility, recordings for the Down Beat Student Music Awards, compact disks, radio and Internet broadcast; and (6) provide a platform of learning that includes performance, composition/arranging, technology, conducting, scholarship and production.

EDUCATIONAL OBJECTIVES

- Students will develop musical performance skills necessary to make them competitive in the jazz world.
- Students will develop performance skills in a variety of large and small ensembles that allow a student to participate in the professional jazz world.
- Students will develop the skills necessary to play in a chamber setting emphasizing spontaneous interaction and improvisation.
- Students will develop the skills necessary to play in large jazz ensembles emphasizing the development of ensemble skills necessary in a reading situation.
- Students will perform a senior recital of sixty-minute duration that demonstrates their capabilities in the jazz idiom.
- Students will develop the skills necessary to arrange and compose in a variety of styles appropriate to the jazz and contemporary music field.

DEGREE PROGRAMS

Bachelor of Music in Studio Music & Jazz

MAJOR

Studio Music & Jazz Instrumental (MSJI)
Studio Music & Jazz Vocal (MSJV)

MINOR
MINOR IN STUDIO MUSIC AND JAZZ (INSTRUMENTAL)

A 12 credit minor is available for students enrolled in the Frost School of Music whose principal performance medium is a jazz instrument. Permission of studio teacher required. The following courses must be taken to fulfill the requirement of this minor:

Analysis and Evolution of Jazz Styles (MSJ 113) 3 credits
Introduction to Jazz Improvisation (MSJ 124) 3 credits
Jazz Improvisation Theory I (MSJ 371) 3 credits
Advanced Modern Arranging I (MSJ 519) 3 credits

INSTRUMENTAL EMPHASIS

The instrumental curriculum in Studio Music and Jazz is designed for interested and qualified students who desire to continue to develop to the highest degree their background and skills in the performance of studio music and jazz. Admission to this major pre-supposes musical training in jazz on the principal instrument.
Major Code: MSJI

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development.

### FRESHMAN YEAR

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* Must pass with grade of C or above.
** Required if Math placement is MTH 101 or lower.
*** Jazz guitar ensembles required of all jazz guitar majors.
# Must be enrolled in this course in the semester the recital will be performed.
VOCAL EMPHASIS
The vocal curriculum in Studio Music and Jazz is designed for interested and qualified vocalists who desire to continue to develop to the highest degree their backgrounds and skills in the performance of studio music (recording), jazz, and contemporary pop music. Admission to this major pre-supposes music training in jazz.

BACHELOR OF MUSIC: STUDIO MUSIC & JAZZ
(Vocal Emphasis)
Experiential Music Curriculum
Major Code: MSJV

The General Education course requirements listed in this curriculum may be subject to change under a new Cognate system currently under development

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* Must pass with grade of C or above.
** Required if Math placement is MTH 101 or lower.
# Must be enrolled in this course in the semester the recital will be performed.

Studio Music and Jazz Course Listing
Musicology Course Listing
Music Media and Industry Course Listing
SCHOOL OF NURSING AND HEALTH STUDIES
www.miami.edu/nur

Please consult your 2013-2014 Student Handbook for the applicable curriculum and program policies. Please note that courses and policies are subject to change throughout the academic year. Check with the Office of Student Services at the School of Nursing and Health Studies for current materials.

The School of Nursing and Health Studies is committed to academic excellence, the advancement of nursing as a discipline, and service to society. Opportunities are available for students to study and earn course credit in a variety of international settings.

MISSION

The mission of the School of Nursing and Health Studies is to educate students and support faculty committed to excellence in the art and science of nursing and health studies through creating and disseminating health knowledge and developing culturally competent leaders to provide service to our community, the nation, and the world.

The mission of the School of Nursing and Health Studies is to educate students and support faculty committed to excellence in nursing and health science. Through research, education and practice, the school will create and disseminate health knowledge and prepare culturally competent leaders to provide safe service to our community, the nation and the world.

STUDENT RESPONSIBILITIES:

Students in the School of Nursing and Health Studies are responsible for meeting the degree requirements. It is the student's responsibility to comply with all the provisions of the Bulletin. Changes to academic requirements and policies are updated in the School of Nursing and Health Studies Undergraduate Handbook.

The general requirements for graduation from the University of Miami are further described in the GENERAL INFORMATION section of the Bulletin.

STUDENTS WITH DISABILITY ACCOMMODATION POLICY:

It is the policy of the University of Miami School of Nursing and Health Studies to adhere to Standards of the Americans with Disabilities Act. Any students needing special accommodations to complete a course must submit written documentation to the Office of Disability Services (ODS). This office is the primary source responsible for the coordination of auxiliary aids and services for students with disabilities. Information and/or services are available to prospective and enrolled students, their parents and/or sponsors.

FINANCIAL ASSISTANCE:

Students interested in obtaining financial aid in the form of student loans and grants should contact the Office of Financial Assistance Services. Limited, small scholarships are available through the School of Nursing and Health Studies. The qualifications for these scholarships vary; further
information is available from the School of Nursing and Health Studies, Office of Financial Assistance Services, and on the SONHS website (www.miami.edu/sonhs).

FACILITIES:

The School of Nursing and Health Studies is located on the Coral Gables Campus. The four-story Jerusalem-stone and stucco Schwartz Center features classrooms and clinical practice labs, seminar and conference rooms, two computer labs, and a simulation academy, all equipped with the latest technology. The spacious 53,000-square-foot facility supports the work of more than 40 nurse scientists and clinical educators and our 741 undergraduate and graduate students enrolled in the school’s nursing and health science programs annually. The building opened in fall 2006. Library resources for nursing students are at the Otto G. Richter Library on the Coral Gables Campus and the Calder Medical Library on the Medical Center Campus. Clinical experiences are offered in a variety of hospitals and health related agencies in the community.

NURSING

ACCREDITATION

The nursing baccalaureate program is approved by the Florida Board of Nursing and accredited by the Commission of Collegiate Nursing Education (CCNE), One DuPont Circle NW, Suite 530, Washington, DC 20036, (202) 887-6791

The University of Miami School of Nursing and Health Studies (SONHS) offers courses leading to the degrees of Bachelor of Science in Nursing (BSN), Master of Science in Nursing (MSN), Doctor of Nursing Practice (DNP) and Doctor of Philosophy (PhD). Baccalaureate education is the primary foundation for professional nursing, as well as for graduate education; students who successfully complete the baccalaureate program are eligible to sit for the licensure examination to practice professional nursing. Graduates of diploma and associate nursing degree programs are admitted as transfer students to obtain the BSN degree. Students holding a baccalaureate degree in a field other than nursing who would like to pursue the BSN are admitted to the Accelerated Program.

ACADEMIC POLICIES

ADMISSION:

Admission to the BSN Program is open to individuals who have demonstrated that they have the intellectual ability and the personal qualifications necessary for the profession of nursing. All applicants must meet the requirements for admission to the University of Miami; requests for admission should be directed to the Office of Admissions on the Coral Gables Campus.

Transfer students from accredited universities, colleges, or junior colleges may be admitted with advanced standing as space allows provided they have completed courses comparable to those required by the University of Miami. Transfer students are advised to contact the Office of Student Services at the School of Nursing and Health Studies concerning prerequisites.
An RN transition option is offered which allows RNs with an associate degree or diploma to earn the BSN degree. Academic transcripts are evaluated to determine that the 60 credits of transferable course work have been successfully completed.

TECHNICAL STANDARDS:

Nursing education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behaviors. The nursing degrees awarded by the University of Miami School of Nursing and Health Studies at the completion of the educational process certifies that the individual has acquired a base of knowledge and skills requisite for the practice of nursing at the respective undergraduate or graduate level. To this end, all courses in the curriculum must be completed successfully. In order to acquire the knowledge and skills to function in a variety of clinical situations and to render a wide spectrum of patient care, candidates for the undergraduate and graduate degrees in nursing must have abilities and skills in five areas:

- Observation
- Communication
- Motor
- Conceptual-Integrative
- Behavioral-Social

Technological compensation can be made for some disabilities in certain of these areas, but a candidate should be able to perform in a reasonably independent manner and exercise independent judgment.

Observation

The candidate must be able to observe demonstrations and participate in didactic courses and simulated learning opportunities. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation requires the use of common sense, as well as the functional use of the senses of vision, audition, olfaction, and palpation.

Communication

Candidates must communicate effectively using English in clinical and classroom settings. A candidate must be able to elicit information from patients, describe changes in mood, activity and posture, and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. The candidate must be able to communicate effectively and efficiently with all members of the health care team in both immediate and recorded modes.

Motor

Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other assessment techniques. A candidate should be able to perform nursing skills requiring the use of gross and fine motor skills (e.g. IV insertion, venous blood draw, urinary catheter insertion). A candidate should be able to execute motor movements reasonably required to provide nursing care and emergency response to patients. Examples of emergency responses reasonably required of nurses are cardiopulmonary resuscitation, medication administration, and application of pressure to stop bleeding. Candidates must perform actions
which require the use of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Candidates should also be able to assist and/or participate in various lifting activities. **Conceptual-Integrative**

These abilities include measurement, calculation, reasoning, analysis, synthesis, and retention of complex information. Critical thinking requires all of these intellectual abilities in order to provide optimal nursing care. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

**Behavioral-Social**

Candidates must possess the emotional health required for the full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the care of patients, and the development of mature, sensitive and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively under stress in the classroom and clinical area. They must be able to adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in the clinical environment. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that are assessed during the admissions and educational process.

Reasonable accommodations will be considered on a case by case basis for individuals who meet eligibility under applicable statutes. Any person expecting to need accommodations should request them prior to beginning the program, as some accommodations may not be considered reasonable and may impact an applicant’s ability to complete all components of the program.

**REQUIREMENTS FOR ENROLLMENT INTO CLINICAL COURSES:**

BSN students at the University of Miami of Miami must achieve junior standing with a minimum UM GPA of 3.0 and a UM prerequisite GPA of 2.75.

Transfer students must have a minimum cumulative GPA of 3.5 and a prerequisite GPA of 3.3.

Accelerated Option students must have a minimum GPA of 3.0 with a 3.0 for prerequisite courses.

To be considered for progression or admission to clinical coursework, students are allowed to repeat only 1 failed prerequisite course.

Requirements for enrollment into upper division nursing courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Traditional BSN</th>
<th>Accelerated Option BSN</th>
<th>RN-BSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry w/ Lab CHM 103/105</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Human Anatomy w/ Lab HCS 212/213</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Physiology HCS 215</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Microbiology</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Repeated</td>
<td>Passed</td>
<td>Required</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>MIC 320 Introductory Statistics in Health Care NUR 202</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Intro to Psychology PSY 110</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>College Algebra MTH 101</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Biology w/ Lab BIL 150/151</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principles of Nutrition NUR 306</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Growth &amp; Development NUR 317</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Baccalaureate Degree</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>FL RN License</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Students are required to have a health examination prior to enrollment in clinical nursing courses. All students must provide evidence of a current TB screening test, hepatitis B, MMR, tetanus, varicella and influenza vaccinations, and certification in Basic Life Support. Students must submit to drug screening and background checks. See the School of Nursing and Health Studies Student Handbook 2012-13 for further information.

**ACADEMIC PROGRESS:**

To be assured of uninterrupted progression through the program, students must maintain a grade point average of 2.0 or better.

Student records are reviewed at the close of each semester, and those students with a cumulative average of less than 2.0 are subject to being placed on academic probation according to the University of Miami Policy on Academic Probation and Dismissal. A grade of C- is not an acceptable passing grade in any nursing course within the BSN program.

When a clinical nursing course is repeated, both theoretical and clinical components must be repeated. When a course must be repeated progression in the nursing program will be altered in order for prerequisites to be met. Such alteration will lengthen the time required to complete the nursing program. Students will be required to fulfill the requirements that are in effect at the time of the current program. No special courses will be created for students who are repeating the same course.

Students are allowed to repeat only one failed nursing course. Failure of the same course again or any other nursing course will be grounds for dismissal from SONHS.

**REGISTERED NURSE LICENSURE:**

Graduates of the BSN program are eligible to take the National Council Licensure Examination (NCLEX-RN) for registered nursing after a student passes all the courses, completes the credit hours, and completes the requirements for the HESI exit exam.

**REQUIREMENTS FOR GRADUATION**

**TRADITIONAL BSN:**

**GENERAL EDUCATION REQUIREMENTS**
AREAS OF PROFICIENCY

Proficiency requirements are intended to ensure that students either already possess, or will develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

1. English Composition 6 credits

English 105 and English 106 or the equivalent

2. Writing Across the Curriculum (W) 5 courses

In addition to English 105/106, students must complete five (5) courses designated as Writing Across the Curriculum (W) courses. Courses designated as writing courses ("W" courses) require a substantial amount of writing and the preparation of papers that are corrected for diction, syntax, style, and content. Some courses satisfying this Writing Across the Curriculum requirement may simultaneously fulfill Areas of Knowledge requirements (described below).

3. Mathematics

Students fulfill this requirement by satisfactorily completing an approved course in statistics above the level of MTH 101.

AREAS OF KNOWLEDGE

These requirements are designed to help students understand and appreciate the intellectual achievements in major areas of human inquiry and creative endeavor.

1. Natural World - 6 credits
   a. Biology 150/151
   b. Chemistry 103/105

2. People and Society - 6 credits
   a. Psychology 110
   b. 3 additional credits

Courses in the following areas may be used to fulfill this requirement: Africana Studies (AAS); American Studies (AMS); Anthropology (except APY 203); Economics (ECO); Education and Psychological Studies (EPS); Geography and Regional Studies (except GEG 120); International Studies (INS); Judaic Studies (JUS); History (HIS); Political Sciences (POL); Psychology (PSY); Sociology (SOC); Teaching and Learning (TAL); Women’s and Gender Studies (WGS), and the following courses: Broadcasting and Broadcast Journalism (CBR 102); Mass Media Communication in Society (COM 101); Communication Theory (COM 110); Interpersonal Communication (COS 112); Nonverbal Communication (COS 118); Political Communication (COS 336); Persuasion (COS 472).

3. Arts and Humanities - 12 credits

Courses in the following areas may be used to fulfill this requirement: Architecture; Music; Art and Art History; Theatre Arts; Motion Pictures and Photography; English (200-level or above); Modern Languages and Literature (300-level or above); Philosophy; Religious Studies; and the following courses: Public Speaking (COS 211); World History of the Dance (DAN 250)
BSN TRADITIONAL

PROGRAM OF STUDY
LOWER DIVISION
NURSING MAJOR

These are intended as examples only. Students have several options for completing the first two years of study. The Office of Student Services will assist students to select specific courses which most accurately reflect the student’s interests, abilities, and career goals. Students must complete all prerequisites prior to entering the junior year of clinical coursework.

### Freshman Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 105</td>
<td>3 cr</td>
<td>Eng 106</td>
<td>3 cr</td>
</tr>
<tr>
<td><strong>Bil 150/151</strong> General Biology w/ Lab</td>
<td>5 cr</td>
<td><strong>Hcs 212/213</strong> Human Anatomy w/ Lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>Arts/Hum</td>
<td>3 cr</td>
<td>Arts/Hum</td>
<td>3 cr</td>
</tr>
<tr>
<td>Mth 101</td>
<td>3 cr</td>
<td><strong>Psy 110</strong> General Psychology</td>
<td>3 cr</td>
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<tr>
<td>UMX 100</td>
<td>1 cr</td>
<td>Elective</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td>15 credits</td>
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<td>16 credits</td>
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</tbody>
</table>

**Prerequisites in Bold**

### Sophomore Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hcs 215</strong> Systemic Physiology</td>
<td>3 cr</td>
<td>Nur 202</td>
<td>3 cr</td>
</tr>
<tr>
<td>Arts/Hum</td>
<td>3 cr</td>
<td><strong>Mic 320</strong> Intro to Microbiology for Nurses</td>
<td>3 cr</td>
</tr>
<tr>
<td><strong>Chm 103/105</strong> Chemistry for Life Sciences I w/ Lab</td>
<td>4 cr</td>
<td><strong>Nur 317</strong> Growth &amp; Development</td>
<td>3 cr</td>
</tr>
<tr>
<td>Nur 306</td>
<td>3 cr</td>
<td>Arts/Hum</td>
<td>3 cr</td>
</tr>
<tr>
<td>People &amp; Society</td>
<td>3 cr</td>
<td>Elective</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td>15 credits</td>
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</table>

61 credits
# BSN TRADITIONAL PROGRAM
## OF STUDY
## UPPER DIVISION NURSING MAJOR

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 304  Adult Health I</td>
<td>6cr</td>
</tr>
<tr>
<td>NUR 307  Pharmacology</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 311  Theories &amp; Concepts of Nursing (W)</td>
<td>2cr</td>
</tr>
<tr>
<td>NUR 314  Health Assessment</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 315  Pathophysiology</td>
<td>3cr</td>
</tr>
<tr>
<td></td>
<td><strong>17 cr</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>NUR 308  Adult Health II</td>
<td>8cr</td>
</tr>
<tr>
<td>NUR 318  Maternal Health Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td>NUR 320  Pediatric Health Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td></td>
<td><strong>16 cr</strong></td>
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<table>
<thead>
<tr>
<th>Fall</th>
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</thead>
<tbody>
<tr>
<td>NUR 411  Adult Health III</td>
<td>5cr</td>
</tr>
<tr>
<td>NUR 440  Population Focused Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td>NUR 448  Psychiatric Mental Health Nursing</td>
<td>4cr</td>
</tr>
<tr>
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<table>
<thead>
<tr>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>HCS/NUR XXX Nursing Elective (W)</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 400  Theories Research and Evidence Based Practice (W)</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 430  Leadership in Nursing (W)</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 453  Role Transition (W)</td>
<td>5 cr</td>
</tr>
<tr>
<td></td>
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<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td><strong>60 credits</strong></td>
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(W) Indicates Writing Intensive Course
# BSN ACCELERATED PROGRAM
## OF STUDY
## UPPER DIVISION NURSING MAJOR

<table>
<thead>
<tr>
<th>Summer</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 304 Adult Health I</td>
<td>6cr</td>
</tr>
<tr>
<td>NUR 307 Pharmacology</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 314 Health Assessment</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 315 Pathophysiology</td>
<td>3cr</td>
</tr>
<tr>
<td></td>
<td><strong>15 cr</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 308 Adult Health II</td>
<td>8cr</td>
</tr>
<tr>
<td>NUR 318 Maternal Health Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td>NUR 320 Pediatric Health Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td>NUR 401 Evidence-Based Nursing Practice (W)</td>
<td>3cr</td>
</tr>
<tr>
<td>NUR 430 Leadership in Nursing (W)</td>
<td>3cr</td>
</tr>
<tr>
<td></td>
<td><strong>22 cr</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 411 Adult Health III</td>
<td>5cr</td>
</tr>
<tr>
<td>NUR 440 Population Focused Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td>NUR 448 Psychiatric Mental Health Nursing</td>
<td>4cr</td>
</tr>
<tr>
<td>NUR 453 Role Transition (W)</td>
<td>5cr</td>
</tr>
<tr>
<td></td>
<td><strong>18 cr</strong></td>
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</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>55 credits</strong></td>
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</table>

(W) Indicates Writing Intensive Course
### RN - BSN
Full-Time Program
of Study
Upper Division Nursing Major

<table>
<thead>
<tr>
<th>SUMMER</th>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 311 Theories &amp; Concepts of Nursing (W)</td>
<td>2 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 314 Health Assessment</td>
<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 350 Career Pathway: Assessment and Development</td>
<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 390 Advanced Placement Practice I</td>
<td>10 cr</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>18 cr</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FALL</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 400 Theories, Research and Evidence-Based Practice (W)</td>
<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 405 Career Pathway: Professional Development</td>
<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 440 Population Focused Nursing</td>
<td>4 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 403 Advanced Placement Practice II</td>
<td>10 cr</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>20 cr</strong></td>
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</table>

<table>
<thead>
<tr>
<th>SPRING</th>
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</thead>
<tbody>
<tr>
<td>NUR 305 Issues in Health Disparities (W)</td>
<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 408 Genetics and Healthcare (W)</td>
<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 426 Leadership and Management in Nursing (W)</td>
<td>6 cr</td>
<td></td>
</tr>
<tr>
<td>NUR 414 Advanced Placement Practice II</td>
<td>10 cr</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>22 cr</strong></td>
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</tbody>
</table>

(W) Indicates Writing Intensive Course
RN - BSN
Part-Time Program
of Study
Upper Division Nursing Major

<table>
<thead>
<tr>
<th>SPRING</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 311 Theories &amp; Concepts of Nursing (W)</td>
<td>2 cr</td>
</tr>
<tr>
<td>NUR 314 Health Assessment</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td><strong>5 cr</strong></td>
</tr>
<tr>
<td>SUMMER</td>
<td></td>
</tr>
<tr>
<td>NUR 350 Career Pathway: Assessment and Development</td>
<td>3 cr</td>
</tr>
<tr>
<td>NUR 400 Theories, Research and Evidence-Based Practice (W)</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td><strong>6 cr</strong></td>
</tr>
<tr>
<td>FALL</td>
<td></td>
</tr>
<tr>
<td>NUR 405 Career Pathway: Professional Development</td>
<td>3 cr</td>
</tr>
<tr>
<td>NUR 440 Population Focused Nursing</td>
<td>4 cr</td>
</tr>
<tr>
<td></td>
<td><strong>7 cr</strong></td>
</tr>
<tr>
<td>SPRING</td>
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</tr>
<tr>
<td>NUR 305 Issues in Health Disparities (W)</td>
<td>3 cr</td>
</tr>
<tr>
<td>NUR 408 Genetics and Healthcare (W)</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td><strong>6 cr</strong></td>
</tr>
<tr>
<td>SUMMER</td>
<td></td>
</tr>
<tr>
<td>NUR 426 Leadership and Management in Nursing (W)</td>
<td>6 cr</td>
</tr>
<tr>
<td></td>
<td><strong>6 cr</strong></td>
</tr>
<tr>
<td>ADVANCED PLACEMENT</td>
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</tr>
<tr>
<td>NUR 390 Advanced Placement Practice I</td>
<td>10 cr</td>
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<tr>
<td>NUR 403 Advanced Placement Practice II</td>
<td>10 cr</td>
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<tr>
<td>NUR 414 Advanced Placement Practice III</td>
<td>10 cr</td>
</tr>
<tr>
<td></td>
<td><strong>60 cr</strong></td>
</tr>
</tbody>
</table>

(W) Indicates Writing Intensive Course

Approved by School Council 5/09

Nursing Course Listing
HEALTH SCIENCE

Please consult your 2012-2013 Student Handbook for the applicable curriculum and program policies. Please note that courses and policies are subject to change throughout the academic year. Check with the Office of Student Services at the School of Nursing and Health Studies for current materials.

The University of Miami School of Nursing and Health Studies offers courses leading to the degree of Bachelor of Science in Health Science. Baccalaureate education provides the foundation for further education in specialized health professional fields. Pre-professional tracks include Pre-physical Therapy, Pre-pharmacy, Pre-forensics, Health Science/Business Administration, and Health Science General.

ACADEMIC POLICIES

ADMISSION:

In accepting students into the Health Science program, the University does not in any way assure admittance into any professional graduate programs. Admission to any of these programs is dependent upon academic performance in the undergraduate course-work and is determined independently by the school or program to which the student applies.

Entering freshmen in the 75th percentile have mid-range SAT and ACT scores of 1400 and/or and 32 respectively. Entering freshmen have an average weighted GPA of 4.2. Transfer students have a mean cumulative GPA of 3.44.

REQUIREMENTS FOR ADMITTED STUDENTS:

The Health Science degree requires courses in biology, chemistry, physics (where required by the track) and health science with a minimum grade of C- in each course. Students must satisfy both the general education requirements listed below and the requirements of a specific track, to be awarded the Bachelor of Science in Health Science degree. Students must maintain at least a 2.8 GPA in the courses listed under the track requirements with no grade below a C-.

ACADEMIC PROGRAMS

The School of Nursing and Health Studies will award a Bachelor of Science in Health Science once a student has completed the requirements listed below.

The Health Science Program offers curricula that are designed to prepare students for health professional or graduate education programs. Programs of study can be tailored for students wishing a variety of health professional options. Students are encouraged to contact graduate programs directly to ascertain if there are specific course requirements that might differ from health science track requirements. Any course requirements may be added to a student’s undergraduate curriculum track.
No minor is offered in Health Science. Health Science students may not minor in biology.

GENERAL EDUCATION REQUIREMENTS

1. English Composition - 3-6 credits

Except as indicated below, students must take English 105 and 106 (or its equivalent) during the first year of enrollment. Admission to ENG 105 requires a placement score acceptable to the Department of English. Students whose placement scores are deemed unacceptably low will be required to take the non-credit course, ENG 103, before taking ENG 105 and 106. Such students must fulfill the English Composition requirement within the first three semesters. Students whose placement scores are high may be exempted from ENG 105 but not from ENG 106 or its equivalent.

2. Mathematics - 4 credits

a. MTH 161 or equivalent

3. Statistics and Computer Programming - 6 credits

a. HCS 202 or equivalent

b. CSC or CIS

4. Arts and Humanities - 12 credits

B.S.H.S. degree candidates must earn twelve credits in the three areas listed below. At least three credits must be earned in each area.

a. Fine Arts: courses in the departments of Art and Art History, Dance (DAN 250 only), Musicology (only the following: either MCY 131 or MCY 132, but not both, MCY 325, MCY 361 and MCY 362), Music Theory (MTC 125 only), and Theatre Arts (THA 101 only) count toward this requirement.

b. Literature: courses in the departments of English (200-level and higher) and Foreign Languages and Literatures (300-level and higher) count toward this requirement.

c. Philosophy and Religious Studies: courses in the departments of Philosophy and Religious Studies count toward this requirement.

d. An additional 3 credits from a, b, or c above or 3 credits in a foreign language other than ones native language.

5. People and Society - 6 credits

B.S.H.S. degree candidates must earn six credits in the following social science disciplines: African-American Studies, American Studies, Anthropology (except APY 203), Economics, Geography and
Regional Studies (except GEG 120), History, International Studies, a Judaic Studies Social Science course, Political Science, Psychology, Sociology, and Women’s Studies. No more than three credits may be earned in any one discipline.

6. Writing - 5 Courses

May include any of the courses listed above except ENG 105 and ENG 106.

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BS HEALTH SCIENCE SAMPLE PLAN OF STUDY - GENERAL TRACK

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>Eng 105</td>
<td>English Comp</td>
</tr>
<tr>
<td>Bil 150/151</td>
<td>General Biology w/ Lab</td>
</tr>
<tr>
<td>Arts/Hum</td>
<td>3 cr</td>
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<tr>
<td>Mth 101 or Elective</td>
<td>College Algebra</td>
</tr>
<tr>
<td>UMX 100</td>
<td>Freshman Experience</td>
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<table>
<thead>
<tr>
<th>Sophomore</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>Chm 103/105 or Chm 111/113</td>
<td>Chem for Life Sciences I w/ Lab or General Chem w/Lab</td>
</tr>
<tr>
<td>Bil 250</td>
<td>Genetics</td>
</tr>
<tr>
<td>People &amp; Society</td>
<td>3 cr</td>
</tr>
<tr>
<td>HCS 202</td>
<td>Intro. Statistics</td>
</tr>
<tr>
<td></td>
<td>Hcs 306</td>
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<table>
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</tr>
<tr>
<td>Hcs 215</td>
<td>Systemic Physiology</td>
</tr>
<tr>
<td>Cis/Csc</td>
<td>Computer Information Systems/Computer Science</td>
</tr>
<tr>
<td>Phy 101/106</td>
<td>College Physics I w/ Lab</td>
</tr>
<tr>
<td>Minor</td>
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<tr>
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### General Education Requirement

<table>
<thead>
<tr>
<th>ENG 105 &amp; 106 English Composition</th>
<th>BIL 150/151, 160/161 General Biology I &amp; II with Labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 141 A or B, or 161 Calculus I</td>
<td>BIL 250, 255 Genetics, Cell &amp; Molecular Biology</td>
</tr>
<tr>
<td>CIS/CSC Computer Course</td>
<td>CHM 103/105, 104/106 Chemistry for Life Sciences I &amp; II w/labs OR CHM 111/113, 112/114 Principles of Chemistry I &amp; II w/labs AND CHM 201/205, 202/206 Organic Chemistry I &amp; II w/labs**</td>
</tr>
</tbody>
</table>

### Core Health Science Requirements

| 12 Credits of Humanities |
| 6 credits of Social Science (see individual tracks) |

*MAS 201 for Business Administration Track **Constitutes a Chemistry Minor

## INDIVIDUAL TRACK REQUIREMENTS

1. **Health Sciences General Track**
   - 3 credits of electives in biology or health science above the 100 level
   - Physics - two semesters with lab
   - A minor in a discipline accepted by the School of Nursing and Health Studies

2. **Pre-Physical Therapy Track**
   - 3 credits of electives in biology or health science above 100 level
   - HCS 216 is also recommended.
   - Physics - two semesters with lab

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* Students must also complete a minor in a discipline accepted by the School of Nursing and Health Studies.
Psychology 203 or 352
A minor in a discipline accepted by the School of Nursing and Health Studies

3. Pre-Pharmacy Track

- 3 credits of electives in biology or health science above the 100 level
- Chemistry minor - 111/113, 112/114, 201/205, 202/206
- Physics - two semesters with lab
- Economics 211, 212
- Microbiology 301 or 303/304
- Biochemistry and Molecular Biology 401
- Communication 211

(Transfer students who do not complete the chemistry minor at the University of Miami must choose another minor accepted by the School of Nursing and Health Studies.)

4. Pre-Forensics Track

- 3 credits of electives in biology or health science above the 100 level
- HCS 216, and BIL 251 or BIL 252
- Chemistry minor - 111/113, 112/114, 201/205, 202/206
- Sociology 101, 271, 371, 372, 373, 470
- Psychology 110 and 352

(Transfer students who do not complete the chemistry minor at the University of Miami must choose another minor accepted by the School of Nursing and Health Studies.)

5. Health Science/Business Administration Track

- 12 credits of electives in biology or health science above the 100 level
- Physics - two semesters with lab
- Business Administration minor including ACC 211, 212, CIS, MGT 304, MKT 301, and FIN 300.
- Health Science Course Listing
PUBLIC HEALTH

The University of Miami School of Nursing and Health Studies offers courses leading to the degree of Bachelor of Science in Public Health. Baccalaureate education provides the foundation for further education in Public Health and/or other specialized health professional fields.

ACADEMIC POLICIES

ADMISSION:

Entering freshmen in the 75th percentile have mid-range SAT and ACT scores of 1400 and/or 32 respectively. Entering freshmen have an average weighted GPA of 4.2. Transfer students have a mean cumulative GPA of 3.44.

REQUIREMENTS FOR ADMITTED STUDENTS:

The course work for the BSPH Program is based on recommendations made by the Association for Prevention Teaching and Research (2008) for undergraduate course work in Public Health. Students are required to complete 30 credits of Public Health coursework, including 21 credits of core courses and 9 credits of approved electives.

ACADEMIC PROGRAMS

The School of Nursing and Health Studies will award a Bachelor of Science in Public Health, once a student has completed the requirements listed below.

The Public Health Program offers curricula that are designed to prepare students for public health practice or graduate education in health related fields. Programs of study can be tailored for students wishing to combine Public Health education with a variety of other health related fields (e.g., pre-med, pre-physical therapy).

No minor is required within the Public Health program. However, students have room within their plan of study to pursue a minor if desired.

GENERAL EDUCATION REQUIREMENTS:

1. English Composition - 3-6 credits

Except as indicated below, students must take English 105 and 106 (or its equivalent) during the first year of enrollment. Admission to ENG 105 requires a placement score acceptable to the Department of English. Students whose placement scores are deemed unacceptably low will be required to take the non-credit course, ENG 103, before taking ENG 105 and 106. Such students must fulfill the English Composition requirement within the first three semesters. Students whose placement scores are high may be exempted from ENG 105 but not from ENG 106 or its equivalent.
2. Language - 3 credits
   a. A language other than English at the intermediate (200 level or higher).

3. Mathematics - 3 credits
   a. HCS 202 – Intro to Statistics for Health Care or equivalent

4. Natural World – 6 credits
   a. BIL 150/151 General Biology with Lab (5 credits)

   An additional credit from the following science disciplines:
   b. Biology, Chemistry, Eco Systems and Science and Policy, Geological Sciences, Marine Science, Physics, and Physical Science, as well as Anthropology 203, Geography 120.

5. Arts and Humanities - 12 credits
   At least three credits must be earned in each area.
   a. Fine Arts: courses in the departments of Art and Art History, Dance (DAN 250 only), Musicology (only the following: either MCY 131 or MCY 132, but not both, MCY 325, MCY 361 and MCY 362), Music Theory (MTC 125 only), and Theatre Arts (THA 101 only) count toward this requirement.
   b. Literature: courses in the departments of English (200-level and higher) and Foreign Languages and Literatures (300-level and higher) count toward this requirement.
   c. Philosophy and Religious Studies: courses in the departments of Philosophy and Religious Studies count toward this requirement.
   d. An additional 3 credits from a, b, or c above.

6. People and Society - 6 credits
   a. PSY 110 – Introductory Psychology (3 credits).

   An additional 3 credits from the following Social Science disciplines:
   b. African-American Studies, American Studies, Anthropology (except APY 203), Economics, Geography and Regional Studies (except GEG 120), History, International Studies, a Judaic Studies Social Science course, Political Science, Psychology, Sociology, and Women’s Studies. No more than three credits may be earned in any one discipline.

7. Writing - 5 courses
### PUBLIC HEALTH CORE COURSES (REQUIRED)
#### BSPH Pre-Req Grid

<table>
<thead>
<tr>
<th>BSPH Course Number</th>
<th>Prerequisite</th>
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</thead>
<tbody>
<tr>
<td>202 – Intro. Statistics in Health Care</td>
<td>MTH 101</td>
</tr>
<tr>
<td>205 – Personal Nutrition</td>
<td>none</td>
</tr>
<tr>
<td>206 – Intro. To Public Health</td>
<td>none</td>
</tr>
<tr>
<td>208 – Intro. To Epidemiology</td>
<td>none</td>
</tr>
<tr>
<td>301 – Human Sexuality and Vulnerable Populations</td>
<td>BPH 206 or junior standing in BSN</td>
</tr>
<tr>
<td>303 – HIV/AIDS and Health Maintenance for Health Care Providers</td>
<td>Permission of instructor</td>
</tr>
<tr>
<td>305 – Issues in Health Disparities</td>
<td>BPH 206 or junior standing in BSN</td>
</tr>
<tr>
<td>306 – Principles of Nutrition</td>
<td>Sophomore standing or permission of instructor</td>
</tr>
<tr>
<td>309 – Health and Environment</td>
<td>BPH 206</td>
</tr>
<tr>
<td>310 – Global Health</td>
<td>BPH 206</td>
</tr>
<tr>
<td>317 – Theories in Growth and Development</td>
<td>Permission of instructor</td>
</tr>
<tr>
<td>319 – Contemporary Issues in Bioethics for Health Care</td>
<td>Permission of instructor</td>
</tr>
<tr>
<td>322 – Introduction to Health Policy</td>
<td>BPH 206</td>
</tr>
<tr>
<td>321 – Health Promotion and Disease Prevention</td>
<td>BPH 206</td>
</tr>
<tr>
<td>352 – Biological Principles of Public Health</td>
<td>BPH 206, BIL 150/151, CHM 103/105</td>
</tr>
<tr>
<td>355 – Global Nutrition</td>
<td>Permission of instructor</td>
</tr>
<tr>
<td>408 – Genetics and Healthcare</td>
<td>none</td>
</tr>
<tr>
<td>419 – Contemporary Health Issues in South Florida</td>
<td>BPH 206 and 208</td>
</tr>
<tr>
<td>461 – Practicum in Health Disparities Research</td>
<td>Permission of instructor</td>
</tr>
<tr>
<td>465 – Public Health Statistics and Data Management</td>
<td>BPH 202 and 206</td>
</tr>
<tr>
<td>487 – Global Health Practicum</td>
<td>Permission of instructor</td>
</tr>
<tr>
<td>490 – Field Practicum in Community Health</td>
<td>All required courses for BSPH</td>
</tr>
<tr>
<td>499 – Selected Topics</td>
<td>Permission of instructor</td>
</tr>
</tbody>
</table>

**Bachelors of Science in Public Health (BSPH)**
Program of Study

<table>
<thead>
<tr>
<th>Freshman Year-Fall Semester</th>
<th>Cred.</th>
<th>Freshman Year-Spring Semester</th>
<th>Cred.</th>
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</thead>
<tbody>
<tr>
<td>ENG 105 (English Composition I)</td>
<td>3</td>
<td>BPH 202 Intro to Statistics</td>
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<tr>
<td>BIO 150/151 (Biology with Lab)</td>
<td>5</td>
<td>ENG 106 (English Composition II)</td>
<td>3</td>
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<td>Arts &amp; Humanities</td>
<td>3</td>
<td>BPH 206 Intro to Public Health</td>
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<tr>
<td>Math 101</td>
<td>3</td>
<td>CHM 103/105</td>
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<td>UMX 100</td>
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<td>Foreign Language (100 level)</td>
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<th>Sophomore Year- Spring Semester</th>
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<tbody>
<tr>
<td>BPH 352: Biological Principles of Public Health</td>
<td>3</td>
<td>BPH 208 Intro to Epidemiology</td>
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</tr>
<tr>
<td>Foreign Language (200 level)</td>
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<td>BPH 309 Health and Environment</td>
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<tr>
<td>Arts and Humanities</td>
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<td>Arts and Humanities</td>
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<tr>
<td>PSY 110 (General Psychology)</td>
<td>3</td>
<td>Natural World</td>
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<tr>
<td>Arts and Humanities</td>
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<td>Elective</td>
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<tbody>
<tr>
<td>BPH 321 Health Promotion/Disease Prevention</td>
<td>3</td>
<td>BPH 310 Global Health</td>
<td>3</td>
</tr>
<tr>
<td>People &amp; Society</td>
<td>3</td>
<td>BPH 322 Intro Health Policy</td>
<td>3</td>
</tr>
<tr>
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<td>Elective</td>
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<td>Elective</td>
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<td><strong>Total</strong></td>
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<th>Senior Year- Fall Semester</th>
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<th>Senior Year Spring Semester</th>
<th>Cred.</th>
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</thead>
</table>

443
### Required (specified) courses (need: 9x3=27 credits)

- BPH 206: Introduction to Public Health
- BPH 208: Introductory Epidemiology
- BPH 310: Global Health
- BPH 309: Health and Environment
- BPH 321: Health Promotion and Disease Prevention
- BPH 352: Biological Principles of Public Health
- BPH 465: Public Health Statistics and Data Management
- HST 536: US Health Care Crisis or BPH 322: Introduction to Health Policy
- BPH 490: Field Practicum in Community Health

### Approved Public Health Electives (need: 2x3=6 credits total)

#### Within the SONHS:
- BPH 301: Human Sexuality
- BPH 303: HIV/AIDS and Health maintenance for Health Care Providers
- BPH 305: Issues in Health Disparities
- BPH 306: Principles of Nutrition
- BPH 317: Human Growth and Development
- BPH 319: Contemporary Issues in Bioethics for Health Care
- BPH 355: Global Nutrition
- BPH 419: Contemporary Health Issues of South Florida
- BPH 487: Practicum in Global Health (Chile, Spain, etc.)

#### Outside of SONHS:
- Introduction to Health Sector Management (School of Business)
- Health Care Law and Ethics (School of Business, permission from instructor)
- Health Care Marketing (School of Business, permission from instructor)
- Introduction to Health Informatics (School of Business, junior standing is required)
- International Migration and the Health Care System (INS 599) (Permission from Instructor)
- Physical activity & health (School of Education)

* Permission to take other courses may be granted by the SONHS faculty

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<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>BPH 465: Public Health Statistics and Data Management</td>
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<tr>
<td>BPH 490 Field Practicum in Community Health</td>
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<tr>
<td>Public Health Elective</td>
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<td>Elective</td>
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<td>Elective</td>
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<td><strong>Total PH credits</strong></td>
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* Revised by Public Health Planning Committee 8/30/11
* Revised by Public Health Planning Committee 3/19/12
* Revised by Public Health Planning Committee 4/3/12
A minor in Public Health is offered. The minor in Public Health consists of 12 credits including: HCS 206 Introduction to Public Health (3 cr), HCS 208 Introductory Epidemiology (3 cr), HCS 309 Health and Environment (3 cr), and an approved Public Health elective (3 cr).

Public Health Courses Listed Under Health Science Course Listing
All graduate work (except for the Master’s Degree in Law, J.D. in Law and M.D. degree) at the University of Miami is under the direction of the Dean of the Graduate School and the Graduate Council.

All graduate students at the University of Miami are subject to the general standards and requirements of the University and its various programs in regard to attendance, examinations, payment of fees, and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements in the time specified.

Admission requirements are described in the Bulletin of the Graduate School, and may be obtained from the individual department or program. Information is also available at www.miami.edu/grad.

Applications to the Graduate School are processed through the various Schools and Colleges. See http://www.miami.edu/gs/index.php/graduate_school/apply/ for a listing of online applications by program.

Prospective students should note that “graduate study” means an integrated program of advanced, specialized study, based on an undergraduate major and/or adequate background, presupposing academic and personal maturity, and making much more than average demand upon the industry, initiative, and scholarship of the student. The term must be distinguished from “post-graduation study” which means merely that courses, not necessarily of graduate level, are taken after the student has received a bachelor’s degree.

To preserve its ideals of scholarship, conduct, and character the Graduate School reserves the right and the student by his/her registration concedes the right to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

MISSION

The mission of the Graduate School is to promote graduate education, scholarship, and research; to support individuals, departments, and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities; and to maintain high ethical and academic standards in graduate studies.

The standards of study and conduct in the Graduate School are high. They are not set and maintained by the Graduate School but rather by the faculty who determine the standards for their individual program. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally the Graduate School delegates responsibility to the student and his/her program. Within this broad responsibility the recommendation for the degree rests with the Committee.
ACADEMIC POLICIES

TIME TO COMPLETION

Time to completion starts when a student begins any program in the Graduate School, whether it be a master’s or doctoral program. All work must be completed within six years of the time of admission to graduate work, for those studying for the various master’s degrees; and within eight years for those studying for doctoral degrees. For those admitted directly into a Ph.D. program without a master’s degree in field, work must be completed within eight years. Individual programs may set a shorter time period. Exceptions may be granted by the Dean of the Graduate School at the request of the Graduate Program Director.

RECENCY/VALIDATION FOR OVER-AGED CREDITS

Graduate credits transferred from another university may not be applied toward a graduate degree at the University of Miami if their age at the time of acceptance into the University of Miami program exceeds six years. On an individual basis, students may be permitted to validate over-aged credits by examination, with program approval.

CONTINUOS ENROLLMENT

To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and readmission must be granted. Doctoral students for whom course work is no longer appropriate should consult their program for registration guidance.

REGISTRATION

Graduate students can register on the first day of registration and through the registration period. For more information on registration, students should contact their respective School or College. See academic calendar for dates of registration periods at http://www.miami.edu/index.php/registrar/calendar/.
FULL-TIME STUDY

The categories of full-time students include:

1. Graduate students taking eighteen or more graduate credits during the calendar year (nine credits in a regular semester, or 3 credits in a summer session).
2. Graduate teaching and research assistants taking sixteen or more graduate credits during the calendar year (eight credits in regular semester or 3 credits in a summer session).
3. Graduate students enrolled in any course numbered 700 or above, i.e., any 700-level course required for the completion of the degree.
4. All MBA for Executive and Professional students and Master of Science in Professional Management students are considered full-time.

In all cases, determination as to whether or not a student is in full-time study is the privilege of the Dean of the Graduate School.

The maximum number of credits allowed for full-time study is 12 for each semester and three for each summer session. Exception to this policy can only be made by the Dean of the Graduate School or his/her designee and requires a signed recommendation from the Program Director.

Full-time registration is required during the semester or summer session in which a candidate defends the thesis or dissertation. Students who wish to have this requirement waived must have a written request provided to the Graduate School by the Dean of their respective College or School. In this case the student must graduate within the same academic year.

No full-time faculty member may be a full-time student, whether or not working toward a degree. Nor may a full-time student be a full-time faculty member.

No full-time student will be a principal investigator in any grant or contract, whether in name or fact. And no principal investigator will be a full-time student.

Exceptions to these rules may be made in cases in which students are encouraged to apply individually for small research grants that are consistent with and contribute to their field of study and their dissertation work, and, in certain programs, in which students in a terminal degree status are obliged, as a part of their degree program, to teach as de facto faculty members. (Note: Faculty from School of Nursing and Health Sciences and from the Physical Therapy program are permitted to pursue Doctoral degrees in their home program/school.)

WITHDRAWALS

Withdrawals, either from individual courses or from a Graduate program, should be processed through the office of the Dean of the School of the student’s program. Students who wish to officially withdraw from joint or dual degree programs should consult the office of the Dean of the School or College for both disciplines. The date of withdrawal is that on which the student notifies the office of the Dean or the date of receipt of a letter requesting withdrawal. No withdrawal from the University is official until the student has consulted with the Dean of his/her school and has completed the necessary forms.
Students wishing to officially withdraw from the University of Miami must provide the Office of the Registrar notification of their intent to withdraw. Initial notification may be made in person, in writing, by fax, or by telephone. This notification will be recorded and used for notification purposes for the Federal Government. Repayment of any federal funds will be based on the date of notification.

Students must also follow the required process as set forth by their school/college for withdrawing from courses. This process often requires that a signature from a dean or the dean's representative be obtained on a Change of Course form. In some cases, students can complete the Change of Course form (hard copy or through the myUM system) without an approving signature. Change of Course forms must be submitted to the Office of the Registrar for final processing/review.

In addition to the completion of the Change of Course form, students will be asked to complete a Withdrawal Checklist and a Withdrawing Student Survey. The Withdrawal Checklist provides students with a series of offices that need to be notified concerning their withdrawal.

To officially withdraw from the MBA Program or Master of Science in Professional Management program, students must inform the Office of Graduate Business Programs in writing prior to the beginning of a course/term. Tuition will be refunded on a prorated basis based on the number of class meetings attended. No tuition refund will be granted when class attendance has exceeded 50% of class meetings. For further information contact: Office of Graduate Business Programs, (305) 284-4643, email: mba@miami.edu.

**MILITARY WITHDRAWAL**

Tuition refunds of 100% are granted to students who withdraw due to military service, provided they do not receive credit for the course (see below under "Credit for Courses After the 12th Week of the Semester").

If you receive federal financial aid and withdraw before you complete 60% of the semester, a pro rate calculation will determine the amount of financial aid you have earned. It is based on the amount of time you were enrolled. This calculation is independent of any charges incurred at the university.

**Credit for Courses After the 12th Week of the Semester**

The following statement of policy was adopted by action of the Academic Deans’ Council April 14, 1967:

1. On recommendation of the Dean of the school, students who withdraw after the 12th week of the semester because of official orders to active duty with the Armed Forces of the United States may be awarded credit in any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).

2. Credit granted for a course under this policy should count toward graduation.
3. There should be no refund of tuition for courses for which credit has been granted. Refunds of courses not awarded credit should be on the same basis as complete withdrawals for military service.

4. The above recommendations are procedures for determining the awarding of credit and do not release the student from the usual withdrawal procedures.

Veterans and children of deceased or totally disabled veterans attending the University as students under the government’s educational benefits bills must also clear their withdrawal with the main campus Veterans Affairs Officials in the Office of the Registrar in the Whitten University Center, Room 121 / Phone: (305) 284-2294 or Email: registrar@miami.edu.

Additional Information on Military Withdrawal is available at: https://www6.miami.edu/registrar/MilitaryWithdrawalInfo.pdf

LEAVE OF ABSENCE

Leave may be obtained by petition of the Program Director followed by the approval of the Dean of the Graduate School. Leave of Absence officially stops the time to completion clock. The Petition for Leave of Absence form may be found at http://www.miami.edu/gs/index.php/graduate_school/forms/.
# GRADES AND CREDITS

The same letter grades are used for graduate and undergraduate students, but with somewhat different meaning.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Excellent accomplishment</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Good accomplishment</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Fair, but below that expected of graduate students (C- is the lowest passing grade. Some programs may require higher standards.).</td>
</tr>
<tr>
<td><strong>S</strong></td>
<td>Symbol used for acceptable (U-unacceptable) thesis, dissertation, practicum, and internship credit. It may be used for regular courses under special circumstances with the prior approval of the instructor, department chairman, and the Dean of the Graduate School. The Graduate School considers a grade of “S” to indicate a minimum of a 3.0 GPA in a graduate course if a student has taken no prior coursework on the graduate level. A grade of “S” reflects that a student is in good academic standing.</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>Poor (not acceptable for credit toward the advanced degree).</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>Failure</td>
</tr>
<tr>
<td><strong>W</strong></td>
<td>Course dropped prior to the last day for withdrawing from classes as published in the official calendar of the university. Courses dropped after last date must have approval of Dean of graduate school. Credit can be earned only by successful repetition of the course.</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td>Incomplete work in passing status with the instructor’s permission to complete the course. (Not to be used for thesis or dissertation credits). The “I” should be changed to a letter grade within one (1) calendar year after it is given, unless the Academic Dean of the student’s primary school or college and the Dean of the Graduate School approve the delay. If the “I” is not changed within one year, credit can be earned only by successful repetition of the course. (Note: Fellowships and financial aid may be withdrawn if there is an excess accumulation of “I”s on a student’s transcript).</td>
</tr>
<tr>
<td><strong>IP</strong></td>
<td>Denotes in progress grade given by instructor for any course (500G, 600, or 700 level) in which a student has made expected or clearly satisfactory progress during the semester, but has yet fully to complete requirements for the course. “IP” is to be given for 700-level internships, research, thesis, and dissertation courses that have not been completed. Upon satisfaction of all Graduate School requirements, the Assistant Director, Programs of the Graduate School will issue final credit for all master’s thesis and doctoral dissertation courses (e.g., 710, 720, 730, 735, 740 and 750). Zero-credit courses (e.g., 720 and 750) will be changed to “S.” Please note that all “IP”s must be converted to “S”, letter grade, or “I” at graduation. “IP” will also be converted to “I” upon any departure from the University for a period in excess of one year.</td>
</tr>
<tr>
<td><strong>NG</strong></td>
<td>Symbol assigned by Enrollment Services indicating that the instructor has not yet reported the student’s grade. For a student to receive credit for the course, the instructor must report a passing grade prior to the student’s graduation.*</td>
</tr>
</tbody>
</table>

* Faculty Senate Legislation #85005(B)

An average of B (3.0) is required for a graduate degree, and no “D” credit may be counted toward the degree. All work leading to the graduate degree and taken as a graduate student will be counted in computing the quality point average, including courses graded “D”.

No transferred credits are calculated into the University of Miami G.P.A.
AWARD OF ACADEMIC MERIT

Students who obtain a 3.8 G.P.A. or better will receive an Award of Academic Merit from the Graduate School. The Award is posted on the transcript.

Quality points are awarded as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.00</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.70</td>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.70</td>
</tr>
<tr>
<td>D+</td>
<td>0.00</td>
</tr>
<tr>
<td>D</td>
<td>0.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The quality point average is then determined by dividing the total of quality points earned by the total of credits attempted. The symbols “S”, “W”, and “I” are not counted as credit attempted.

REPEAT RULE

A student may repeat a course in which a failing grade was earned, but the repetition of the course will not eliminate the previous grade from the record. A course may be repeated only once unless written authorization is provided by the Dean of the Graduate School. All grades are included in the computation of the quality point average. If a course in which an unsatisfactory grade (as determined by the program advisor) was earned is repeated and the repeat grade is a “C-” or higher, the number of credits required for graduation will be increased by the number of credits repeated.

Registrations which involve repeating a course in which a grade of “A” or “B” has already been earned may not earn quality points or credit hours, nor count as credits attempted.

LEVELS OF GRADUATE STUDY

Graduate study implies the need for a minimum of formal courses and a maximum of independent work under faculty supervision. Coursework, in itself, is not necessarily a determinant of graduate progress and achievement. The appropriate determinants are the ability of the qualified student to master the various qualifying and comprehensive examinations that a program requires of the student. All work taken by a graduate student in the major area or area of concentration shall be at the graduate level (500 or above). With the permission of the major department or program of major concentration a student may take elective credits (not prerequisite to the major) at any level provided the following limits are observed:
Approval for undergraduate credits as part of the graduate degree program can be made only after a minimum of 12 credits is completed. Award may not be made retroactively, nor are credits accepted from another institution.

**RA, TA, GA Hourly Guidelines**

**To receive a stipend an RA, TA, GA must be a full-time student.**

Graduate students with appointments as RAs, TAs or GAs will be expected to work 20 hours per week with the exception of efforts directly required for dissertation research.

International students may work on campus provided the student is maintaining F1 status and does not work more than a total of 20 hours per week (including any off campus work the student may have been authorized to perform) while school is in session. Questions regarding work for international students should be directed to International Student and Scholar Services: [http://www.miami.edu/isss](http://www.miami.edu/isss).

Graduate students with Assistantships and Fellowships will be classified with the following designations. *(FE) Fellows, *(RA) Research Assistant, *(TA) Teaching Assistant, *(GA) Graduate Assistant, *(TR) Trainee. *Please contact the Graduate School for specific codes.

Definitions:

FE (Fellow): Responsibilities do not include the provision of direct services to the University and require internal/external fellowship support.

RA (Research Assistant): Responsibilities are mainly conducting research and/or assisting with research projects.

TA (Teaching Assistant): Responsibilities are mainly teaching and/or assisting in the area of teaching.

GA (Graduate Assistant): Responsibilities are mainly in professional support of University operations and programs. Graduate students should not be hired to perform clerical duties.

TR (Trainee): Designated as such by specific federal guidelines which indicate a complex process wherein the trainee takes on an increasingly independent role in the selection, conceptualization, and execution of research projects under the supervision of an experienced mentor.

In definitions where the word “mainly” is used, “mainly” is defined as greater than 50%.
Requirements for Teaching Assistants

1. Graduate teaching assistants who are the instructors of record and responsible for assigning grades in a course must have a master’s in the teaching discipline or 18 graduate credit hours in the discipline.

2. Graduate teaching assistants must be directly supervised by a faculty member in the teaching discipline, must attend regular in-service training provided by the Instructional Advancement Center (in coordination with the Graduate School or provided by the specific graduate program), and must be reviewed by the supervising faculty member once a semester.

3. Graduate Teaching Assistants who have previous teaching experience and indication of competency may be exempted from TA Training by the Dean of the Graduate School in consultation with the Graduate Program Director in the discipline. A request for waiver must be submitted to the Dean of the Graduate School by the Graduate Program Director.

POLICY ON OUTSIDE EMPLOYMENT FOR RA/TA/GA

A graduate student must have prior approval from the chair or advisor to work outside the department, since such activities might impede progress toward his/her degree. Any question or concern should be discussed with the Dean of the Graduate School.

1. A graduate student is allowed to supplement his/her stipend by tutoring undergraduate students in courses in which he/she has no direct responsibility at the time.

2. A graduate student who is teaching a class or lab of a multi-section course using a common syllabus and common exams may not tutor any student in any section of that course.

3. A graduate student, like any other member of the teaching faculty, may offer review sessions for his or her students to which he or she may invite students from other sections of the same course. The graduate student arranging such sessions may not under any circumstances take money from the students in attendance.

4. A graduate student may use his or her office for tutoring or may ask departmental permission to use a classroom or other appropriate university facility.

5. The graduate advisor or department chair may require a graduate student to limit his or her outside employment or tutoring activity if, in the view of the department, such activity is impeding the graduate student’s academic progress or keeping him or her from fulfilling responsibilities within the department.

6. International students should clear their work instructions with International Student and Scholar Services. Questions regarding work for international students should be directed to International Student and Scholar Services, (305) 284-2928, email: isss@miami.edu or visit: http://www.miami.edu/isss.
GRADUATION

It is the responsibility of the student to apply for graduation through MyUM during the student’s final semester before the date indicated on the Graduate School calendar and the Schedule of Classes. These dates are published at http://www.miami.edu/index.php/registrar/calendar/. Students who previously applied for a diploma but did not receive the degree must repeat the application procedure. Deadlines for the commencement program are firm. Students may walk in the graduation ceremony, but the program will indicate “in progress” if information is missing. Students will be degree candidates until they have been cleared by the Graduate School.

Graduation ceremonies are held in May and December only. Those completing degree requirements during the fall, spring or summer sessions may, if they wish, participate in the graduation ceremonies of the previous or following May or December. Students receiving Ph.D., D.M.A., D.N.P, D.P.T, or Ed.D. degrees who are participating in the hooding ceremony and all masters marching in the graduation ceremony must have the approval of the graduate advisor, director, or appropriate person in the department/school to participate in the ceremonies.

Participation in graduation for students in all graduate programs is contingent upon the following:

1. The student must have met the requirements for their program.

2. The student must have a minimum of 3.00 cumulative grade point average; all students receiving master’s degrees must have completed a minimum of 30 credits; all Ph.D. D.MA. and Ed.D. students must have completed a minimum of 60 credits.

3. The student (Ph.D. D.M.A. and Ed.D. candidates) must be admitted to candidacy one semester prior to graduation.

4. The student may not have any outstanding debt including, but not limited to, tuition, fines, and fees. Tuition for the last semester of study must be paid in full by the beginning of the final semester.

5. The student must complete an electronic thesis or dissertation (ETD) according to the Graduate School’s requirements and submit all hard copies, paperwork, and fees (if required) by the last day of exams in the semester the student wishes to graduate. It is recommended that students begin the ETD process early in the semester by discussing with their advisors a suitable timetable for completing the defense of their thesis or dissertation. Students should check the academic calendar for the defense deadline date set for the semester they wish to graduate. The Graduate School also encourages students to familiarize themselves with the ETD process at www.miami.edu/etd or contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process. (See dissertation section of the Ph.D. description.)
CLEARANCE FOR DEGREE CONFERRAL

For the Graduate School to clear a student for graduation:

1. All original documents (transcripts from previous degrees, GRE scores, etc.) must be on record in the Graduate School (except for MBA students).

2. The Admission to Candidacy form must have been completed by the program at least one semester before graduation. The Graduate School does not require application to candidacy for master’s, D.P.T., nor D.N.P. degrees.

3. The student must defend his/her thesis or dissertation no later than two weeks before the last day of class in the semester he/she wishes to graduate.

4. The student must submit his/her final, Dissertation Editor-approved thesis or dissertation with all corrections completed and final paperwork turned in to the Graduate School by the last day of exams in the semester he/she wishes to graduate for their clearance to be processed in time.

CLASS ATTENDANCE AND ABSENCES

Regular and punctual class attendance is expected of all graduate students. It is the student’s responsibility to know the instructor's policies regarding examinations, penalties for absences, and late or missed work.

V.A. students will be provided a grade report at the end of each semester period. A copy of the report will be placed in the student’s permanent file maintained by the Veteran Affairs Office. Because of the far-reaching effects of these revisions in the V.A. educational benefits program, it is suggested that you exercise care and judgment in your program planning and in the selection of your courses.

STUDENT RESPONSIBILITY

Standards of study and conduct in the Graduate School are set and maintained, not by fiat of the Graduate School, but rather by the faculty who determine the standards. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally the Graduate School devolves responsibility upon the student and the appointed committee. Within this broad responsibility the recommendation for the degree rests with the committee.

All graduate students at the University of Miami are subject to the general standards and requirements of the University and its various departments in regard to attendance, examinations, payment of fees, and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements at the time specified.

To preserve its ideals of scholarship, conduct, and character, the Graduate School reserves the right and the student by his/her registration concedes the right to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.
It is the responsibility of the student to be informed concerning all regulations and procedures required. In no case will a regulation be waived or an exception granted because a student pleads ignorance of the regulation or asserts that he/she was not informed of it by an advisor or other authority. The student should become familiar with the Bulletin, including:

1. The section presenting the requirements for the degree to be undertaken;
2. The offerings and requirements of the major department;
3. The Graduate Student Honor Code.

After the applicant has been admitted to the Graduate School but before the first registration, the student should consult the school or college and program in which the major work will be done concerning course requirements, deficiencies, if any, the planning of a program or special regulations. Programs may have additional degree requirements that are not listed in this Bulletin. All registrations require the signature of the dean of the school or college (or his/her representative) in which the degree is to be awarded. Only the Council of the Graduate School may waive requirements stated in this Bulletin.

**GRADUATE STUDENT CODE OF ETHICS**

Graduate students agree to abide by the Graduate Student Honor Code.

The University of Miami expects all graduate students to adhere to the highest standards of ethics and academic integrity. All forms of academic fraud are strictly prohibited. These include, but are not limited to, plagiarism, cheating, collusion, falsification, violation of professional ethics or misrepresentation of research data. Students certify that all work (whether an examination, dissertation, thesis, research paper, research project, form of creative expression, experimental data, or any other academic undertaking) submitted for evaluation, presentation, or publication meets these standards. Additionally, graduate students are expected to respect and appreciate the diversity of the community and to respect the rights of others, be they property, privacy, opinion, or expression. Students found to be in violation of these standards are subject to disciplinary actions by the students program and/or the Graduate School through the process described in the Graduate Student Honor Code. All graduate students are bound by the rules and regulations of the University of Miami that apply to them. The Honor Code can be reviewed at http://www6.miami.edu/dean-students/pdf/graduate_honorcode.pdf.

**GRADUATE SCHOOL GRIEVANCE GUIDELINES**

**INTRODUCTION**

These University of Miami Graduate Grievance Procedures provides an opportunity for the resolution of disputes involving graduate students in a fair and collegial manner. These Graduate Student Grievance Procedures supersede all prior such procedures in effect or formerly utilized at the graduate level. They do not supplant UM Students Rights & Responsibilities or any other published policy or procedure relating to graduate students.

**PURVIEW OF THE GUIDELINES**

The formal grievance process described herein is intended for cases not involving grades or matters covered by the Honor Code, which have not been resolved at the department or program level, and it is available only after a final determination within the relevant School.
or College has been reached. Students are encouraged to seek assistance from the University Ombudsperson for possible resolution before initiating the formal graduate grievance process. The procedures set forth here are applicable to any of the following types of grievances by graduate students who are enrolled in any graduate program at the University of Miami, except exclusively in the MD and JD programs:

1. grievances alleging improper dismissal or suspension from a graduate program;
2. grievances alleging the improper withholding or termination of financial support of any kind;
3. grievances alleging any other improper treatment, either substantive or procedural, of a graduate student by a faculty member, department or program, or university agency or administrator except:
   a. allegations of improper evaluation of the quality and/or quantity of academic work (see UM Student Rights & Responsibilities);
   b. allegations of unfair recommendation for employment or further graduate study;
   c. allegations of discriminatory treatment arising from the student complainant’s age, race, gender, sexual preference, handicap, national origin, or religion. (Such allegations ordinarily are handled by the Office of Equality Administration).

CONSTITUTION OF THE COMMITTEE AND GRIEVANCE PANEL

The Graduate Council Grievance Committee (GCGC) is a standing committee comprised of the Schools’ and Colleges’ alternate representatives to the Graduate Council. Grievances as understood herein shall be heard by ad hoc appeals panels, constituted from time to time by the Dean of the Graduate School to review individual graduate grievances. The grievance review panel (GRP) shall consist of five disinterested members: four faculty members of the GCGC and one graduate student appointed by the executive board of the Graduate Students’ Association. Notice of the constitution of the GRP shall be given by the Office of the Graduate Dean in writing to all parties to the grievance within ten (10) days after the grievance review request is properly filed.

Any party to the grievance may challenge the disinterestedness of a GRP member in writing to the Dean of the Graduate School within five (5) days after notification of the appointment. The challenge must specify reasons that would prevent the committee member or graduate student from making an unbiased recommendation with respect to the grievance. If such a challenge is determined to be valid by the Graduate Dean, a substitute appointment shall be made and the process will resume accordingly.

PROCEDURE AND TIME LIMITS FOR FILING A GRIEVANCE

After a final determination has been made in the relevant School or College (or by the head of the relevant administrative office in the event of a grievance against a university agency), a student who believes he or she has grounds for appeal within the purview of these guidelines may file a written grievance review request with the Office of the Dean of the Graduate School. The request shall describe the student’s allegations in a clear and concise fashion and shall clearly identify the individual(s), program(s), department, School
or College, and/or University agency or administrator against whom the grievance is brought. The student's written grievance review request shall be filed within thirty (30) days of the final determination. No grievance review request nor any other appeal of any kind will be granted after this time limit has expired unless a written extension of time is granted by the Dean of the Graduate School based on a written request from the grievant stating good cause.

**DEFINITIONS AND ASSUMPTIONS**

*Burden of Persuasion:* The burden of persuasion is on the grievant.

*Final Determination:* This grievance process is available only after a final determination within the relevant School or College has been reached. This provision is intended to require the grievant to exhaust the remedies available within the relevant School or College before appealing to the Graduate Dean. In the case of a student in an interdisciplinary program who does not yet have a chair and/or committee assembled, the Dean of the Graduate School shall make a final determination in the student's case subject thereafter to the appeal contemplated by this policy. Appeal from the Graduate School Dean's decision follows this same procedure, except that the GRP shall be constituted by the Office of the Provost from the pool of GCGC members. Written notice of the constitution of the GRP in the case of a student in an interdisciplinary program without a chair or committee, shall be given by the Office of the Provost to all parties to the grievance within ten (10) days after the grievance review request is properly filed. All other deadlines, requirements, procedures, and the hearing format remain the same.

*Originals:* Wherever possible, the party in possession of an original document in support of or rebuttal to or at issue in the grievance shall provide it to the GRP within the time frames set out in the Hearing Materials and Preparation Deadlines. If a party has only a copy of a document not received by him, her, or it, the copy shall serve as an original. Digital documents or email messages in contention shall be printed and may then serve as originals.

*Party:* A party is the student grievant or the individual, program, department, School or College, or University agency or administrator against whom the student brings his or her grievance.

*Time Limits:* All time limits shall be calculated based on working days of the Fall and Spring Semesters, excluding reading and exam periods and University holidays. Grievances originally filed after the end of the Spring semester will be heard at the beginning of the following Fall Semester. Any stated time limit herein may be extended with the written consent of the grievant and the Dean of the Graduate School.

*Written:* Any document to which these guidelines refer as written signifies paper (hard) copy. Email messages and digital or other electronic versions do not meet the requirement that a form or notice be provided in writing. However, a party may transmit a digital version of any written document by email in addition to providing it in paper form.

**DEADLINES FOR HEARING MATERIALS, PREPARATION, AND WITNESS IDENTIFICATION**

All materials to be considered for review by the members of the GRP must be submitted in writing to the Office of the Dean of the Graduate School at least fourteen (14) days before the scheduled date of the hearing, at which time such materials will be distributed to all
parties to the grievance and to the members of the GRP. Thereafter, to the extent that any of the parties wishes to have additional materials considered by the GRP, such materials must be received by the Graduate School no later than seven (7) days before the scheduled date of the hearing, at which time all such additional written materials will be distributed to the parties as well as to the members of the GRP. Any party submitting written materials for consideration shall submit the original(s) and five (5) copies thereof to the Office of the Graduate Dean at his, her, or its own expense.

The name of any witness to be called by any party at the hearing shall be provided in writing to the Office of the Graduate Dean no less than five (5) days before the scheduled date of the hearing.

**HEARING**

The grievance review hearing is chaired by a designated member of the GRP. The hearing is staffed by the non-voting Administrative Assistant of the Dean of the Graduate School, who will record it for archival purposes only. The hearing will proceed as follows:

- a. GRP chair's introduction, summary of issues, and process overview.
- b. Student's presentation of issues (15 minutes maximum).
- c. University representative's presentation of issues (15 minutes maximum).
- d. Optional: Presentation(s) by witnesses (limited to 3 per side and a maximum of 15 minutes total per side).
- e. Questions by members of the GRP.
- f. All presenters and witnesses are excused.
- g. Deliberation by GRP.

Presentation of the issues should be concise and relevant. Undoubtedly the dispute is somewhat complex or it would not have reached this stage. Points of dispute or ambiguity may be summarized or illustrated by anecdote at the hearing. Experience suggests, however, that the best approach is to minimize formal presentations and allow the GRP members maximum time for questions.

**GRP DECISION AND AUTHORITY**

No additional substantive information may be submitted by any party following the hearing, unless requested by the grievance review panel. The GRP may but need not seek additional information from other sources during its deliberations, which will be conducted in closed session. Following its deliberations, and within ten (10) days of the date of the grievance review hearing, the GRP will make its confidential advisory recommendation to the Dean of the Graduate School [Office of the Provost in the event of a student in an interdisciplinary program who does not yet have a chair or committee]. The subsequent decision by the Dean of the Graduate School [Office of the Provost], which shall be rendered within ten (10) days of the GRP's recommendation, is final.

Note: The above guidelines pertain only to matters which do not involve representation by an attorney. If an attorney is involved in the grievance, the Office of Legal Counsel at the University should be contacted.

**MODIFICATIONS**

These procedures may be modified or withdrawn with or without notice.
ADMISSION

ELIGIBILITY FOR ADMISSION
In addition to holding the baccalaureate degree from an institution accredited by SACS or another regional accrediting body, the applicant for admission to the Graduate School should have the prerequisite coursework required by the program to which he/she is applying. In general, those applying for graduate admission should have achieved an overall average grade of “B” or better (3.0 G.P.A. on a 4.0 scale). Foreign students will be required to give evidence of adequate knowledge of English through a TOEFL or IELTS test score. University of Miami faculty members above the rank of instructor are not eligible to apply for the doctorate at the University of Miami. (Note: Faculty from the School of Nursing and Health Sciences and from the Physical Therapy program are permitted to pursue doctoral degrees in their home program/school.)

For specific admission requirements see also statements of the various programs.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters.

All those wishing to take courses for graduate credit, whether or not they wish to become candidates for a degree, must make application for admission directly to the program of interest prior to registration.

REQUIREMENTS FOR ADMISSION APPLICATION
1. The completed online application form
2. Official transcripts of all college work, both undergraduate and graduate
3. The official score report of the appropriate entrance examination

<table>
<thead>
<tr>
<th>GRE</th>
<th>All applicants must submit recent (within five years) Graduate Record Examination (GRE) scores which include 1) the aptitude portion (verbal &amp; quantitative); 2) the most relevant advanced test in the major field if required by the program. GRE scores are valid for 5 years after the test date.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMAT</td>
<td>Applicants for the Master or Ph.D. of Business Administration, the Master of Professional Accounting, the Master of Science in Management Science (Operations Research/Applied Statistics), or Taxation must submit the Graduate Management Admissions Test (GMAT) scores. GMAT scores are valid for 5 years after the test date.</td>
</tr>
<tr>
<td>TOEFL/IETS</td>
<td>International applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) and the Graduate Record Examination. The TOEFL and IELTS scores are valid for 2 years after the test date.</td>
</tr>
</tbody>
</table>
4. Letters of recommendation sent directly to the graduate program director of the academic program.

5. Other requirements may be required/requested by individual programs. Contact the specific program to which you are applying for their requirements, or for exemptions from the entrance examination.

6. Application fee of $65.

7. All materials and the fee should be sent directly to the School or academic department as indicated on the application.

*Materials submitted in support of an application cannot be released for other purposes nor returned to the applicant.*

**CATEGORIES OF ADMISSION**

1. **Regular** admission with or without specified deficiencies. Under circumstances in which it is difficult to evaluate the academic background of intellectually qualified applicants, they may be admitted with specified deficiencies. Such status is often appropriate for foreign students. Only one semester or one summer session of study in deficiency status is permitted and the student who fails to qualify at the end of that time will be requested to withdraw from the Graduate School.

2. **Post Baccalaureate.** This category provides an opportunity for graduate study for:
   a. qualified applicants who, for good reason, do not wish to work toward an advanced degree. This would be appropriate for those students who have special objectives for professional study or scholarly work;
   b. students enrolled in a graduate program elsewhere but desiring to earn graduate credit at the University of Miami for the purpose of transferring it to the other institution;
   c. students already holding the master’s degree or doctorate but who desire additional coursework in their field.

Those admitted to a post-baccalaureate status should realize that their future admission to regular status is improbable unless they achieve the qualifications originally appropriate to admission to those categories. This is to say that the mere accumulation of graduate course credits is not sufficient to permit entrance into another graduate category. No more than a total of twelve (12) credit hours may be taken while in post-baccalaureate status.

Transient students described in (b) above should have sent to the Graduate School a letter from the Dean of the School of the student’s program they expect to earn a degree, stating that they are in good standing there and have permission to transfer credit. If possible, this letter should indicate specific courses to be taken. The students described in (c) above should have a transcript showing their most recent graduate work and graduate degree [to be sent directly by the issuing institution to the Graduate School].

3. **Certification/Professional Goals.** This category provides an opportunity for graduate study for qualified teachers or professionals who do not wish to work toward an advanced degree but who for professional reasons need to continue to take graduate courses and have already taken 12 credits in Post-Baccalaureate Status. No credit taken in this status can be applied toward a graduate degree at the University. A letter explaining the need for the course work by the student’s employer must accompany the application.
Every applicant for admission can be assured that all credentials will be carefully studied in an effort to select appropriately qualified students. Each application for admission is examined by the members of the faculty responsible for the graduate program. The program informs each applicant of the results. It is expected that most applicants for admission will be candidates for an advanced degree. Except under unusual circumstances those who already hold an advanced degree are not admitted to candidacy for the same degree. Graduate programs vary as to whether students who do not hold the Master’s degree are required to initiate graduate studies at that level.

Applicants should note the following:

1. M.B.A. applicants should send applications and all documents to the Office of Graduate Business Programs in the School of Business Administration; P.O. Box 248505, Coral Gables, FL 33124. For further information you may contact mba@miami.edu.
2. all other correspondence, applications and documents should be sent directly to the academic department;
3. no action is taken until a file is complete and all documents are available;
4. application files should be complete at least one month before registration, much earlier for some applications, as specified elsewhere in this Bulletin;
5. admission to graduate status does not imply admission to candidacy for a degree;
6. some departments close admissions early because of limited capacity;
7. materials submitted in support of an application are not released for other purposes and cannot be returned to the applicant.

International Students Admissions

All international students who have been admitted to a program of full-time study at the University of Miami need to enter the U.S. on a student visa. To apply for an F-1 visa, you must provide the U.S. Embassy or Consulate with a Form I-20 or DS-2019, passport, statement of funds, and other documents as required by the U.S. Embassy or Consulate. Please visit the International Student and Scholar Services (ISSS) website at www.miami.edu/isss for further information regarding visas, travel, pre-arrival information, etc. The Form I-20 or DS-2019 can only be issued after you have been admitted and have submitted proof of adequate financial support for your studies and living expenses. For questions regarding issuance of the Form I-20 or DS-2019, please contact your individual department.

READMISSION

Unless a leave of absence has been requested and approved, students who have not been continuously enrolled must request readmission. Contact the appropriate program office well in advance of registration. If additional college work has been completed elsewhere since the last enrollment at the University of Miami, an official transcript of this will be required. Recency of credit rules will apply. The application for readmission to the Graduate School may be found at https://www6.miami.edu/grad/forms/ApplicationforReadmission.pdf. If you are an applicant for readmission and also an international student, please contact the Office of International Admission at isss@miami.edu and (305) 284-2928.

DUAL DEGREE AND ACCELERATED DEGREE PROGRAMS
The University offers unique combined degree programs that culminate with students receiving both the undergraduate and graduate degrees concurrently or an accelerated program of study in which they receive an undergraduate degree and then a graduate degree the following year. These programs are intended for exceptional students to acquire both undergraduate and graduate degrees, in five years rather than the 4 plus 2 years (approximately) that is traditionally expected.

Please note: Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree.

Requirements:

Students must have undergraduate student status and a cumulative G.P.A. of at least 3.0 at the time of application. Students should discuss the program and possibility of entering the program with an academic advisor. The program may require application at the time of matriculation to the undergraduate degree or prior to the beginning of final exams in the junior year.

Undergraduate students must take the GRE Examination before the end of their classification as a senior and attain a combined score of more than 1000 on the verbal and quantitative portions.

Once admitted into a dual degree or accelerated program:

In their senior year, students may take a maximum of twelve (12) graduate credits, with a maximum of six (6) credits per semester. While in senior status, to register, students must complete and submit the Graduate School's Application for Undergraduates to Take Graduate Coursework form which is available at www.miami.edu/gs/index.php/graduate_school/forms/. This form must accompany the Add/Drop and/or Course Request form to ensure that students are registered with the correct registration status. Add/Drop and/or Course Request forms without this approval form will not be processed. Undergraduate students must register for courses with graduate status in the Office of the Registrar. This process cannot be facilitated via online registration.

Financial Implications:

Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree.

Students are eligible for undergraduate aid only as long as they are undergraduates. Students enrolled in combined or accelerated degree programs are permitted undergraduate federal and University aid for a maximum of four academic years or to the point at which the number of graduate hours in a term exceeds the number of undergraduate hours, whichever comes first. During that time frame the student's undergraduate enrollment status will be determined using only undergraduate level courses in which the student enrolls. Graduate level courses in which the student enrolls during such semesters will not be used to determine the student's undergraduate enrollment status. Once a student is registered at the graduate level for financial assistance his/her status is considered graduate for all subsequent semesters.
Once registered as a graduate student, a student cannot revert to undergraduate status.

For further information, contact the Office of Financial Assistance at ofas@miami.edu, call (305) 284-5212, or visit the office at Rhodes House (Building 37). Office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday.

**Graduation Clearance Requirements:**

For dual degree programs, the student must apply for undergraduate and graduate graduation at the same time. Degrees from dual degree programs are conferred at the same time.
For accelerated degree programs, the student must apply for undergraduate graduation in one semester, and for graduate graduation in a subsequent semester.

The student must meet the requirements of the Graduate School specified in the Bulletin for the awarding of the graduate degree.

Students enrolled in a dual degree or accelerated program can take a maximum of six (6) graduate credits per semester in their senior year for a maximum of twelve (12) graduate credits without incurring additional costs if they are full-time undergraduate students during this period.

Students should register for courses towards their graduate degree as "G" credits and not as "U" credits. These registrations must be completed prior to taking courses. Retroactive add/drops will not be processed.

Summary of Guidelines for Dual Degree and Accelerated Programs

- Take at least 12 undergraduate credits per semester. This qualifies you for the opportunity to take up to 6 graduate credits per semester at no additional cost.
- Graduate credits can be taken only in the senior year in a dual degree or accelerated program (based on the number of credits earned towards the undergraduate degree).
- The maximum number of graduate credits allowed per semester is six (6).
- The maximum number of graduate credits the undergraduate student can take at no additional cost is twelve (12).
- The Application for Undergraduates to take Graduate Coursework form should be completed and all signatures must be obtained before registering for graduate credits.
- The student can change his/her status to "graduate", or their status might be determined to be "graduate" for financial aid purposes during or at the completion of the senior year. This will make the student eligible for graduate financial aid (for US citizens or permanent residents).
- The student cannot be a full-time undergraduate (taking 12 or more undergraduate credits) and a full-time graduate (taking 9 or more graduate credits) at the same time.
- Once a student's status changes to graduate (or after they have taken a full load of graduate credits) their status cannot revert to undergraduate status.
- In a dual degree or accelerated program, an undergraduate student cannot take graduate credits in any other year except in the senior year.
- The student should avoid taking any undergraduate credits after the student's status has changed to graduate.

FOR UNIVERSITY OF MIAMI UNDERGRADUATES

Undergraduates Taking Graduate Coursework. University of Miami undergraduates within 30 credits of meeting the requirements for the Baccalaureate Degree may be considered for concurrent admission to graduate study in non-degree graduate status, and in this status may take and receive credit for graduate courses, while completing the requirement for the baccalaureate. The application may be found at https://www6.miami.edu/grad/forms/ApplicationforUndergraduatestoTakeaGraduateCourse.pdf.
Admission to Graduate Status requires:

4. Must have a minimum of 3.000 G.P.A.

5. The submission of an Undergraduates to Take a Graduate Course form (which can be obtained at the Graduate School) which will not require the application fee;

6. The written approval of the Chairman of the Department, the Dean of the Undergraduate School or College, and of the Graduate Dean prior to registration on the form.

Admission to Graduate status does not automatically admit the student, upon graduation, to status as an applicant for a graduate degree at the University of Miami.

The graduate credits earned may NOT be used to meet undergraduate graduation requirements or be used to meet the 120 credit hour requirements at the University of Miami.

No more than six (6) hours credit may be taken in one semester, and no more than a total of twelve (12) hours credit may be taken while in Graduate Status. Students may take no more than 15 credits of combined undergraduate and graduate courses per semester.

Students electing Graduate status must register and be processed centrally at the Office of the Registrar, Whitten University Center, Room 121.
DEGREE PROGRAMS

The University of Miami offers majors leading to graduate degrees as follows:

- **MASTER OF ARCHITECTURE (M. Arch.)**
- **MASTER OF ARCHITECTURE IN URBAN DESIGN (MUD)**
- **MASTER OF ARCHITECTURE IN REAL ESTATE AND URBANISM (MRED&U)**
- **MASTER OF ARTS (M.A.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Applied Marine Physics</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
<td></td>
</tr>
<tr>
<td>Art Presenting</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Communication Studies</td>
<td></td>
</tr>
<tr>
<td>Film Studies</td>
<td></td>
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<tr>
<td>Television Broadcast</td>
<td></td>
</tr>
<tr>
<td>Print Journalism</td>
<td></td>
</tr>
<tr>
<td>Public Relations</td>
<td></td>
</tr>
<tr>
<td>Spanish Print in Journalism</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
</tr>
<tr>
<td>Geography and Regional Studies</td>
<td></td>
</tr>
</tbody>
</table>

- **MASTER OF ARTS IN LIBERAL STUDIES (M.A.L.S.)**
- **MASTER IN ACCOUNTING (M.P.Acc.)**
- **MASTER OF BUSINESS ADMINISTRATION (MBA)**
- **MASTER OF BUSINESS ADMINISTRATION EXECUTIVE TRACKS**
  - Gables, Nassau, Orlando, DelRay, Tampa 1&2, Health Administration, Stragglers, International Business, Working Professionals, Puerto Rico
- **MASTER OF SCIENCE IN EDUCATION (M.S.Ed.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Advanced Professional Studies</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community and Social Change</td>
<td></td>
</tr>
<tr>
<td>Counseling and Research</td>
<td></td>
</tr>
<tr>
<td>Early Childhood Special Education</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Education and Social Change</td>
<td></td>
</tr>
<tr>
<td>Elementary Education</td>
<td></td>
</tr>
<tr>
<td>Exercise Physiology</td>
<td></td>
</tr>
<tr>
<td>Higher Education/Enrollment Management</td>
<td></td>
</tr>
<tr>
<td>Higher Education/Student Life &amp; Development</td>
<td></td>
</tr>
<tr>
<td>Marriage and Family Therapy</td>
<td></td>
</tr>
<tr>
<td>Counseling Mental Health</td>
<td></td>
</tr>
</tbody>
</table>

- **MASTER OF FINE ARTS (M.F.A.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Art (Studio Work)</th>
<th>Motion Pictures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Imaging</td>
<td>Production</td>
</tr>
<tr>
<td>Painting</td>
<td>Producing</td>
</tr>
<tr>
<td>Sculpture</td>
<td>Screenwriting</td>
</tr>
<tr>
<td>Graphic Design / Multimedia</td>
<td>Printmaking</td>
</tr>
<tr>
<td>Ceramics / Glass</td>
<td></td>
</tr>
<tr>
<td>Photography/Digital Imaging</td>
<td></td>
</tr>
<tr>
<td>Printmaking</td>
<td></td>
</tr>
<tr>
<td>Creative Writing</td>
<td></td>
</tr>
</tbody>
</table>
• **MASTER OF MUSIC (M.M.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accompanying and Chamber Music</td>
<td>Media Writing and Production</td>
</tr>
<tr>
<td>Art Presenting</td>
<td>Multiple Woodwinds</td>
</tr>
<tr>
<td>Choral Conducting (A.D.)</td>
<td>Music Business and Entertainment Industries</td>
</tr>
<tr>
<td>Collaborative Piano</td>
<td>Piano Performance (A.D.)</td>
</tr>
<tr>
<td>Composition</td>
<td>Music Education/String Pedagogy</td>
</tr>
<tr>
<td>Electronic Music</td>
<td>Music Theory</td>
</tr>
<tr>
<td>Instrumental Conducting (A.D.)</td>
<td>Music Therapy</td>
</tr>
<tr>
<td>Instrumental Performance (A.D.)</td>
<td>Musicology</td>
</tr>
<tr>
<td>Jazz Pedagogy</td>
<td>Studio Jazz Writing</td>
</tr>
<tr>
<td>Jazz Performance</td>
<td>Vocal Performance (A.D.)</td>
</tr>
<tr>
<td>Keyboard Performance and Pedagogy</td>
<td></td>
</tr>
</tbody>
</table>

• **MASTER OF SCIENCE (M.S.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Marine Physics</td>
<td>Marine Geology and Geophysics</td>
</tr>
<tr>
<td>Biology</td>
<td>Marine and Atmospheric Chemistry</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Meteorology and Physical</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>Oceanography</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Occupational Ergonomics and Safety</td>
</tr>
<tr>
<td>Engineering</td>
<td>Physics</td>
</tr>
<tr>
<td>Environmental Health and Safety</td>
<td>Professional Management</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Psychology</td>
</tr>
<tr>
<td>Management Science</td>
<td>Public Health</td>
</tr>
<tr>
<td>Management of Technology</td>
<td>Statistics</td>
</tr>
<tr>
<td>Marine Affairs and Policy</td>
<td>Taxation</td>
</tr>
<tr>
<td>Marine Biology and Fisheries</td>
<td></td>
</tr>
</tbody>
</table>

• **MASTER OF SCIENCE IN ARCHITECTURAL ENGINEERING (M.S.A.E.)**

• **MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING (M.S.B.E.)**

• **MASTER OF SCIENCE IN CIVIL ENGINEERING (M.S.C.E.)**

• **MASTER OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING (M.S.E.C.E.)**

• **MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING (M.S.I.E.)**

• **MASTER OF SCIENCE IN MECHANICAL ENGINEERING (M.S.M.E.)**

• **MASTER OF SCIENCE IN MUSIC ENGINEERING TECHNOLOGY (M.S.M.E.T.)**

• **MASTER OF SCIENCE IN NURSING (M.S.N.)**

• **MASTER OF SCIENCE IN TAXATION (M.S.Tax.)**

• **MASTER OF PUBLIC ADMINISTRATION (M.P.A.)**

• **MASTER OF PUBLIC HEALTH (M.P.H.)**

• **SPECIALIST IN EDUCATION (Ed.S.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Professional Studies</td>
<td>Higher Education Leadership</td>
</tr>
<tr>
<td>Early Childhood Special Education</td>
<td>Music Education</td>
</tr>
<tr>
<td>Education</td>
<td>Reading</td>
</tr>
<tr>
<td></td>
<td>Special Education</td>
</tr>
<tr>
<td></td>
<td>STEM Education</td>
</tr>
</tbody>
</table>

• **SPECIALIST IN MUSIC EDUCATION (SPEC.M.)**

• **DOCTOR OF MUSICAL ARTS (D.M.A.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accompanying and Chamber Music</td>
<td>Keyboard Performance and Pedagogy</td>
</tr>
<tr>
<td>Choral Conducting</td>
<td>Multiple Woodwinds</td>
</tr>
<tr>
<td>Collaborative Piano</td>
<td>Performance (Applied Music)</td>
</tr>
<tr>
<td>Composition</td>
<td>Piano Performance</td>
</tr>
<tr>
<td>Instrumental Conducting</td>
<td>Jazz Performance</td>
</tr>
<tr>
<td>Instrumental Performance</td>
<td>Vocal Pedagogy</td>
</tr>
<tr>
<td>Jazz Composition</td>
<td>Vocal Performance</td>
</tr>
</tbody>
</table>

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• **DOCTOR OF NURSING PRACTICE (D.N.P.)**
• **DOCTOR OF PHYSICAL THERAPY (D.P.T.)**
• **Higher Education Leadership (Ed.D.)**
• **DOCTOR OF PHILOSOPHY (Ph.D.)** with concentrations in the following:

<table>
<thead>
<tr>
<th>Applied Marine Physics</th>
<th>Ergonomics</th>
<th>Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Molecular Biology</td>
<td>Exercise Physiology</td>
<td>Physical Therapy</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>History</td>
<td>Physics</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>Human Genomics and Genetics</td>
<td>Physiology and Biophysics</td>
</tr>
<tr>
<td>Business Administration</td>
<td>Industrial Engineering</td>
<td>Psychology</td>
</tr>
<tr>
<td>Cancer Biology</td>
<td>International Studies</td>
<td>Romance Studies</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Marine and Atmospheric Chemistry</td>
<td>Research and</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>Marine Biology and Fisheries</td>
<td>Evaluation/Exercise</td>
</tr>
<tr>
<td>Communication</td>
<td>Marine Geology and Geophysics</td>
<td>Romance Languages</td>
</tr>
<tr>
<td>(Communication, Film)</td>
<td>Mathematics</td>
<td>French</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Mechanical Engineering</td>
<td>Spanish</td>
</tr>
<tr>
<td>Counseling Psychology</td>
<td>Meteorology and Physical</td>
<td>Sociology</td>
</tr>
<tr>
<td>Economics</td>
<td>Oceanography</td>
<td>Teaching and Learning</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>Microbiology and Immunology</td>
<td>Language and Literacy</td>
</tr>
<tr>
<td>English</td>
<td>Molecular and Cellular Pharmacology</td>
<td>Learning in Multilingual settings</td>
</tr>
<tr>
<td>Epidemiology and Public Health</td>
<td>Molecular Cell and Developmental Biology</td>
<td>Mathematics and Science</td>
</tr>
<tr>
<td>Environmental Science and Policy</td>
<td>Music Education</td>
<td>Education</td>
</tr>
<tr>
<td>Nursing</td>
<td>Music Education with Music Therapy</td>
<td>Special Education</td>
</tr>
</tbody>
</table>
INTERDISCIPLINARY GRADUATE STUDIES - Dept. Code: IDS

The Graduate School is no longer accepting applications for the IDS program. This will not affect current IDS students.

ENVIRONMENTAL SCIENCE AND POLICY – Dept. Code: ECSD

Through the Graduate School, The Abess Center for Ecosystem Science and Policy offers an interdisciplinary course of study leading to a Ph.D. Details regarding areas of specialization can be found at the Abess Center website at http://www.cesp.miami.edu/. In most cases, doctoral students are supported by research assistantships which include tuition remission and a monthly stipend. All students are also required to serve satisfactorily for one term as teaching assistants in the Abess Center undergraduate program.

Prerequisite

Students admitted to the program must have earned a Bachelor's or Master's degree and should display a strong interest in the interdisciplinary study of ecosystem science and policy.

Ph.D. Degree Requirements

Completion of the Ph.D. will take approximately five years. All students are also required to:

- Complete a minimum of 60 credits, of which at least 26 must be for coursework taken while in residence at the University of Miami. (Students entering the program with a Master's degree in a related field may be given credit for up to 24 course credits.)

- Complete 12 credits worth of coursework in the following core courses:
  - ECS 501 – Interdisciplinary Environmental Theory
  - ECS 503 – Interdisciplinary Environmental Methods
  - ECS 505 – Interdisciplinary Environmental Law and Policy
  - ECS 507 – Interdisciplinary Environmental Decision Analysis

- Submit, by the end of their second semester, a proposed group of additional courses, totaling at least 18 hours, related to their research interest and intended dissertation research area. This group of courses requires approval of both the student's advisor and the Director of Graduate Studies.

- Accrue at least 13 credits worth of dissertation research.

- Pass written and oral comprehensive examinations following the conclusion of the core series of courses, usually at the end of the first year. A majority of the examination committee must be members of the Graduate Faculty of the University. In the event of failing to pass an examination, students are required to retake and pass the examination within one calendar year. By the end of the second year, students must present and defend a research proposal. Following successful completion of the comprehensive examination and research proposal defense, the student may apply to candidacy for the degree. Any student who fails to be admitted
to candidacy for the degree within this two-year period can be dismissed from the program.

- Convene a 4-member dissertation committee by the end of the first year.

- Write and defend a dissertation research proposal by the end of the second year. Students may proceed with the dissertation after the dissertation committee has been appointed and the Director of Graduate Studies and the Graduate School have accepted the dissertation proposal. The dissertation must be an investigation of a substantial scholarly topic and bridge both scientific and policy aspects of the topic area.

- Successfully complete an oral defense of the dissertation.

Environmental Science and Policy Course Listing
UM INTERNATIONAL EDUCATION AND EXCHANGE PROGRAMS
Dept. Code: SAP

Opportunities for study abroad may be available for some graduate degree programs during the summer, fall, spring and intersession terms.

Students may participate in programs led by faculty members or may participate in semester exchange program options offered by the MAIA program.

For further information contact: UM International Education and Exchange Programs, PO Box 248263, Coral Gables, FL 33124-1610, (305) 284-3434, e-mail: ieep@miami.edu.

In some programs it is possible to earn graduate credits for study taken abroad. The curriculum must be worked out by the student in conjunction with an advisor.
THE MASTER’S DEGREE

The minimum residence requirement is two semesters in full-time study or the equivalent in part-time work. In practice, most students need at least three semesters, or two semesters plus summer work, to complete degree requirements.

FOREIGN LANGUAGE

The requirements in a foreign language or languages are established by the student’s program. In those cases where the program deems it necessary that the student have competency in a foreign language, the student will be required to demonstrate such competence by examination in one or more languages. The choice of language or languages required will be by the program.

THESIS

Decision as to the thesis subject must be approved by the program. The thesis committee will consist of not less than three members. The committee chair must be Regular Faculty from the student’s program or department of concentration (this includes secondary appointments). In addition to the chair, one of the remaining members must also be Regular Faculty or have Graduate Faculty status in the student’s program or department of concentration; the third member must be an outside member. “Regular Faculty” are faculty having tenured or tenure-earning appointments of a program or department. A thesis or dissertation committee cannot be chaired by a person unless they hold a higher or equivalent degree as the candidate for the graduate degree. Exceptions to the committee composition may be approved by the chair of the department and Dean of the Graduate School. A department, program, or school/college may require additional members.

The committee is nominated by the Graduate Program Director of the department or program concerned. The duties of the thesis committee are similar to those of the dissertation committee. Thesis Committees cannot be appointed prior to admission to candidacy. The student who presents a thesis must enroll for at least six hours of thesis credit. Ordinarily no more than six credits may be granted.

When a student has completed coursework, it is recommended that those students in programs requiring a thesis or dissertation make their first appointment with the Dissertation Editor at the Graduate School once their thesis topic has been approved by the major department. The Dissertation Editor will provide information on the guidelines and deadlines that will become critical in the final months of the degree process or information can be downloaded from www.miami.edu/etd. The Graduate School office telephone number is (305) 284-4154, the email address is grad.dissertation@miami.edu.

Master’s degree students who are required to write a thesis must defend their thesis by the date specified in the academic calendar and upload one Dissertation Editor-approved PDF to the ETD database and submit final paperwork to the Graduate School by the last day of exams in the semester the student wishes to graduate. It is recommended that students begin the process early in the semester by discussing with their advisors a suitable timetable for meeting these deadlines. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found at www.miami.edu/etd. The Graduate School also encourages students to contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.
One Dissertation Editor-approved PDF conforming in style to the formatting standards set by the Graduate School must be uploaded to the ETD database and final paperwork handed in to the Office of the Graduate School on or before the last day of exams in the semester the student wishes to graduate. It is the duty of the student to acquire a copy of the guidelines for preparing theses and dissertations and to conform to the requirements therein. Each dissertation must be accompanied by one certificate of approval of oral defense of thesis signed by all members of the Committee, one Signature page from the thesis document signed by all members of the committee, and one ETD Availability Agreement form signed by the student and Committee Chair. The forms can be downloaded from www.miami.edu/etd.

**Electronic Theses and Dissertation (ETD) Embargo Policy**

Graduate students can elect to withhold their electronic thesis or dissertation for up to two years before the work is available for download from the University of Miami’s Scholarly Repository, http://scholarlyrepository.miami.edu/. The metadata for all theses and dissertations regardless of the availability option elected (i.e., open access, UM campus only, or embargo) will be immediately available for viewing in the university’s Scholarly Repository after the Dissertation Editor has approved and released the thesis or dissertation to the repository. If embargo is elected by the student, the existence of the student’s information page will appear in the Scholarly Repository right away displaying title, defense date, abstract, committee, keywords, etc., but the PDF of the electronic thesis or dissertation will not be downloadable until the term of embargo elected has expired. After the elected embargo period has expired the electronic thesis or dissertation will be released for open access in the Scholarly Repository. Students requesting embargo should carefully review the details of embargo election described in the ETD Availability Agreement form posted at www.miami.edu/etd to ensure they fully understand the terms of access for their embargoed work.

**FINAL EXAMINATION**

A final public oral defense of the thesis is required. However, none but the members of the thesis committee may interrogate the candidate. In addition there may be required, if desired by the program, a final written integration examination to test the candidate’s ability to integrate the whole graduate program and the thesis in relation to it. These examinations must be held at least two weeks prior to commencement.

**RESEARCH IN RESIDENCE**

Once a student has completed all course and required research credits, he or she must enroll in Research in Residence status until the degree has been granted. Research in Residence status is considered full-time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School. (See Recency of Credit and Time to Completion sections of the Bulletin.) Research in Residence students, while not required, may purchase or receive any perquisites that are normally available to graduate students.

**COMPREHENSIVE EXAMINATION**

In most programs a comprehensive examination, either written, oral or both, is a requirement. When the thesis is not a part of the program, an examining board, at least one of whose members must be a regular member of the Graduate Faculty, will be appointed by the program.
A student failing the comprehensive may be allowed one opportunity to retake it if the students committee so advises. The re-examination may not be taken during the same semester or summer session, and must be taken within one calendar year.

TRANSFER OF CREDIT

Upon recommendation of the major program and the approval of the Graduate School, a maximum of six semester hours of graduate credit, with grades of B or above, may be transferred from another accredited graduate institution, in partial satisfaction of a master's degree requiring less than 36 semester hours. Nine hours of graduate credit may be approved for transfer to a degree program requiring 36 semester hours or more. Work taken more than six years prior to transfer will not be accepted. Work taken by extension, correspondence or online is not acceptable. All work transferred is subject to examination by the program. In no case will credit be transferred until the student has completed acceptably an equivalent number of credits at the University of Miami. Any student wishing to transfer credit must be enrolled at the University of Miami during the time of transfer. The satisfaction of the requirements of another university does not relieve the student from the University of Miami’s requirements. An official transcript of work to be transferred must be on file in the Graduate Office. Credits that pertain to or have been counted toward another degree cannot be transferred. Students enrolled in the Master of Business Administration program are not eligible for credit transfers.

Exceptions must be approved by the Dean of the Graduate School.

No transferred credits are calculated into the University of Miami G.P.A.

A SECOND MASTER’S DEGREE

A student enrolled in a University of Miami master’s degree program or holding a University of Miami master’s degree may earn a second master's degree in a related area at the University by completing a minimum of 21 hours in residence toward the second degree, as long as all program and admission requirements for the degree are met. Each degree must have a separate thesis if two thesis options are elected. The second program decides if the areas are related enough to qualify for the reduced number of credits. The student must contact the second program during the application process for the second program to determine if the areas are related enough to qualify for the reduced number of credits.
THE DOCTORAL DEGREE

(For Ph.D., D.M.A., and Ed.D. candidates only)

GENERAL

The Graduate School does not specify course requirements for the Ph.D. However, the Graduate School will not, ordinarily, approve the taking of the qualifying examination until the student has had a minimum of one continuous academic year of graduate work in courses, seminars, and directed or tutorial study. Sixty credits beyond the baccalaureate degree are the minimum requirement for the Ph.D., and not less than half of the total credits must be in work open only to graduate students. At least 24 must have been taken in residence at the University of Miami. A minimum of 12 dissertation credits must be taken. Graduate students studying for the Ph.D. who have received their master's degree in the same field must take at least twenty-four (24) hours in residence at the University of Miami in doctoral status.

The specific course requirements for the Ph.D. are established by the major department or program which may require such additional graduate credit as it deems necessary. Such requirements will be found in that part of the Bulletin which lists course offerings.

DISSERTATION

A student must take a minimum of 12 hours of dissertation research except where otherwise stated. Not more than 12 hours of research may be taken in a regular semester, nor more than six in a summer session.

Ph.D., D.M.A., Ed.D., or Lecture Recital degree students must defend their dissertation, doctoral essay, or lecture recital essay by the deadline specified in the academic calendar and upload one Dissertation Editor-approved PDF to the ETD database and submit final paperwork to the Graduate School by the last day of exams in the semester the student wishes to graduate. It is recommended that students begin the process early in the semester by discussing with their advisors a suitable timetable for meeting these deadlines. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found at www.miami.edu/etd. The Graduate School also encourages students to contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.

One Dissertation Editor-approved PDF conforming in style to the standards set by the Graduate School, must be uploaded to the ETD database and final paperwork handed in to the Office of the Graduate School on or before the last day of exams in the semester the student wishes to graduate. It is the duty of the student to acquire a copy of the guidelines for preparing theses and dissertations and to conform to the requirements therein. Each dissertation must be accompanied by one certificate of approval of oral defense of thesis signed by all members of the Committee, one Signature page from the dissertation document signed by all committee members, and one ETD Availability Agreement form signed by the student and Committee Chair. The forms can be downloaded from www.miami.edu/etd.
Electronic Theses and Dissertation (ETD) Embargo Policy

Graduate students can elect to withhold their electronic thesis or dissertation for up to two years before the work is available for download from the University of Miami’s Scholarly Repository, [http://scholarlyrepository.miami.edu/](http://scholarlyrepository.miami.edu/). The metadata for all theses and dissertations regardless of the availability option elected (i.e., open access, UM campus only, or embargo) will be immediately available for viewing in the university’s Scholarly Repository after the Dissertation Editor has approved and released the thesis or dissertation to the repository. If embargo is elected by the student, the existence of the student’s information page will appear in the Scholarly Repository right away displaying title, defense date, abstract, committee, keywords, etc., but the PDF of the electronic thesis or dissertation will not be downloadable until the term of embargo elected has expired. After the elected embargo period has expired the electronic thesis or dissertation will be released for open access in the Scholarly Repository. Students requesting embargo should carefully review the details of embargo election described in the ETD Availability Agreement form posted at [www.miami.edu/etd](http://www.miami.edu/etd) to ensure they fully understand the terms of access for their embargoed work.

RESEARCH IN RESIDENCE

Once a student has completed all course and required research credits, he or she must enroll in Research in Residence status until the degree has been granted. Research in Residence status is considered full-time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School. Research in Residence students, while not required, may purchase or receive any perquisites that are normally available to graduate students. (See Recency of Credit section.)

RESIDENCE

The student must spend at least two consecutive semesters beyond the first year’s graduate work, wherever taken, in full-time study at the University of Miami. With program approval, a) one summer of full-time study in sessions I and II can be substituted for one semester of residence, or b) full-time study for two successive summers can be substituted for two regular semesters. Residence requirements may be altered only by the Dean of the Graduate School. (At least 24 credits must be taken in residence.)
THE SUPERVISORY AND DISSERTATION COMMITTEES

A supervisory committee is usually appointed when a student is formally admitted to a doctoral program. For the dissertation/doctoral essay/lecture recital essay committee a student needs no less than four members. The committee chair must be Regular Faculty from the student’s program or department of concentration (this includes secondary appointments). In addition to the chair, two members must be Regular Faculty or have Graduate Faculty status in the student’s program or department of concentration. The fourth member must be an outside member. “Regular Faculty” are faculty having tenured or tenure-earning appointments of a program or department. A thesis or dissertation committee cannot be chaired by a person unless they hold a higher or equivalent degree as the candidate for the graduate degree. Exceptions to the committee composition may be approved by the chair of the department and Dean of the Graduate School. A department, program, or school / college may require additional members.

This committee is nominated by the chairperson of the program or department concerned. It is appropriate for the chairperson to consult with the student regarding the membership of the committee. The supervisory committee is empowered to plan the course of study for the student; to determine deficiencies, if any; to set language and other requirements; to request applicable transfer of credit where appropriate and to make up and administer the qualifying examination.

When the student is admitted to candidacy, a dissertation committee is formed. This may be the supervisory committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation. The dissertation committee is nominated by the department or program concerned, and appointed by the Graduate Program Director and approved by department chair. As with the supervisory committee, it must be comprised of at least four members; this includes the committee chair, who shall be a member of the program or department of concentration, as well as a permanent member of the Graduate Faculty. Of the remaining members, it is also required that two shall be members of the program or department of concentration, as well as permanent members of the Graduate Faculty, and one from outside the program or department of concentration. A department, program, or school or college may require additional members. The duties of the Dissertation Committee are:

1. To consult with and to advise students on their research;
2. To meet, at regular intervals, to review progress and expected results;
3. To read and comment upon the draft dissertation;
4. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

The candidate is well advised to have a final, acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work a minimum of two weeks prior to the defense.
The dissertation may be written in a language other than English at the recommendation of the dissertation committee and with the approval of the Department and the Graduate School. Graduate School approval will be determined on a case-by-case basis. The Dissertation Chair will submit a memorandum from the Department Chair to the Dissertation Editor together with the student’s application for admission to candidacy explaining why it is both relevant and appropriate for the dissertation research to be written in a language other than English. Acceptable “relevant and appropriate” reasons for writing the dissertation in a language other than English include, but are not limited to: relevancy to research where presentation in a non-English language expands knowledge of that language; relevancy where the loss or weakening of the research’s meaning and impact if primary data, e.g., interviews, are translated into English; or appropriateness where the majority of the bibliographic sources, references, and potential outlets for future publication are anticipated to be in that language other than English. Both the memorandum and the application for admission to candidacy form must be submitted to the Graduate School at the same time. In some cases upon review of the memorandum, the Graduate School may determine that the student will also be required to submit an English translation of the non-English dissertation. For all approved cases, an abstract in English should be included in the final dissertation.

One Dissertation Editor-approved PDF must be uploaded to the ETD database and final paperwork handed in to the Graduate School on or before the date specified in the academic calendar published each session, accompanied by one certificate of approval of doctoral dissertation defense and one ETD Availability Agreement form. It is the duty of the student to acquire a copy of the guidelines for preparing dissertations from the Graduate School or www.miami.edu/etd and to conform to the requirements therein. All dissertations are also published by ProQuest/University Microfilms, Inc.

No student gains the right to be recommended for the degree simply by fulfilling requirements. This right is reserved to the student’s committee. Changes of committee members must be approved by Graduate Program Director, and sent to the Graduate School.

QUALIFYING EXAMINATIONS

A written qualifying examination is to be taken by each doctoral degree (Ph.D., D.M.A., D.N.P, D.P.T., Ed.D.) candidate at the time that the student and the Supervisory Committee deem appropriate. The school or major program may specify that its students must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the supervisory committee shall notify the Graduate School and the instructional school or program that the student has passed or failed the examination. A student who fails the examination will be given one opportunity to retake it with the permission of the supervisory committee. After a comprehensive exam is failed for a second time, the student is terminated from the program. Some programs do not administer qualifying examinations during the summer months. Check with the Graduate Program Director for specific program requirements.
ADMISSION TO CANDIDACY

When the student has met all requirements and passed the qualifying examinations, admission to candidacy for the degree is approved. No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy. The student must be admitted to candidacy before the defense of dissertation is scheduled.

FINAL EXAMINATION

A final public oral defense of the dissertation is required. Refer to the academic calendar for the deadline regarding dissertation defense for each graduation. Graduate programs set the specific requirements and format of the defense. Please contact your Graduate Program Director for details.

TRANSFER OF CREDIT

Transfer of graduate credit from another institution will not be made until the student has completed a like amount of credit at the University of Miami, and the transfer has been approved by the supervisory committee and the Dean of the Graduate School. Credit transferred is subject to the same recency rules as all other credit counted toward the degree, and is also subject to examination by the program. An official transcript of work to be transferred must be on file in the Graduate School. Credits that pertain to or have been counted toward another degree cannot be transferred.

Florida International University and University of Miami agreement

Effective as of Fall 2007, students may take up to six credits at the host institution as long as the following requirements are met:

1. Must be Ph.D. student or Master’s student in Latin American Studies.
2. Approval from both home and host institution;
3. Approval of Graduate School Deans;
4. Space at the host institution is available.
5. Approval of the Faculty member teaching the course.

Tuition and fees are to be paid at the home institution. Performance level is set at host institution. Contact the Graduate School for more information. The application form can be found at http://www.miami.edu/gs/index.php/graduate_school/current_students/umfiu_doctoral_exchange_program/.
The School of Architecture at the University of Miami offers both a professional and a post-professional Master of Architecture degree.

The School is a member of the Association of Collegiate Schools of Architecture.

The School of Architecture’s location in Coral Gables within the Miami metropolitan area provides an outstanding laboratory for research and advanced study; the challenges of conservation and development are intense in one of the nation’s fastest growing urban areas. These challenges result in an increasing demand for skilled professionals.

Students have the opportunity to work with the faculty in the exploration of theoretical issues as well as in the resolution of practical problems.

The School of Architecture values and sustains a creative, open and supportive environment, emphasizing personalized instruction in small classes and studio courses.

The school’s resources, including an accredited undergraduate program in architecture and a state-of-the-art computer laboratory, are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. A distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

All students admitted full time to the Master of Architecture program may be eligible for partial tuition scholarships and/or graduate assistantships, based on academic record.

Scholarships may vary in amounts and are intended to assist the recipient pursue studies as required by the program. Scholarships will be awarded on a competitive basis. Graduate assistantships require service in the form of teaching, research assistance, or other appropriate educational activities as designated by the director of the graduate program.

The school is a member of the Association of Collegiate Schools of Architecture and the Association of Collegiate Schools of Planning, and is fully accredited by the National Architectural Accrediting Board, who asks each school to include the following paragraph on professional degrees in all literature:

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards. Master’s degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.
ADMISSION REQUIREMENTS

Applications are for the fall semester only. Applications completed by February 1st will be given the highest priority. Admission to the graduate program is subject to the rules, regulations and procedures of the Graduate School as stipulated in the University Graduate Bulletin. It is the responsibility of each student to understand these requirements and to ensure that they are met.

The minimum requirements for application to the Master of Architecture Degree program are:

1. 3.0 cumulative grade point average.
2. 1000 cumulative Graduate Record Examination score on verbal and quantitative sections / 550 TOEFL score for international applicants and/or those whose native language is not English.
3. For Master of Architecture: Suburb and Town Design; Master of Architecture: Research - a Professional Degree in Architecture (Bachelor of Architecture or Master of Architecture).

RESOURCES

The school’s resources, including a state-of-the-art computer laboratory, are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. A distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

Other programs that offer academic opportunities for graduate architecture students include: the Historic Preservation Certificate, the Suburb and Town Design, the BSAE/MARCH and the BARCH/MBA.

DEGREE PROGRAMS

MASTER OF ARCHITECTURE: PROFESSIONAL DEGREE

The Master of Architecture is designed for college graduates seeking a first professional degree in architecture. It consists of the following two tracks:

3 year Track: A 3 year program for students holding undergraduate degrees in non-design fields. Completion of 105 credit hours required.

Advanced Standing 2 Year Track: A program for students holding a previous non-professional degree in architecture or a closely related field. Completion of 51-60 credit hours required.

Master’s degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, compromise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.
MASTER OF ARCHITECTURE: POST PROFESSIONAL DEGREE

The Master of Architecture post-professional program provides an environment for serious inquiry into the nature of architecture.

Post-professional study is available to students holding an accredited degree in architecture who wish to develop a specialization in architectural theory and practice.

Three areas of study offer students the opportunity to investigate specific aspects of architecture and to elaborate their understanding for future teaching, research, publications and professional practice.

Master of Urban Design

This concentration consists of three semesters of directed study to explore in-depth the existing state of suburbs and cities, study precedents and propose design solutions.

The faculty is dedicated to seeking alternatives to modern patterns of urban growth.

The Miami metropolitan area provides a laboratory for the identification of urban problems and for the exploration of design solutions.

Each semester is comprised of a design studio and a seminar in parallel, studying both the real and ideal solutions for three aspects of town planning: new town design, housing and the redesign of existing situations.

The School of Architecture faculty teaches the curriculum with field condition input from visiting faculty and other experts such as developers, marketing experts and bankers.

Master in Real Estate Development and Urbanism

A one-year interdisciplinary program that will blend the fundamentals of real estate development with the School of Architecture’s strengths in the New Urbanism, community design and civic engagement.

Master of Architecture: Research

This program allows students to specialize in a specific area of study within the context of the discipline.

Each student must complete 36 credits, normally over three semesters. A specific program of study, reflecting the proposed professional objectives, is established for each student. In addition, a six-credit thesis is required.

An advisory committee of the faculty of the school supervises the progress of the students. The program is based on studio work combined with cross-disciplinary and specialized studies.

The program culminates in a comprehensive project tailored to meet the needs of the individual student.
# DEGREE REQUIREMENTS

**Master of Architecture: Professional Degree**  
3 Year Track - For students with prior non-architecture degrees

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Semester I</strong></td>
<td>15</td>
<td>ARC 501 Design I</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 511 Media I: Drawing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 530 Building Technology: Materials and Methods</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 567 History of Architecture I</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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<td></td>
<td>15</td>
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<tr>
<td><strong>Spring Semester II</strong></td>
<td>15</td>
<td>ARC 502 Design II</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 513 Media II: Computing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 531 Building Technology: Structural Systems</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 568 History of Architecture II</td>
<td>3</td>
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<tr>
<td><strong>Total Credits</strong></td>
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<td>15</td>
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<tr>
<td><strong>Summer Semester III</strong></td>
<td>12</td>
<td>ARC 503 Design III</td>
<td>6</td>
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<tr>
<td></td>
<td></td>
<td>ARC 532 Building Structures I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 562 Environmental Systems I</td>
<td>3</td>
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<td><strong>Total Credits</strong></td>
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<td></td>
<td>12</td>
</tr>
<tr>
<td><strong>Fall Semester IV</strong></td>
<td>15</td>
<td>ARC 504 Design IV (Comprehensive)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 533 Building Structures II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 563 Environmental Systems II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARC 500 Theory of Architecture</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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### Spring Semester V

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ARC 608 Design V (Rome or Miami)</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>History of Architecture Elective</td>
<td>3</td>
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<tr>
<td>Total Credits</td>
<td>15</td>
</tr>
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</table>

### Fall Semester VI

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ARC 609 Design VI</td>
<td>6</td>
</tr>
<tr>
<td>ARC 699 Thesis Preparation</td>
<td>3</td>
</tr>
<tr>
<td>ARC 652 Professional Practice</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
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</table>

### Spring Semester VII

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>ARC 610 Design Degree Project</td>
<td>6</td>
</tr>
<tr>
<td>Professional Elective</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>15</td>
</tr>
</tbody>
</table>

NOTE: 3 credits must be taken at the student’s preference during Intersession, Spring Break, or Summer II

Curriculum notes: this program assumes that the student has completed college level mathematics and physics.
Master of Architecture: Professional Degree
Advanced Standing 2 Year Track - For students with non-professional degrees in architecture

<table>
<thead>
<tr>
<th>Fall Semester I</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ARC 504 Design IV (Comprehensive)</td>
<td>6</td>
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Professional Requirements

<table>
<thead>
<tr>
<th>Spring Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 608 Design V (Rome or Miami)</td>
<td>6</td>
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Professional Requirements

<table>
<thead>
<tr>
<th>Summer III</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Electives</td>
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</table>

<table>
<thead>
<tr>
<th>Fall Semester IV</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 609 Design VI (VC or other)</td>
<td>6</td>
</tr>
<tr>
<td>ARC 599 Thesis Preparation</td>
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<tr>
<td>Theory Elective</td>
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Professional Requirements

<table>
<thead>
<tr>
<th>Spring Semester V</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 610 Thesis Studio</td>
<td>6</td>
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</tbody>
</table>

Professional Requirements

Architecture and professional courses completed in a pre-professional bachelor’s degree program will be evaluated to identify courses that may be waived in the Master of Architecture Professional Degree Program.

A maximum of 54 credits, including three design studios, may be waived; generally architecture and professional courses with a grade of B- or higher will be accepted. Requirements for the degree will be contingent on the evaluation of the student’s prior work.
### Master of Urban Design

**Post-professional Degree**

**SUMMER (ROME – MIAMI, 2ND SUMMER SESSION)**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ARC 601 Urban Design I: Urban Form and Types / Form-Based Codes</td>
<td>6</td>
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<tr>
<td>ARC 615 Visualization Techniques</td>
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<td>Total Credits</td>
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**FALL**

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ARC 602 Urban Design II: General Urban to Urban Core</td>
<td>6</td>
</tr>
<tr>
<td>ARC 590 History-Theory I: History of Cities</td>
<td>3</td>
</tr>
<tr>
<td>ARC 621 History-Theory II: Housing / Transportation and Infrastructure</td>
<td>3</td>
</tr>
<tr>
<td>RED 601 Introduction to Real Estate and Planning Law</td>
<td>3</td>
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<tr>
<td>Total Credits</td>
<td>15</td>
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**SPRING**

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ARC 603 Urban Design III: Regional / Informal Urbanism</td>
<td>6</td>
</tr>
<tr>
<td>ARC 541 Elective or Travel Elective</td>
<td>3</td>
</tr>
<tr>
<td>ARC 622 History-Theory III: Urban Design Theory</td>
<td>3</td>
</tr>
<tr>
<td>ARC 623 Public Participation Methods / Charrette with MRED+U Program</td>
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<td>Total Credits</td>
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**Total Credits for Degree**

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>36</td>
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NOTES: The 6-credit Urban Design I Studio takes place at the University of Miami Rome Center. Travel electives can be taken during Intersession or Spring Break.
# Master in Real Estate Development and Urbanism

## Fall Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED 601 Intro to Real Estate Development and Urbanism</td>
<td>3</td>
</tr>
<tr>
<td>RED 610 Financing Urban Real Estate Development</td>
<td>3</td>
</tr>
<tr>
<td>BSL 694 Real Estate Law</td>
<td>2</td>
</tr>
<tr>
<td>RED 630 Market Analysis for Urban Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>ARC 590 History of Cities or approved elective</td>
<td>3</td>
</tr>
</tbody>
</table>

## Winter Session I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED 640 National Charrette Institute</td>
<td>1</td>
</tr>
</tbody>
</table>

## Spring Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 645 Complex Urban Real Estate Transactions</td>
<td>3</td>
</tr>
<tr>
<td>RED 660 Urban Infill, Preservation and Redevelopment</td>
<td>3</td>
</tr>
<tr>
<td>RED 670 Construction and Project Management</td>
<td>3</td>
</tr>
<tr>
<td>RED 680 Entrepreneurship: Building a Real Estate Dev. Co.</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

## Summer Session I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED 690 Integrated Real Estate Dev. Case Studies Practicum</td>
<td>3</td>
</tr>
<tr>
<td>RED 699 Capstone Real Estate Development and Urbanism Charrette</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits for Degree: 36

## Master of Architecture: Research

### Post Professional Degree

An individual curriculum is developed for each student in consultations with the research program faculty and the director of graduate studies.

Courses in thesis preparation, ARC 529, and Thesis, ARC 710, (6 credits) are required. Master of Architecture degree conferred.
AWARDS AND SCHOLARSHIPS

American Institute of Architects Henry Adams Medal awarded by the American Institute of Architects to the highest ranking graduating student for scholarship and excellence in architecture.

American Institute of Architects Henry Adams Certificate awarded to the second highest ranking graduating student for scholarship and excellence in architecture. Other honors, distinctions, and awards are presented annually for excellent student performance.

Architecture Course Listing
DEPARTMENTS

Art and Art History
Biology
Chemistry
Computer Science
Creative Writing
English
Geography and Regional Studies
Geological Sciences (Master’s degree available from RSMAS)
History
International Administration
International Studies
Latin American Studies
Liberal Studies
Mathematics
Philosophy
Physics
Political Science
Psychology
Sociology

ADMISSION REQUIREMENTS

Please consult the general section of the Graduate Bulletin for the Graduate School admission requirements, and the specific program description for additional, department specific admission requirements.

DEGREE PROGRAMS

Master of Arts
Master of Fine Arts
Master of Public Administration
Master of Science
Doctor of Philosophy

DEGREE REQUIREMENTS

Please consult the specific department section for information related to degree requirements in addition to general degree requirements for the various degrees as listed by the Graduate School.
OTHER

The Max and Peggy Kriloff Fund is a fund that provides travel support for students earning degrees from the College of Arts and Sciences. The fund provides support for students to present papers, or posters at professional conferences worldwide. Students will need to fill out an application form available in Ungar 333 or at the following link: http://www.as.miami.edu/scholarships/travelscholarships and submit it, along with the necessary supporting documentation to the Office of Graduate and Administrative Services in the Ungar Building.
ANTHROPOLOGY - Dept. Code: APY

The Department of Anthropology does not have a graduate program. The courses may be taken for graduate credit with the consent of the major department.

Anthropology Course Listing
ART AND ART HISTORY - Dept. Codes: ART, ARH
www.as.miami.edu/art

DEGREE PROGRAMS

Two programs serve the needs of graduate students in Art and Art History.

Master of Fine Arts program in the studio areas of
- Painting
- Sculpture
- Ceramics/Glass
- Printmaking
- Photography/Digital Imaging

Master of Arts program in Art History

MASTER OF ARTS

The M.A. degree is designed for students in art history who plan academic, museum or gallery careers. It entails a minimum of 36 credits in art history and related courses, including six credits of thesis. M.A. students must pass a comprehensive examination. Reading knowledge of a foreign language appropriate to the study of Art History (e.g. French, German, Italian, Spanish) is required.

ADMISSION REQUIREMENTS

Admission to the Master of Arts program requires a minimum of eighteen semester hours of undergraduate study in Art History.

Applicants for admission are required to submit an example of an art history research paper they have done in addition to the general requirements of transcripts, GRE scores and letters of recommendation. It is highly recommended that applicants have reading knowledge of a foreign language (e.g., French, German, Italian, Spanish).

A maximum of six semester hours of graduate credit may be transferred from another institution, providing that the credits have been taken within six years prior to matriculation at the University of Miami and have been passed with a grade of B or higher.

Applicants for admission to the Master of Arts program are responsible for the submission of the following materials to the Graduate Secretary in Art and Art History or via the designated online portal: this address can be found on the department website.

- All transcripts of college-level academic work;
- GRE scores (and TOEFL score for foreign students);
- A research paper from an undergraduate art history course;
- Three letters of recommendation;
- Application form.

Applicants for the M.A. degree are considered in the Fall. The deadline for applying is February 15.
REQUIREMENTS FOR THE MASTER OF ARTS DEGREE IN ART HISTORY ARE:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History at 500 level or above</td>
<td>21</td>
</tr>
<tr>
<td>Electives not restricted to courses in Art</td>
<td>9</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

FINANCIAL AID: Graduate Teaching Assistantships and tuition waivers are awarded by the department in studio areas.

The G.R.E. is required for the M.A., but not for the M.F.A. degree.

All M.F.A. students with Teaching Assistantships must contribute to the teaching program as an essential part of their responsibilities.

MASTER OF FINE ARTS

The Master of Fine Arts degree is the terminal degree for students interested in the creation of art who plan to pursue careers as practicing artists/teachers.

The students will take a minimum requirement of 60 credit hours in approved graduate courses (at the 500 level or above).

Teaching assistants should take 10 credits each semester.

A Supervisory Committee will be assigned when the student is formally admitted to the program.

It will be comprised of at least four members.

The Supervisory Committee chair will be from the student’s area of concentration and be a tenure track faculty member.

The head of the Supervisory Committee will select the membership of the Committee after conferring with the student.

The Supervisory Committee will formally review the student’s progress; the student may be put on probation at the end of any semester, and given one semester to improve or be removed from the program.

Application for candidacy may be made any time after the completion of 30 credits, but must be attained prior to registration for the final semester.

The Supervisory Committee will determine whether the student should be admitted to candidacy.

When the student is admitted to candidacy, a Thesis Committee is formed with at least four members, who need not be the same as the Supervisory Committee.

The Chair should be from the student’s area of concentration and be a tenure track faculty member.

Two others should be department faculty, and the fourth person must be from outside the studio faculty.
This committee will consult with and advise the student on his or her work, meet twice a semester to review progress, read and comment on the thesis document, and conduct a final oral exam during the thesis exhibition.

The thesis exhibition will be scheduled after the successful completion of ART 599; the show will be installed after the candidate has submitted an accepted thesis document. All incompletes must be cleared before the exhibition can be scheduled.

No student gains the right to be recommended for the degree simply by completing the course requirements. This right is reserved to the students Thesis Committee in coordination with the Graduate Program Director.

**REQUIREMENTS FOR THE MASTER OF FINE ARTS DEGREE IN STUDIO:**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARH 598, ART 604, (2 seminars);</td>
<td>9</td>
</tr>
<tr>
<td>Area of studio concentration;</td>
<td>24</td>
</tr>
<tr>
<td>Art History at 500 or 600 level;</td>
<td>9</td>
</tr>
<tr>
<td>Electives, not restricted to courses in Art or Art History;</td>
<td>12</td>
</tr>
<tr>
<td>ART 599 Exhibition Preparation</td>
<td>3</td>
</tr>
<tr>
<td>Thesis, consisting of a body of studio work accompanied by a written document</td>
<td>6</td>
</tr>
</tbody>
</table>

Applicants for admission to the Master of Fine Arts program are responsible for the submission of the following materials to the Graduate Secretary in Art and Art History:

1. All transcripts of college-level academic work;
2. 20 images of studio work; Instructions for submitting the portfolio are on the department website www.miami.edu/art
3. Three letters of recommendation;
4. Application form.
5. A letter of intent

Applicants for MFA degrees are considered in the Spring for the Fall semester. February 15 is the deadline for receipt of applications. The deadline for international applications for the following Fall semester is January 15.

[Art Course Listing](#)

[Art History Course Listing](#)
DEGREE PROGRAMS

APPLICATION FOR ADMISSION

Applications are due December 1.
In applying for admission, applicants must select either the Master's or the Ph.D. track.

Students with an appropriate B.S. degree may seek direct entry to either the M.S. track or the Ph.D. track.

Applicants who were admitted on the Master's track, but wish to change to a Ph.D. track without completing the Master’s may apply for admission to the Ph.D. program before the end of their second semester. Letters of support from three UM Biology faculty, including a major advisor, should be added to the applicant's file. The file must be current. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

Applicants to the Ph.D. track who were admitted on the Master’s track and wish to complete the M.S. degree, should follow the same procedures as all other applicants, but they must include letters of support from three UM Biology faculty. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

Applicants must send the following to the Director of Graduate Studies in Biology:

A. completed application form.
B. all undergraduate and graduate official transcripts (photocopies are not accepted).
C. official scores from recent Graduate Record Examinations (within five years), including the aptitude portion; the Biology subject matter test also is recommended (photocopies of scores are not accepted).
D. international applicants whose native language is not English must additionally submit the TOEFL (Test of English as a Foreign Language) and the TSE (Test of Spoken English) official scores (photocopies of scores are not accepted).
E. letters of recommendation, from three science instructors/ supervisors that address: nature and duration of relationship to applicant; motivation; ability to conceptualize and deal quantitatively with biological problems, and research potential.
F. cover letter that identifies interests, suggests possible research projects and states career goals.
G. copies of any research papers (e.g., publications, manuscripts, senior reports, etc.).
H. written confirmation of a UM Biology faculty sponsor; applicants MUST secure the sponsorship of a faculty member as a condition for admission; the research interests of the applicant and the faculty sponsor should be well-matched; the sponsor will be the major advisor.
I. application fee of $65.
A limited number of applicants to the Ph.D. program may be invited to interview at
departmental expense.

*Materials submitted in support of an application cannot be released for other purposes or
returned to the applicant.*

**DEGREE REQUIREMENTS**

All students are required to satisfy the general requirements for the appropriate degree
that are listed in the Graduate Studies Bulletin, whether or not they are listed among the
Biology requirements.

**MASTER OF SCIENCE** - This degree may be attained by either of the two following routes.

**A. M.S. with thesis (a three year program)**

1. Credits: a total of 30 credits are required:
   - 24 course credits, including the four semester departmental core courses for
     graduate students and at least one graduate course in statistics. Students are
     encouraged to take courses from more than one conceptual area; they are
     encouraged to select courses and independent studies that will prepare them for
     research, as listed under the Ph.D. requirements. No more than 9 credits from
     the independent study series (BIL 671-675) may be used to fulfill the 24 course
     credits. At times these course numbers are used by professors to teach a new
     course or a special topics course, in which case the corresponding credits can be
     counted as a non-independent study credit. Course selection requires committee
     approval.
   - 6 research credits (BIL 710); no more than 6 M.S. research credits are allowed.
   - The minimum acceptable grade average in all coursework towards the degree is a
     "B (3.0)" and no grade may be below a "C."

2. Research Proposal: public presentation and successful defense to the committee of a
   written research proposal. The public presentation must be given during regular sessions
   of the Fall or Spring semesters, not during summer sessions, intersessions, reading days
   or finals weeks.

3. Admission to candidacy is made by recommendation of the committee.

4. Thesis: A well-written and successfully defended thesis of publishable quality; a
defense is successful if all members of the committee sign the grad school form and the
signature page of the dissertation.

5. Other requirements described under "The Master’s Degree," including but not limited to:
   - a total of at least 30 credits (course credits plus research credits). The Graduate
     School and the Department concur in requiring at least 24 course credits and
     exactly 6 research credits (BIL 710) for a thesis M.S.
• once a student has completed all required credits, she/he must enroll in "Research in Residence" (BIL 720) status until the degree is granted. This course carries 0 credits, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit normally applies to this course.

6. About the committee:

• A single committee will combine the responsibilities of the supervisory and thesis committees.

• The supervisory committee will be determined by the student in consultation with his or her advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.

• The thesis committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.

• The thesis committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.

• Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings; the student should consult with the committee about major changes in research goals and about problems. Memos summarizing each meeting should be in the student’s file.

7. About the time table:

• A written thesis proposal is due no later than the middle of the second semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the time table.

• Admission to candidacy normally occurs after completion of one year or 12 credits of graduate work and successful defense of the thesis proposal.

• Analysis of data and a polished draft of the thesis should be completed and in the hands of the committee by the middle of the sixth semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the time table.

• Defense of the thesis and its submission to the Graduate School must meet or precede the deadline for graduation immediately following the sixth semester unless an extension has been approved by the Graduate Admissions and Advisement Committee (GAAC) upon recommendation of the thesis.
committee. Notice of the defense must be submitted on a special form to the graduate school in advance of the defense and must be posted publicly in the department.

- The oral defense of the thesis must be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals weeks.

- **No student may receive the degree in the same semester in which she/he is admitted to candidacy.**

- The indicated dates form **firm deadlines**. A student’s committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**

- Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence**, **full time student status** and **recency of credit** and explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support**.

**B. M. S. without thesis (a two year program)**

1. **Credits:**

- A total of 36 course credits are required by the Biology Department, including the four semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area, listed under the Ph.D. requirements. No more than 9 credits from the independent study series (BIL 671-675) may be used to fulfill the 36 course credits. At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.

- The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

2. Admission to candidacy is made by recommendation of the committee.

3. Passing a written comprehensive exam given by the committee.

4. About the committee:

- A single committee will combine the responsibilities of the initial supervisory and the comprehensive examination committees. The committee will be determined by the student in consultation with her/his advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
The examination committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty including the student’s advisor, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.

The examination committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.

Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings; the student should keep the committee advised of major changes in the graduate program plan; memos summarizing each meeting should be in the student’s file.

5. Other requirements described under "The Master’s Degree."

Note that although the Graduate School requires only 30 credits for an M.S. degree, the Department requires 36 course credits for a non-thesis M.S.

6. About the time table:

- Admission to candidacy normally occurs after completion of one year or 12 credits of graduate work.

- The comprehensive exam must be passed by the end of the fourth semester.

- No student may receive the degree in the same semester in which she/he is admitted to candidacy.

- The indicated dates form firm deadlines. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.

- Proposals to change the schedule for any reason should be preceded by a study of the graduate bulletin sections on leaves of absence, full time student status and recency of credit and explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the proposed financial support.

C. DOCTOR OF PHILOSOPHY

1. Credits: a total of 60 credits (including both course and research credits) beyond the Bachelor’s degree are required:

- At least 18 course credits that are not from the independent study series, including the four semester departmental core courses for graduate students and at least one graduate course in statistics. The independent study series is BIL 671-675. At times
these course numbers are used by professors to teach a new course or a special topics course, however, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.

- At least 12 research credits (BIL 730 and/or BIL 740). Once the overall number of required credits (see below) has been reached, there is no need to take additional research credits.

- An additional 30 credits from any combination of graduate courses (500 and 600 level regular courses and independent study courses) and research credits (700 level) to bring the total number of credits beyond the Bachelor's Degree to 60 credits. (One example: 18 required course credits + 12 required research credits + 15 additional course credits + 15 additional research credits = 60 total; another example would be 18 additional course credits and only 12 additional dissertation credits, etc.)

- Students who already have a Master's Degree in the same field may not need as many course credits (consult Graduate School rules on transfer credits), but at least 24 credits must be taken in residence at UM.

- The committee may decide that students with previous graduate level courses may be exempt from some of the course requirements.

- The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

- **CONCEPTUAL AREAS:** Students are encouraged to take courses and independent studies from at least 3 main conceptual areas, and are urged to take courses and independent studies that will prepare them for research and for the comprehensive qualifying exam. Students also are encouraged to participate in seminars and study groups and to take special courses in other departments of UM, at our Coalition for Excellence in Tropical Biology partner institutions, from the Organization for Tropical Studies, or other special interdisciplinary courses. Such courses should be appropriate to their course of study and research area as determined by their committee. Conceptual areas offered in our department include: EVOLUTION (graduate level evolution courses are in the series 520’s and 620’s, also 519 is included); ECOLOGY (graduate level ecology courses are in the series 530’s and 630’s), BEHAVIOR (graduate level behavior courses are in the series 540’s and 640’s); GENETICS AND MOLECULAR BIOLOGY (graduate level genetics courses include BMB 509, and BIL 530 in addition to the series 550’s and 650’s); and PHYSIOLOGY AND CELL BIOLOGY (graduate level physiology courses are in the series 560’s and 660’s). Special concentrations in our department and/or in collaboration with other departments include: Tropical Biology, Mathematical Ecology, Neuroscience, and Behavior.

2. Comprehensive qualifying exam should be passed by the end of the third semester.

- A single committee (see number 9 below about committee membership) will advise the student on both comprehensive and research training. To fulfill the **comprehensive function**, the committee will be responsible for ensuring breadth, significant background and depth in at least 3 conceptual areas (examples include but are not limited to the areas listed above).
• To establish intellectual communication between the committee members and students early on, the committee will begin to work with the student in the first semester. Faculty will suggest reading lists, courses and/or independent study, as needed, to prepare the student with sufficient background for the comprehensive examination which will include 3 areas, one of which is the research area. The committee and student will interactively define the scope of comprehensive training and thus of the comprehensive examination in these 3 areas.

• The comprehensive examination will be held in the third semester. The committee will designate a chair to administer the examination. The written part of the exam will not be open book and it will be administered on campus for a discrete period of time (up to 4 hours within each of two consecutive days) by the examination chair. All members of the committee will grade all the questions. With committee approval, an alternative is to present to the committee a first-authored, publishable, full-length article manuscript concerning research conducted since matriculation at UM. Before the end of the third semester, the manuscript must be submitted to a journal approved by the committee. After the committee has read the written answers or manuscript, about one week later there will be an oral exam for the purpose of further exploring the student’s grasp of the subject matter.

• Each committee member will decide on a pass/fail grade based on the total performance (written plus oral). For the student to pass the examination, 3 of the 4 examiners must vote a grade of pass. An oral and written summary of the committee’s evaluation must be prepared by the chair of the examination committee and given to the student and to GAAC. If the student does not pass the examination, there will be a chance to retake it the following semester. In the case of failure a second time, he/she will be terminated from the program.

3. Research proposal: public presentation of a research proposal and defense of a written research proposal to the complete research committee (see below) should be completed by the middle of the fourth semester. Students are encouraged to follow the format of a grant proposal to a major funding agency. At the proposal defense, the student will receive either a pass or a fail. A grade of pass will be recorded if no more than one member of the complete research committee (see below) votes to fail the student. If the student fails the proposal defense, she/he will be given a second chance to defend no later than the sixth week of the fifth semester. If the defense is failed a second time, the student will be terminated from the program.

4. Admission to candidacy: (application is made on a form available in the grad school and in the department). This normally will occur at the end of the fourth semester. Requirements are to pass the comprehensive examination and to successfully defend a written research proposal.

5. Teaching: All students on the Ph.D. track in Biology are required to serve satisfactorily at least one semester as a teaching assistant in one of the courses offered as part of the Department’s training program.

6. Grants: Submission of a grant proposal to a major funding agency (e.g., NSF, NIH, National Geographic, World Wildlife Fund, etc.). All students are required to seek outside funding for their research. This must be a research project proposal. Application for an NSF pre-doctoral fellowship does not meet this requirement, but application for an NSF dissertation improvement grant does qualify.
7. Ph.D. Dissertation: A well-written and successfully defended dissertation containing an
original contribution to the field and of quality appropriate for publication in a scientific
journal; a defense is successful if all members of the committee sign the grad school form
and the signature page of the dissertation. A public dissertation seminar also is presented at
the time of the defense.

8. Other requirements described under "Doctor of Philosophy," including but not limited to:

- a total of at least 60 credits (course credits plus research credits).
- once a student has completed all required credits, she/he must enroll in "Research in
  Residence" (BIL 750) status until the degree is granted. This course carries 0 credits,
  but is considered full-time enrollment. Even though no credit is earned, a tuition
  charge equivalent to 1 course credit normally applies to this course.

9. A single committee will advise the student on both comprehensive and research training.
The committee will be responsible for ensuring breadth, significant background and depth in
at least 3 conceptual areas (examples include but are not limited to the areas listed above).
The research function of the committee is to advise the student on research, including
preparation, training, project choice, project design, implementation and evaluation of the
research. The committee will go through several phases and its membership will be
determined by the advisor and student together, contingent upon approval of GAAC and/or
the Graduate School, as appropriate at each phase:

- The **initial committee** will consist of at least 4 faculty, 2 appointed to ensure
  breadth of training (from two areas outside the research area) and 2 from the
  research area. It will be formed to help the student choose courses during the first
  few weeks of the first semester. This committee will decide whether students having
  a M.S. in biology (botany, zoology, etc.) from another institution can substitute a
  graduate level course taken elsewhere for a departmental course requirement; it also
  will decide which additional courses should be taken for both research and breadth.
  The choice of areas briefly will be outlined in a memo to GAAC.

- The **initial committee of at least 4 faculty** will be responsible for preparing and
  administering the comprehensive examination.

- The **complete committee of at least 4 faculty** including one from outside the
  department, should be formed by the end of the third semester; all four members
  should participate in the proposal evaluation which will take place in the fourth
  semester. The committee will consist of a minimum of four faculty, which includes
  the committee chair, who must be a member of the Graduate Faculty. Of the
  remaining members, it is also required that two shall be from the Graduate Faculty.

- The **dissertation committee (of four)** is formed officially when the student is
  admitted to candidacy. It usually will comprise the same individuals as the complete
  research committee, or it may be formed anew. The student and advisor consult on
  the membership of the committee, and the department nominates the committee to
  the graduate school. The committee will consist of a minimum of four faculty, which
  includes the committee chair who is the advisor, who must be a member of the
  Graduate Faculty. Of the remaining members, it is also required that two shall be from the Graduate Faculty and one from outside the department of concentration.
  The dissertation committee is nominated by the department, but it must be approved
  and appointed by the Dean of the Graduate School. There is a special form that must
be filed with the graduate school.

- Committee meetings are **required at least once a year** (recommended at least once a semester in the early phases). The student is responsible for arranging meetings; the student should consult with the committee about any major changes in research goals and any problems; memos summarizing each meeting should be in the student's file.

10. About the time table:

- The written **comprehensive qualifying examination** must be passed by the **end of the third semester**.

- A **polished, written dissertation proposal** must be **defended to the committee in the fourth semester** together with a **public presentation of the proposal**. This must take place by mid-April of the spring semester or mid-November of the fall semester.

- **Admission to candidacy** normally occurs **after the comprehensive qualifying exam and proposal defense** are passed upon the recommendation of the committee and the approval of the Graduate School. Application for admission to candidacy is made to the graduate school on a special form.

- Analysis of data and a **polished draft of the dissertation** should be completed and in the hands of the dissertation committee **no later than the middle of the tenth semester**.

- **Defense of the dissertation and its submission to the Graduate School** must meet or precede the deadline for graduation immediately following the **tenth semester** unless an extension has been approved by GAAC upon recommendation of the dissertation committee. Notice of the defense and of the public seminar must be submitted on a special form to the graduate school in advance of the defense and must be posted publicly in the department.

- The oral **defense of the dissertation** must be given during **regular sessions** of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals weeks.

- **No student may receive the degree in the same semester in which she/he is admitted to candidacy**.

- The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. An extension **will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC**.

- Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status** and **recency of credit**, and explicitly should address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support** of the student beyond the 10 semesters of normal departmental support.
11. Public presentations must be during regular semesters. The public presentation associated with the defense of the proposal and the public seminar associated with the defense of the dissertation must be given during regular sessions of Fall or Spring semesters, not during summer sessions, inter-sessions, reading days, or finals weeks.

IMPLEMENTATION

All Graduate students will be reviewed each fall semester by GAAC.

A. The advisor will review the student's progress to date.

B. The student will provide updates for a student progress database every October.

C. The student will provide written evidence that the advisor and committee have reviewed her/his progress and plans.

D. Each student will receive a letter summarizing the results of the discussion concerning his/her progress.

E. All graduate students shall have the right to respond to GAAC, and, if necessary, the graduate faculty in matters pertaining to the review.

F. Possible outcomes of the review:

   1. Student making satisfactory progress
   2. Student not making satisfactory progress; recommendations for improvement
   3. Student not making satisfactory progress; his/her tenure terminated.

FINANCIAL SUPPORT

A. The Department intends to support all doctoral students in good standing for up to 10 semesters. Support beyond 10 semesters is contingent upon GAAC approval.

B. Students who do not provide annual updates for the student progress database will not be eligible for continued funding. Students who will be off-campus are still responsible for making sure that GAAC receives the data.

C. Students holding full University fellowships, Maytag fellowships or research assistantships will not normally be given teaching assignments, nor will students be permitted to hold Maytag fellowships and research assistantships simultaneously. Exceptions require GAAC approval.
CHEMISTRY - Dept. Code: CHM
www.as.miami.edu/chemistry

DEGREE PROGRAMS

Prospective graduate students are expected to have completed, during their undergraduate training:

The candidate must hold a B.S./B.A. degree from an accredited institution. Consideration is given to applicants who have successfully completed general chemistry (two semesters), organic chemistry (two semesters), physical chemistry (two semesters), and the related laboratories. A course in advanced inorganic chemistry is strongly recommended, and remedial work in this area may be required of students who have not taken such a course. The mathematics and physics courses that are normally included in a B.S. program in chemistry are also required.

Undergraduate deficiencies are treated as such and must be overcome during the first year of graduate study.

M.S. Degree

The M.S. degree requires a minimum of 30 credits. At least 18 credits must be formal lecture courses. The remaining 12 credits must be broken down as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry Seminar (CHM 679)</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry Seminar (CHM 680)</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to Research (CHM 685)</td>
<td>2</td>
</tr>
<tr>
<td>Master's Thesis (CHM 710)</td>
<td>7</td>
</tr>
</tbody>
</table>

Students must take a minimum of 9 credits of formal lecture courses in the fall semester of their first year and a minimum 9 credits of formal lecture courses in the spring semester of their first year. Of the 18 credits, 3 core courses totaling 9 credits should be taken by all graduate students.

- The required number of credits in the chemistry seminars (CHM 679 and 680) and Introduction to Research (CHM 685) must be taken in the first and second year.

- The required number of credits in research (CHM 710) must be taken in the second year.

- A dissertation based on research of a quality acceptable for publication in a recognized scientific journal must be completed before the end of the second year.

The remaining courses may be selected from 600-level chemistry courses or 500- or 600-level courses in other departments.

The M.S. degree may be earned with or without a thesis. In order to complete a MS degree without thesis, an advanced comprehensive exam must be passed.
The exam is administered at the end of the second year in the program.

**Ph.D. Degree**

The general requirements for the doctorate in Chemistry are set forth in this Bulletin under the heading Doctor of Philosophy. The Department of Chemistry has the following specific requirements:

The PhD degree requires a minimum of 60 credits. The department will cover tuition costs up to 60 credits for students on assistantships and fellowships. At least 18 credits must be formal lecture courses. The remaining 42 credits could be broken down as follows:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry Seminar (CHM 679)</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry Seminar (CHM 680)</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Research (CHM 685)</td>
<td>2</td>
</tr>
<tr>
<td>Problems in Research Planning (CHM 688)</td>
<td>2</td>
</tr>
<tr>
<td>Pre-candidacy Doctoral Dissertation (CHM 730)</td>
<td>28</td>
</tr>
<tr>
<td>Post-candidacy Doctoral Dissertation (CHM 740)</td>
<td>4</td>
</tr>
</tbody>
</table>

Students must take a minimum of 9 credits of formal *lecture courses* in the fall semester of their first year and a minimum 9 credits of formal lecture courses in the spring semester of their first year. Of the 18 credits, 3 core courses totaling 9 credits should be taken by all graduate students.

- The required number of credits in the *chemistry seminar* (CHM 679) must be taken in the first and second year.
- The required number of credits in Introduction to Research (CHM 685) must be taken in the first year.
- The required number of credits in the *Chemistry Seminar* (CHM 680) must be taken in the second and fourth year.
- The required number of credits in *Pre-candidacy Doctoral Dissertation* (CHM 730) must be taken in the first, second, third and fourth year.
- The required number of credits in *Post-candidacy Doctoral Dissertation* (CHM 740) must be taken in the fourth year.

*Four Cumulative Examinations* must be passed before the end of the first year.

*An Oral Comprehensive Exam* must be passed before the end of the second year.

*An original research proposal in Problems in Research Planning* (CHM 688) must be presented and defended before the end of the third year.

*A dissertation* based on research of a quality acceptable for publication in a recognized scientific journal must be completed before the end of the fifth year.

[Chemistry Course Listing](#)
DEGREE PROGRAMS

The department of Computer Science offers a Master of Science in Computer Science and a Doctor of Philosophy in Computer Science.

Master of Science in Computer Science

The Master of Science program in Computer Science is overseen by the Computer Science Graduate Committee (CSGC). The basic guidelines for approval of a student’s program are recommendations appearing in the Communications of the Association for Computing Machinery (ACM), the professional society in Computer Science.

Prerequisites for Admission
Completion of the following courses, or their equivalents, is prerequisite to entry into the program: CSC 120, CSC 220, CSC 314, CSC 517, CSC 527, MTH 111, MTH 224, and MTH 309. Students may be admitted with deficiencies; these must be completed in addition to the degree requirements.

Requirements for Graduation
Students must complete the Graduate School requirements, and the Departmental requirements described here.

Students must complete either the thesis option or the coursework option.

1. Thesis option:
   - CSC 710 – Master’s Thesis (6 credits)
   - coursework:
     - At least 9 credits from CSC6XX courses and at least 15 credits from other approved courses.

2. Coursework option:
   - At least 36 credits from approved courses.

At least 18 credits, excluding thesis credits, must be from courses offered by the Department of Computer Science, and may not include more than 6 credits from CSC 670. CSC 5XX and CSC 6XX courses can be approved for a program, and certain non-Computer Science graduate courses may be considered for approval.

Each program must include both theoretical and experimental topics. By graduation students will have knowledge in the areas of Programming Languages, Algorithm Design and Analysis, Theory of Computing, Operating Systems, Computer Networks, and Software Engineering. Each program is approved by the CSGC and the Department Chairman or designate. Programs may be individually tailored to meet varied backgrounds and objectives. It is recognized that there are individuals with undergraduate degrees in other fields wishing to pursue graduate work in Computer Science, and individuals with work experience in the field wishing to advance their formal training in Computer Science.
5-year Bachelor of Science + Master of Science in Computer Science

This program is open only to currently enrolled Computer Science undergraduates.

The 5-year Bachelor of Science + Master of Science program in Computer Science provides research training for students who wish to work in a computing research lab, or possibly continue to PhD studies.

Students must complete the requirements for a Bachelor of Science in Computer Science, and the requirements for a 30 credit Master of Science in Computer Science with thesis. No credits may be counted towards both requirements.

Students enter the "MS-phase" of the program when they have met the following requirements:

- They have achieved senior status, i.e., earned 89 credits towards their Bachelor of Science in Computer Science.
- Within the requirements for a Bachelor of Science in Computer Science, they have completed the prerequisites for entry into the regular Master of Science program, i.e., CSC120, CSC220, CSC314, CSC517, CSC527, MTH161, MTH224, and MTH309.
- They have completed 3 credits of CSC410/1 in a research-oriented project.
- They have a GPA of at least 3.0 in the CSC courses taken towards their BS in Computer Science.
- They have advised the Director of Graduate Studies of their eligibility for the MS-phase.

Students in the MS-phase must complete 3 further credits of CSC410/1 in a research-oriented project, as part of their Bachelor of Science in Computer Science (this project will normally be the starting point for the Master of Science research). Students in the MS-phase may take 600 level courses that count towards completing the requirements for the Master of Science in Computer Science. When students have completed the requirements for a Bachelor of Science in Computer Science they will be awarded that degree, and when they have completed the requirements for the Master of Science in Computer Science they will be awarded that degree. Students in the MS-phase must submit their GRE scores before they are admitted to graduate student status.

Incoming students can be admitted to the program if their mathematics placement is MTH108 or higher. Existing Bachelor of Science in Computer Science students can switch into the program when they have met the requirements for entering the MS-phase of the program. Students can be removed from the program if they have not met the prerequisites for admission to the MS-phase by the time they have achieved senior status. If a student is removed or decides to withdraw from the program, any 600 level courses taken may be used to fulfill the requirements for a Bachelor of Science in Computer Science.

DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE

The Doctor of Philosophy program in Computer Science is overseen by the Computer Science Graduate Committee (CSGC). The basic guidelines for approval of a student’s program are recommendations appearing in the Communications of the Association for Computing Machinery (ACM), the professional society in Computer Science.
Prerequisites for Admission
Completion of the following courses, or their equivalents, is prerequisite to entry into the program: CSC 120, CSC 220, CSC 314, CSC 517, CSC 527, MTH 111, MTH 224, and MTH 309. Students may be admitted with deficiencies; these must be completed in addition to the degree requirements.

Requirements for Graduation
Students must complete the Graduate School requirements, and the Departmental requirements described here.

Written Qualifying Exam:
The student must pass a three-hour written exam of general knowledge of Computer Science at the end of the first year. Upon failure, the student may petition the CSGC to allow a second attempt at the end of the second year. The exam will be administered once a year in the early weeks of the summer session. It will cover expected knowledge of all first-year graduate students. Included in this material are a fundamental understanding of algorithm analysis and design, advanced skills in programming, basic knowledge of computer architecture, and a general understanding of computer systems.

Classroom Courses:
In the first two years, the student must take eight CSGC-approved classroom courses, for a total of 24 credits. At least four of these courses (12 credits) must be CSC 6XX courses. The eight courses must include two courses from each of the areas of Analysis, Applications, and Systems. The student must work with the Director of Graduate Studies to select a cohesive set of courses as approved by the CSGC. The CSGC will have sole authority in designating the areas to which each course belongs. In the case that a course is designated in more than one area, a student may apply the course to only one area. The designation of current CSGC-approved courses appears at the end of this description.

Selecting an Advisor:
By the end of the second semester, the student must find a research supervisor. By the end of the third semester, the student must have made significant progress on a research project under the supervision of a faculty member. The student must write a detailed progress report that will become a public document and shall be kept on file by the Department. The student must present the report to a quorum of the CSGC at a time to be approved by the chairman of the Department. The supervisor and CSGC must approve the project as applicable toward candidacy for a Ph.D.

Annual Presentations:
After passing the written comprehensive exam, the student must make a public oral presentation to the Department at least once per year. These presentations include the thesis proposal and the thesis defense. The goals are to develop the student’s oral and presentation skills, to provide a means for the Department to check the research and progress of the student, and to present the opportunity for feedback to improve the student’s research.

Teaching Experience:
Each student must teach a lab-based course for a minimum of one semester. Lab-based courses typically require the student to present material in a relaxed lecture format, re-
emphasizing material learned in the general lecture as well as introducing new material to the students.

### Approved Courses for Doctor of Philosophy

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Applications</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 506 - Logic</td>
<td>CSC 518 - Compiler Theory</td>
<td>CSC 518 - Compiler Theory</td>
</tr>
<tr>
<td>CSC 518 - Compiler Theory</td>
<td>CSC 527 - Theory of Computing</td>
<td>CSC 523 - Database Systems</td>
</tr>
<tr>
<td>CSC 527 - Theory of Computing</td>
<td>CSC 540 - Algorithm Design and Analysis</td>
<td>CSC 524 - Networks and Information Security</td>
</tr>
<tr>
<td>CSC 540 - Algorithm Design and Analysis</td>
<td>CSC 545 - Introduction to Artificial Intelligence</td>
<td>CSC 555 - Multimedia Systems</td>
</tr>
<tr>
<td>CSC 545 - Introduction to Artificial Intelligence</td>
<td>CSC 606 - Logic Programming</td>
<td>CSC 609 - Cryptography and Data Security</td>
</tr>
<tr>
<td>CSC 606 - Logic Programming</td>
<td>CSC 609 - Cryptography and Data Security</td>
<td>CSC 640 - Algorithm Design and Analysis</td>
</tr>
<tr>
<td>CSC 612 - Theory of Complexity</td>
<td>CSC 623 - Theory of Relational Databases</td>
<td>CSC 645 - Expert System Design</td>
</tr>
<tr>
<td>CSC 628 - Parallel Algorithms</td>
<td>CSC 628 - Parallel Algorithms</td>
<td>EEN 577 - Data Mining</td>
</tr>
<tr>
<td>CSC 646 - Neural Computing</td>
<td>CSC 646 - Neural Computing</td>
<td>CSC 655 - Advanced Multimedia Systems</td>
</tr>
<tr>
<td>CSC 647 - Computational Geometry</td>
<td>EEN 634 - Modeling and Analysis of Computer Networks</td>
<td>EEN 514 - Computer Architecture</td>
</tr>
<tr>
<td>EEN 634 - Modeling and Analysis of Computer Networks</td>
<td>MTH 509 - Discrete Mathematics II</td>
<td>EEN 534 - Computer Communication Networks</td>
</tr>
<tr>
<td>MTH 528 - Combinatorics</td>
<td>MTH 520 - Numerical Analysis I</td>
<td>EEN 614 - Advanced Computer Architecture</td>
</tr>
<tr>
<td>MTH 521 - Numerical Analysis II</td>
<td>MTH 520 - Numerical Analysis I</td>
<td>EEN 634 - Modeling and Analysis of Computer Networks</td>
</tr>
<tr>
<td>MTH 528 - Combinatorics</td>
<td>MTH 528 - Combinatorics</td>
<td>EEN 671 - Advanced Interactive Multimedia Information Systems</td>
</tr>
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</table>
## Approved Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 506</td>
<td>Logic</td>
</tr>
<tr>
<td>CSC 517</td>
<td>Data Structures and Algorithm Analysis</td>
</tr>
<tr>
<td>CSC 518</td>
<td>Interpreters and Compiler Theory</td>
</tr>
<tr>
<td>CSC 519</td>
<td>Programming Languages</td>
</tr>
<tr>
<td>CSC 521</td>
<td>Principles of Computer Operating Systems</td>
</tr>
<tr>
<td>CSC 523</td>
<td>Database Systems</td>
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<tr>
<td>CSC 524</td>
<td>Computer Networks</td>
</tr>
<tr>
<td>CSC 527</td>
<td>Theory of Computing</td>
</tr>
<tr>
<td>CSC 529</td>
<td>Introduction to Computer Graphics</td>
</tr>
<tr>
<td>CSC 531</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>CSC 540</td>
<td>Algorithm Design and Analysis</td>
</tr>
<tr>
<td>CSC 544</td>
<td>Computer Modeling</td>
</tr>
<tr>
<td>CSC 545</td>
<td>Introduction to Artificial Intelligence</td>
</tr>
<tr>
<td>CSC 548</td>
<td>Bioinformatics Algorithms</td>
</tr>
<tr>
<td>CSC 555</td>
<td>Multimedia Systems</td>
</tr>
<tr>
<td>CSC 595-599</td>
<td>Topics in Computer Science</td>
</tr>
<tr>
<td>CSC 606</td>
<td>Logic Programming</td>
</tr>
<tr>
<td>CSC 609</td>
<td>Data Security and Cryptography</td>
</tr>
<tr>
<td>CSC 611</td>
<td>Theory of Computation</td>
</tr>
<tr>
<td>CSC 612</td>
<td>Complexity Theory</td>
</tr>
<tr>
<td>CSC 613</td>
<td>Computer System Performance Evaluation</td>
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<tr>
<td>CIS 620</td>
<td>Information Systems Analysis and Design</td>
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<tr>
<td>CSC 623</td>
<td>Theory of Relational Databases</td>
</tr>
<tr>
<td>CSC 624</td>
<td>Mobile Wireless Systems</td>
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<tr>
<td>CSC 628</td>
<td>Parallel Algorithms</td>
</tr>
<tr>
<td>CSC 644</td>
<td>Advanced Computer Modeling</td>
</tr>
<tr>
<td>CSC 645</td>
<td>Introduction to Expert Systems</td>
</tr>
<tr>
<td>CSC 646</td>
<td>Neural Computing</td>
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<tr>
<td>CSC 690</td>
<td>Seminar for Beginning Graduate Students</td>
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<tr>
<td>CSC 692</td>
<td>Seminar</td>
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<tr>
<td>CSC 647</td>
<td>Computational Geometry</td>
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<td>CSC 648</td>
<td>Automated Reasoning</td>
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<tr>
<td>CSC 655</td>
<td>Advanced Multimedia Systems</td>
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<tr>
<td>CSC 670</td>
<td>Directed Reading</td>
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<tr>
<td>CSC 685-689</td>
<td>Topics in Computer Science</td>
</tr>
<tr>
<td>CSC 710</td>
<td>Master’s Thesis</td>
</tr>
<tr>
<td>CSC 725</td>
<td>Continuous Registration – Master’s Study</td>
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<tr>
<td>CSC 730</td>
<td>Doctoral Dissertation</td>
</tr>
<tr>
<td>CSC 740</td>
<td>Doctoral Dissertation Post Candidacy</td>
</tr>
<tr>
<td>CSC 750</td>
<td>Research in Residence</td>
</tr>
<tr>
<td>EEN 512</td>
<td>Object-Oriented Software Engineering</td>
</tr>
<tr>
<td>EEN 514</td>
<td>Computer Architecture</td>
</tr>
<tr>
<td>EEN 532</td>
<td>VLSI Systems</td>
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<td>EEN 534</td>
<td>Computer Communication Networks</td>
</tr>
<tr>
<td>EEN 538</td>
<td>Introduction to Digital Image Processing</td>
</tr>
<tr>
<td>EEN 548</td>
<td>Machine Learning</td>
</tr>
<tr>
<td>EEN 572</td>
<td>Object-Oriented and Distributed Database Management Systems</td>
</tr>
<tr>
<td>EEN 614</td>
<td>Advanced Computer Architecture</td>
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<tr>
<td>EEN 634</td>
<td>Modeling and Analysis of Computer Networks</td>
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<tr>
<td>EEN 638</td>
<td>Computer Vision</td>
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<tr>
<td>EEN 656</td>
<td>Information Theory</td>
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<tr>
<td>MTH 509</td>
<td>Discrete Mathematics II</td>
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<tr>
<td>MTH 520</td>
<td>Numerical Analysis I</td>
</tr>
<tr>
<td>MTH 521</td>
<td>Numerical Analysis II</td>
</tr>
<tr>
<td>MTH 524</td>
<td>Introduction to Probability Theory</td>
</tr>
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<td>MTH 525</td>
<td>Introduction to Mathematical Statistics</td>
</tr>
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<td>MTH 528</td>
<td>Combinatorics</td>
</tr>
<tr>
<td>MTH 621</td>
<td>Mathematical Probability</td>
</tr>
<tr>
<td>MTH 638</td>
<td>Stochastic Processes</td>
</tr>
</tbody>
</table>

[Computer Science Course Listing](#)
CREATIVE WRITING
www.as.miami.edu/english

DEGREE PROGRAMS

The Department of English offers a two-year program in fiction or poetry writing leading to the Master of Fine Arts degree. The program provides an opportunity for students of superior ability in imaginative writing to develop their skills and critical judgment through the practice of writing and the study of literature.

The creative writing program is a member of the Associated Writing Programs.

For further information, please consult the description of the M.F.A. in English.
DEGREE PROGRAMS

The Ph.D. program is an innovative scholarly course of study offering substantial work in all areas of English, American, and Transnational literature, including Anglo-Irish literature, with some opportunities for advanced work in comparative literature.

Doctor of Philosophy

1. Courses
Ph.D. students must complete 54 credits (if entering with a B.A.) or 36 credits (if entering with an M.A.) of 600-level courses in literature and literary theory.

2. Language Requirements
A basic reading knowledge of two foreign languages or an advanced reading knowledge of one foreign language is required.

3. Qualifying Examination
All Ph.D. students are required to pass a qualifying examination. Students may not take the qualifying examination until they have

   • completed the required Ph.D. coursework,
   • satisfied the foreign language requirement
   • enrolled for English 697 (Readings for the Qualifying Examination).

4. Dissertation
Students may proceed with the dissertation after the dissertation committee has been appointed and the dissertation proposal has been accepted by the committee and approved by the department.

The dissertation itself must be an investigation of a substantial critical or scholarly topic. A final oral defense of the dissertation is required.

Further information on the department’s graduate programs is contained in the Guide to Graduate Study available from the Department of English.

Students must complete their work within one year of the schedule set out in the Guide to Graduate Study.
GEOGRAPHY AND REGIONAL STUDIES - Dept. Code:  GEG  
www.as.miami.edu/geography

DEGREE PROGRAMS

The Department of Geography offers a graduate M.A. program and a Graduate Certificate in Geospatial Technology. For more information, please contact Dr. Ira Sheskin at isheskin@miami.edu or visit the Geography Department’s web page at www.as.miami.edu/geography.

The following graduate level courses may be taken for graduate credit with the consent of the major department.

GEG 501, GEG 503, GEG 510, GEG 511, GEG 515, GEG 520, GEG 521, GEG 522, GEG 523, GEG 525, GEG 530, GEG 535, GEG 545, GEG 552, GEG 570, GEG 580, GEG 582, GEG 591, GEG 595, GEG 603, GEG 620, GEG 625, GEG 637, GEG 645, GEG 651, GEG 661, GEG 672, GEG 681, GEG 710, GEG 720, GEG 725

Graduate Certificate in Geospatial Technology

This Certificate Program is designed to benefit students who seek to enhance their skills in geospatial technologies, especially Geographic Information Systems (GIS) and satellite remote sensing. Students will be exposed to standard software tools used in the industry, as well as satellite image data. Students who earn the Certificate will enhance their employment prospects and/or advance their careers in geospatial technology, particularly in job settings that stress the use of satellite remote sensing and vector-based GIS.

The Certificate requires a minimum of 15 credits, including three core courses and two or more electives completed with at least a C grade in each course. Students may also receive up to 6 credits toward the certificate for past course work completed at UM or other accredited colleges and universities within the past 3 years.

CORE COURSES

· Introduction to GIS (GEG 591)  
· Intermediate GIS (GEG 593)  
· Advanced Environmental Remote Sensing (GEG 592)

ELECTIVES

· Advanced Cartography (GEG 585)  
· Introduction to Quantitative Methods for Cartographic Analysis (GEG 580)  
· GIS and Environmental Modeling (GEG 594)  
  · Independent Study (GEG 525)  
· Internship (GEG 535)  
· Advanced Spatial Statistics (GEG 681)  
· WebGIS (GEG 595)  
· Courses offered under Special Topics in Geography (GEG 545):  
  · GIS in Public Health
OTHER

INTERNSHIP CREDIT

Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center. Upon approval, 3 to 4 credits may be earned with an internship. These credits will be included in the fulfillment of major requirements (GEG 535).

Geography and Regional Studies Course Listing
DEGREE PROGRAMS

A 5-year B.S./M.S. degree allows qualified entering freshmen to complete a B.S. in Geological Science and a M.S. in Marine Geology and Geophysics within 5 years.

The B.S. degree in Geological Sciences is offered through the Department of Geological Sciences in the College of Arts and Sciences.

The Master of Science (M.S.) degree in Marine Geology and Geophysics is offered through the Division of Marine Geology and Geophysics in the Rosenstiel School of Marine and Atmospheric Science (RSMAS).

Undergraduate requirements are listed under the B.S. degree above.

By the spring of their Junior year students should have obtained a graduate faculty advisor, selected an approved topic for research, and begun work on their senior thesis as preparation for the M.S. In the senior year, students will increase their focus on graduate courses and work closely with their graduate faculty advisor.

Contact Dr. Harold Wanless at the departmental office (305-284-4253) for more information.

Geological Course Listing
DEGREE PROGRAMS

I. REQUIREMENTS FOR THE M.A. DEGREE IN HISTORY

A. Admissions

We are looking for applicants with a record of outstanding achievement and evidence of potential success in graduate studies, attributes which can be measured in various ways such as grades, recommendations, written work, and test scores. Students with a master’s degree from an accredited institution may apply for admission to the doctoral program. Students with a bachelor’s degree only and with very strong credentials may be admitted into the doctoral program. Applicants must meet the admissions requirements set by both the graduate school, which are listed in its materials, and the department of history.

Because one of the strengths of our program is a close working relationship between faculty members and students, we cannot always accept qualified applicants when no one in the department can provide the guidance they need in their area of interest. Applicants should explore the listing of faculty on our website and contact the DGS or relevant faculty members if they have any questions.

The complete application contains:

1) A completed application form.

2) A completed financial aid application, if seeking aid.

3) Three letters of recommendation, preferably from applicant’s former professors.

4) Recent Graduate Record Examination scores on the General Test.

5) TOEFL scores (for international students).

6) Official transcripts.

7) A detailed statement from the student indicating:
   (a) the student’s background and education;
   (b) the student’s interests (field, topic, etc.);
   (c) why the student wants to pursue a graduate degree in history at the University of Miami;
   (d) what the student plans to do with the degree upon completion. This statement constitutes a very important part of the application review process and should indicate the student’s understanding of the professional nature of the training that the student is about to begin.

8) A representative writing sample.

Deadlines
January 5: Applications for admission and aid for Fall semester.

B. Committee

Upon admission to the master's program in history, the student is assigned a provisional major advisor. An advisory committee of three, including the major advisor and a faculty member representing the student’s secondary field, must be formed no later than the student’s second semester in the program. There are then two options for completing the masters. One requires 27 hours of coursework and an exam. The other requires 21 hours of coursework, a master's thesis (6 thesis credits), and an exam. In the case of both options, one member of the committee may be from a cognate discipline, but this is not required. It is the responsibility of the student and the advisor to form the committee and to notify the DGS of its composition. The major advisor chairs the advisory committee and oversees the student’s course of study and progress in the program. The advisory committee also administers the oral comprehensive exam that is given in the case of either option. In the case of the second (thesis) option, the advisory committee and the thesis committee are usually, but not necessarily, composed of the same faculty members.

C. Requirements

27 credits at the 500 level or above, of which at least 18 must be at the 600 level or above.

Passage of an oral exam in two fields.

Completion of History 695 (Historiography). This course is normally given in the fall semester. All students are required to take the Historiography course in their first year.

Students may, if they wish, write an M.A. thesis. Students who elect this option should consult with their advisor. Any student writing a thesis should register for 6 credits of History 710, which count toward the 27 required credits.

Language Requirements: Students must demonstrate a reading knowledge in at least one foreign language. Reading knowledge in additional languages may be required by the major advisor.

See under Ph.D. requirements for more information on fulfilling language requirements.

The student must apply for graduation in his or her penultimate semester (i.e. fall semester for spring semester).

The comprehensive examination for the M.A. degree in history is an oral examination in two fields that will normally not exceed two hours. Though the exam is in two fields, all members of the advisory committee will participate. Students selecting the thesis examination should expect questioning on the thesis as well as their fields during the examination. For such students the comprehensive will also act as a thesis defense.

D. Fields

See H under Requirements for the Ph.D.
II. REQUIREMENTS FOR THE PH.D. DEGREE IN HISTORY

A. Admissions

We are looking for applicants with a record of outstanding academic achievement and evidence of potential success in graduate studies, attributes which can be measured in various ways such as grades, recommendations, written work, and test scores. Students with a master's from an accredited institution may apply for admission to the doctoral program. Students with a bachelor's degree only and with very strong credentials may be admitted into the doctoral program. Applicants must meet the admissions requirements set by both the graduate school, which are listed in its materials, and the department of history.

Because one of the strengths of our program is a close working relationship between faculty members and students, we cannot always accept qualified applicants when no one in the department can provide the guidance they need in their area of interest. Applicants should explore the listing of faculty on our website and contact the DGS or relevant faculty members if they have any questions.

The complete application contains:

1) A completed application form.
2) A completed financial aid application, if seeking aid.
3) Three letters of recommendation, preferably from the applicant’s former professors.
4) Recent Graduate Record Examination scores.
5) For international students, TOEFL scores.
6) Official transcripts.
7) A detailed statement from the student indicating:
   a) the student's background and education;
   b) the student's interests (field, topic, etc.);
   c) why the student wants to pursue a graduate degree in history at the University of Miami; and
   d) what the student plans to do with the degree upon completion.

This statement constitutes a very important part of the application review process and should indicate the student’s understanding of the professional nature of the training that the student is about to begin.

8) A representative writing sample.

Admission from M.A. to Ph.D. Status

Students admitted at the master's level who are performing well in their studies are encouraged to proceed to Ph.D. status. Advisors who believe that a student should be
admitted to the Ph.D. program, and have the consent of the student, inform the DGS of this desire early in the spring semester and at least before the annual departmental meeting reviewing graduate students’ progress. The request is then reviewed by the department at its annual meeting for recommendation to the graduate committee. Students who move from the M.A. to the Ph.D. program are eligible for the same number of years’ aid as students entering the Ph.D. program directly from the B.A., minus the years of aid they have already received. For course requirements, see below.

Deadlines

January 5: Applications for admissions and aid for Fall semester.

B. Committee

Upon admission to the program, the student is assigned a provisional major advisor. As noted above, students should then concur or select a different advisor by the beginning of the second semester in the program. An advisory committee of four or five, including the major advisor and faculty members representing the second and third fields, must be formed no later than the student’s third semester in the program. Concurrent with the formation of the committee, the student should choose the 4 fields of study. One of these must be from a cognate discipline. It is the responsibility of the student and the advisor to form this committee and notify the DGS of its composition. The major advisor chairs the advisory committee and oversees the student's course of study and progress in the program. The advisory committee will also administer the oral and written comprehensive examinations. Students may change advisor and other committee members throughout the program provided that the faculty member(s) selected agree(s).

C. Requirements

1a) For students entering the Ph.D. program with a B.A., 45 credit hours (5 semesters) of graduate coursework at the University of Miami.

1b) For students entering the Ph.D. program with a masters from another university, at least 27 credit hours (3 semesters) of graduate coursework at the University of Miami.

1c) For students entering the Ph.D. program with a Masters from another program at the University of Miami, at least 27 additional credit hours (3 semesters) of graduate coursework at the University of Miami.

1d) For students entering the Ph.D. program with a Masters from the History department at the University of Miami, 24 additional credit hours of graduate coursework (to conform to a Graduate School requirement) at the University of Miami.

1e) All doctoral students are expected to take their comprehensive exams no later than their 6th semester in the History Graduate Program at the University of Miami.

2) Completion of History 695 (Historiography), included in the above number of credits. All students are required to take the Historiography course in their first year.

3) Completion of History 693 (the two-semester Research Seminar), included in the above number of credits, at least once. Typically, students take History 693 in their 2nd and 3rd semesters in the program.
4a) Passage of a major field in written and oral exams.
4b) Passage of a 2\textsuperscript{nd} field in written and oral exams.
4c) Passage of a 3\textsuperscript{rd} field in written and oral exams.
4d) Passage of a 4\textsuperscript{th} (cognate) field in the oral exam alone.
5) Following completion of course credit hours, students will need to take sufficient
dissertation research credits (History 730 if before the comprehensives have passed;
History 740 after the comprehensives have been passed) to reach a total of 60 credits hours
beyond the B.A. in order to receive the doctorate. Graduate School rules require that
students take a minimum of 12 dissertation credits. Students who enter the Ph.D. program
with an M.A. from another university or from another program at the U. of M. receive 30
credit hours towards the 60 credit hour requirement.

The required credits of coursework are only the formal minimum. Although course work is
necessary preparation for the comprehensive examination, students are examined on the
mastery of fields of knowledge rather than courses. The number of courses taken depends
on the student's background, choice of fields, nature of related work, language skills, etc.
Courses should be selected only after consultation with the Major Advisor.

D. Incompletes

All incompletes from the fall semester must be made up by the official end of the following
spring semester. All incompletes from the spring semester must be made up before the
official start of the subsequent fall semester. No student will be allowed to proceed to exams
until all incompletes have been made up.

E. Languages Requirement

Reading knowledge of at least one foreign language is required. More than one foreign
language may be required if the major advisor deems it necessary. The Modern Languages
and Literatures Department administers examinations in the languages that it teaches and
offers preparation courses in a handful of languages. Students may contact the DGS for the
various options for taking courses in foreign languages. Students must, in conjunction with
their advisor, prepare a plan that specifies how they will demonstrate language proficiency.
The language requirement must be completed before a student can take the comprehensive
examinations (see below).

F. Comprehensive Examinations

It is the responsibility of the student and major advisor to organize the comprehensive
examinations. Students may take them at any time of the year that classes are in session.
Arrangements for the exams, including selection of their dates and a final list of committee
members, should be made by the end of the first month of the semester in question, with
notification to the Department Chair and DGS.

The student takes the written part of the examinations in three history fields, which are
normally administered over a period of two successive weeks. The portion for each field is
four hours in duration. Only after the advisory committee deems that the student has
successfully passed the written portions for each field is the student permitted to take the
oral part of the examination.

The oral section covers the three history fields and one cognate field and is approximately
two hours in duration. The prospectus may form part of the discussion, but the examination
will focus on coverage of the fields. The committee consists of four to five faculty members.
One member of the examining committee must be from outside the department. Normally this is the committee member representing the cognate field.

The student advances to candidate status after passing the comprehensive examinations and submitting an acceptable dissertation prospectus. Students who have not already received a master’s degree from the University of Miami will be awarded an M.A. upon successful completion of their doctoral comprehensive exams.

G. Dissertation

After passing the examinations, students form a dissertation committee. This may be the original advisory committee, but it may also be revised to meet the needs of the dissertation work. The students, in consultation with the Major Advisor, put forward the names of individuals suggested to serve on the dissertation committee. The committee must be comprised of at least three members within the department and one outside the department. The committee is then approved and appointed by the dean of the graduate school.

The dissertation must make a significant contribution to the candidate’s field of specialization. It must meet the highest standards of research, substance, and form, and demonstrate an ability to conduct and report independent and original scholarly investigation.

The student must apply for graduation in his or her penultimate semester (i.e. fall for spring semester).

Upon completion of the dissertation and its tentative approval by the dissertation committee, the student takes a final oral examination that is a “defense” of the dissertation and that lasts for approximately two hours. It is open to the university community. Following the defense of the dissertation, the dissertation committee will render its decision to accept or reject the dissertation. Approval of the dissertation must be indicated by the signature of all members of the dissertation committee.

H. Fields

Chronological/Geographical fields
Medieval Europe
Early Modern Europe
Modern Europe
Early American History
Modern U.S. History
Colonial Latin America
Modern Latin America
East Asia
Russia
Africa
Caribbean

Topical Fields. These must cover either two of the geographic or two of the temporal fields listed above.

African Diaspora
Race and Ethnicity
Gender and Sexuality  
History of Religion  
History of Science and Medicine  
History of Crime and Law  
Political History  
Diplomatic History  
Urban and Environmental History  
Economic History  
Business History  
Labor History  
History of Sport  
Military History  
Cultural and Intellectual History  
Public History  
Atlantic World

Customized Fields

Students may create their own fields in consultation with their advisory committee. The student opting for this approach must file a plan of study listing relevant courses, the faculty member(s) involved, and the rationale. To pursue the individualized concentration, the student must obtain written approval of the plan by the major advisor, DGS, and the Department Chair.

The plan and signed approvals are placed in the student’s file. With rare exceptions, a customized field may not be the major field of study.

History Course Listing
MASTER OF ARTS IN INTERNATIONAL ADMINISTRATION (MAIA)
www.miami.edu/maia

The Master of Arts in International Administration (MAIA) program offers an interdisciplinary professional degree. The program prepares students for careers in government, as well as multinational corporations (MNCs) and non-governmental organizations (NGOs). Unlike conventional “international affairs” programs, MAIA equips graduates with both operational skills and a solid conceptual background to produce theoretically capable practitioners. The degree is awarded by the College of Arts and Sciences.

MAIA is a university wide program with faculty members coming from twelve (12) University departments. Drawing from the best academic resources of the University of Miami and from highly skilled professionals, students receive instruction in areas such as diplomacy, geopolitics, economics, history, religion, communication, political science, management and international studies. The program features advanced study in specialized subject areas ranging from public health to marine affairs.

Students may also select regional specializations which require language and cultural competency. Expanding on the regional specializations, MAIA students may participate in semester exchange programs with leading foreign universities such as Charles University Law School in the Czech Republic and Saint Petersburg State University in Russia. Additionally, MAIA also offers summer programs in Argentina, France, Ghana and Russia with practicum opportunities in Ecuador, Guatemala and Peru.

For additional program information and a complete list of MAIA faculty and staff, please visit us at www.miami.edu/maia.

Core Requirements
Six (6) core courses are required of all MAIA students. Students then complete the degree with three (3) graduate-level electives/nine (9) credits, which may be chosen from among other UM graduate offerings. Finally, all MAIA students must enroll in and complete a practicum, details of which are described below. The core courses are taught in an integrated fashion, designed to give students the maximum learning experience.

In the core courses, students will
1. develop skills in writing, speaking, and numerical and historical analysis
2. learn how to collect, interpret and report social, political, and economic data
3. increase skills in methods of research and communications
4. master strategic and tactical thinking and negotiation
5. build practical and theoretical knowledge in international relations, international economics, intercultural communication, and administration in an international context

Core courses are
1. International Administration (IGS 612)
2. World Affairs (IGS 614)
3. World Cultures (IGS 613)
4. Organizational Administration (IGS 616)
5. International Economics (IGS 615)
6. International Organizations (IGS 611)
Practicum in International Administration (IGS 517)
The purpose of the practicum is to give students the opportunity to apply academic theory and acquired skills in international administration under real world conditions. Students are expected to complete the practicum with a minimum time commitment of at least two-hundred (200) hours. Participation in the spring clinics with topics ranging from public speaking to human resources are an integral component of the course. A final report/case study analysis is required as part of successful completion of the practicum. A fuller guide to the practicum and the requirements for the practicum is provided to students by the MAIA Office.

Other Requirements for Graduation
In addition to completing thirty (30) credits at the graduate level, which must include the six (6) required core courses, the practicum course and nine (9) elective credits, students must satisfy the following additional program requirements.

The information technology (IT) boot camp is an intensive program, which is generally in the fall semester. The MAIA IT boot camp provides training in Word, Excel, Access, and PowerPoint. Students also receive training to the statistical software SPSS as an introduction to program evaluation/assessment methodology.

The accounting and taxation boot camp is a two (2) day, non-credit workshop that covers key subjects essential to successful budgeting and financial control for nongovernmental organizations and other not-for-profit companies. It is taught by a professional financial manager and is offered once a year.

MAIA students must demonstrate proficiency in a second language prior to graduation. They are tested by staff and faculty with the Intensive Language Institute of the Division of Continuing and International Education. If students need additional language training after the testing result, they will be recommended to enroll in non-credit language courses to attain the necessary proficiency.

All MAIA students must complete their degree with three (3) graduate level elective courses or nine (9) elective credits. Electives must be approved by MAIA directors and students are encouraged to use the electives to create a specialization in either a function or regional area. For example, students may specialize in marine affairs by taking courses with the Rosenstiel School of Marine and Atmospheric Science or in a region by taking courses with the College of Arts and Sciences. Students may also select electives from Charles University Law School in Prague or Saint Petersburg State University in Russia.

Interdisciplinary Global Studies (IGS) Course Listing
Dual Degree Program: MAIA/MPH
The Master of Arts in International Administration/Master of Public Health (M.A.I.A.|M.P.H.) degree is offered jointly by the University of Miami College of Arts and Sciences and University of Miami Miller School of Medicine. The MAIA degree with a second master's degree in public health is designed for students who seek an in-depth knowledge of public health with a broader emphasis in globalization and health, international health policy and international development. Students enrolled in this joint program can expect to complete both degree requirements within three (3) years.
INTERNATIONAL STUDIES - Dept. Code: INS
www.as.miami.edu/international-studies/

DEGREE PROGRAMS

The Department of International Studies offers interdisciplinary social science programs leading to the Ph.D. and MA degrees. Ph.D. and MA programs offer advanced students the opportunity to study issues such as globalization, democratic governance, comparative and international political economy, post-Cold War conflicts and security threats, and new forms of civil society mobilization in world politics. To organize the study of these debates in the social sciences, the Department offers three fields of specialization:

- **International Relations**: international relations theory; globalization; social movements beyond the nation-state; security studies; peace and conflict studies; international law and organization; international political economy; foreign policy analysis, global public health, and related fields.

- **Comparative Politics**: theory and methods of comparative analysis; authoritarian and democratic political regimes; democratic governance and citizenship, comparative political economy; contentious politics and social movements; civil-military relations; and appropriate courses on selected regions, such as the European Union, Latin America, or the Post-Soviet countries.

- **International and Comparative Political Economy**: the politics and institutions regulating the global trade, investment, and financial regimes; comparative international development; the politics and economics of international environmental regimes; democracy, partisan politics, and global governance, the domestic and international distributive impacts of globalization; and international economic theory.

**Ph.D. Degree Requirements**

The Department’s Ph.D. program’s primary objective is to prepare a select group of highly qualified doctoral students for careers in academic teaching and research. The requirements include:

- Complete a total of 66 degree credits (12 semester courses) to obtain the Ph.D. degree (i.e., 36 credits at the doctoral level beyond the MA degree).

- Complete one seminar on quantitative methods and one seminar on qualitative methods in the social sciences.

- Complete a sequence of two core seminars in two of the Department’s three major fields of study: International Relations; Comparative Politics; and International and Comparative Political Economy.

- Pass written and oral examinations in two of the Department’s three fields of study.

- Complete at least one of the basic core seminars in the third (non-examination) field.

- Complete the Doctoral Workshop.
Successfully defend a dissertation proposal/prospectus.

Pass a foreign language examination.

Complete 12 dissertation credits.

Research, write and orally defend a dissertation that makes an original contribution to knowledge.

See the INS Graduate Student Handbook (http://www.as.miami.edu/international-studies/pdf/Graduate%20Student%20Handbook.Fall%202010.pdf) for a complete description of the requirements for the Ph.D. degree.

MA Degree Requirements

The Department’s MA program prepares students for careers in international diplomacy, business, trade and finance, for service in government and non-governmental organizations and international institutions, and with the necessary degree and academic training to enter a doctoral program. The requirements include:

- Complete ten semester courses (30 credits).
- Complete a seminar on social science methodology.
- Complete two of the core seminars in one of the Department’s fields of study, and at least one of the core seminars in either of the other two fields. These fields include: International Relations; Comparative Politics; International and Comparative Political Economy.
- Pass a written qualifying (comprehensive) examination in one of the three fields of specialization.
- Pass a foreign language examination.
- MA candidates with a cumulative grade point average of at least 3.5 may, with the permission, substitute the qualifying examination with a written MA thesis.
- See the INS Graduate Student Handbook (insert link) for a complete description of the requirements for the MA degree.

International Studies Course Listing
LATIN AMERICAN STUDIES - Dept. Code: LAS
http://www.as.miami.edu/lasp/degrees/masters
http://www.as.miami.edu/lasp/degrees/masters-gis
http://www.as.miami.edu/lasp/degrees/journalism
http://www.as.miami.edu/lasp/degrees/filas

DEGREE PROGRAMS

MASTER OF ARTS IN LATIN AMERICAN STUDIES

A. The Master of Arts in Latin American Studies is a 30-credit interdisciplinary degree characterized by a high degree of flexibility in allowing students to create course of study focused on Latin American and the Caribbean that serves the interests of the student. Combining core courses offered by the program with a large variety of co-listed and cross-listed courses offered by departments, programs, and units throughout the University of Miami, the program is able to offer a tremendous amount of diversity in courses available for credit towards this degree. This allows students to combine course offerings from around the university into a cohesive course of study that allows them to specialize in an area, topic, country, theme, or issue of their choosing and thus to tap into the many resources available at the University of Miami for students with a passion for Latin America and the Caribbean.

B. The program consists of two core Latin American and Caribbean seminars, two regional fundamentals, and a minimum of three additional seminars to be taken as electives. Students will also be required to take one research methods course at the 500-level.

1. The core seminars are: LAS501 “Graduate Seminar in Latin American Studies” and LAS502 Research Design in Latin American Studies”

2. Regional Fundamentals are those courses that have a clear regional or sub-regional focus (e.g. Andean Region; the Caribbean; South America; Central America; Southern Cone; Brazil; South Florida) rather than a specific country focus.

3. Electives may be taken from any pre-approved co-listed, cross-listed, or core LAS courses at the 500-level or above, or with the approval of the degree director.

4. A Research Methods course may be chosen from any available and accessible Research Methods courses available at the University of Miami, but must be appropriate to the course of study chosen by the student and requires approval of the degree director. Under special circumstances, the research methods requirement may be waived with the prior approval of the degree director.

C. Students are required to write a master’s thesis, create an equivalent capstone project, or pass a comprehensive exam. The latter two options require the approval of the degree director. For each of these options, a committee consisting of at least three members is required. Students who opt for the comprehensive exam will take two more electives in the place of six credits of LAS710.
D. Students must demonstrate advanced language competence in Spanish, Portuguese, Haitian Creole, or French by passing a course taught in the target language at the 500-level or above, or by passing a language competency exam.

E. With approval from the Director of Latin American Studies degree programs, students may also take their elective credits with Latin Americanists in other Schools such as Communication, Law, Business, or Marine Sciences.

F. Students who are simultaneously enrolled in a certificate program (other than GIS) at the University of Miami may double-count courses between the certificate program and the Master of Arts in Latin American Studies, with approval of the degree director. In select cases (such as methods courses), seminars and courses at the 500-level that do not specifically target Latin America or the Caribbean but for which the final project or paper produced by the student is focused on Latin America may be counted towards the Master of Arts in Latin American Studies, subject to the approval of the degree director.

MASTER OF ARTS IN LATIN AMERICAN STUDIES WITH GIS CERTIFICATE

A. The Master of Arts in Latin American Studies with GIS certificate is a 30-credit interdisciplinary degree characterized by a high degree of flexibility in allowing students to create course of study focused on Latin American and the Caribbean that serves the interests of the student, while allowing students to focus on obtaining specific skills in geographic Information Systems (GIS). Combining core courses offered by the program with a large variety of co-listed and cross-listed courses offered by departments, programs, and units throughout the University of Miami, the program is able to offer a tremendous amount of diversity in courses available for credit towards this degree. This allows students to combine course offerings from around the university into a cohesive course of study that allows them to specialize in an area, topic, country, theme, or issue of their choosing and thus to tap into the many resources available at the University of Miami for students with a passion for Latin America and the Caribbean.

B. The GIS option allows students to work towards a graduate certificate in GIS through the department of Geographic and Regional Studies while working towards their Master of Arts in Latin American Studies.

C. Required courses for this program are: LAS501 “Graduate Seminar in Latin American Studies,” LAS502 “Research design in Latin American Studies,” GEG599 “Introduction to GIS,” GEG591 ”Intermediate GIS,” GEG592 “Environmental Remote Sensing” OR an appropriate GIS research methods elective, and three electives.

D. Students in this program will have six credits in LAS710 which will consist of a GIS capstone project with a focus on Latin America, the Caribbean, or South Florida. Students will require a three-member committee to oversee the capstone project. A group project may be allowed with approval of the degree director.

LATIN AMERICAN STUDIES AND JOURNALISM DUAL M.A. DEGREE

Offered in the multi-cultural setting of Miami, a focal point for Caribbean Basin economic, political, immigration and communication flows, the School of Communication and College of
Arts and Sciences have designed this joint degree program focusing on cross-cultural and international journalism. Students leave the university after four semesters and a summer with two M.A. degrees in hand, one in Journalism and the other in Latin American and Caribbean Studies. This specialized course of study is for students who wish to enter careers in journalism and communication specializing on the issues, economies, and peoples of Latin America and the Caribbean region. Sustainable economic development, immigration, social justice and human rights, the environment, international business, and U.S.-Latin American relations are just some of the areas in which students may specialize in an individually tailored course of study anchored by a core of fundamentals. Because this is a joint offering, 18 credits are shared between the two M.A. programs.

**FIRST FALL SEMESTER REQUIRED COURSES (based on availability): 12 CREDITS**

- CNJ 611 News Writing and Reporting Seminar (3) or CEM 606 Writing and Reporting Across Platforms
- LAS 501 Graduate seminar in Latin American Studies (3)
- CNJ 510 Comparative Media Systems (3)
- LAS 503 Program Seminar in Latin American Studies and Caribbean Studies (3)

**FIRST SPRING SEMESTER REQUIRED COURSES: 12 CREDITS**

- CNJ 619 Advanced Newsgathering and Writing Seminar (3)
- LAS 502 Interdisciplinary Research Methods (3)
- CNJ 599 Advanced Projects and Directed Research (3)
- LAS 503 Program Seminar in Latin American Studies and Caribbean Studies (3)

**SUMMER SEMESTER REQUIRED COURSES: 5 CREDITS**

- LAS 505 Internship in Latin American and Caribbean Studies (5)

**SECOND FALL SEMESTER REQUIRED COURSES: 13 CREDITS**

- COM 601 Theories of Communication (3)
- COM 545 Intercultural Communication: International Perspectives (3)
- LAS 503 Program Seminar in Latin American Studies and Caribbean Studies (3)
- CNJ 654 Writing for Publication (3)
- LAS 710 Pre-candidacy Thesis Credits (1)

**SECOND SPRING SEMESTER REQUIRED COURSES: 12 CREDITS**

- CNJ 614 Media Law and Ethics Seminar (3)
- LAS 503 Program Seminar in Latin American Studies and Caribbean Studies (3)
- CNJ 654 Writing for Publication (3)
- LAS 710 Pre-candidacy Thesis Credits (3)

**TOTAL CREDITS (for the MA in Journalism) = 36 CREDITS**

**FILAS (Fellows in Latin American Studies)**

In this highly selective Honors Program, students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities.
Working with UM’s world-class faculty in various academic disciplines, FILAS participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, FILAS students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication, Public Health, Environmental Studies, or History. For broad-based, multi-disciplinary preparation, students choose courses that focus on Latin America and the Caribbean from the following categories (at least ten of these courses must be taken at the Master’s level):

- Two History courses
- Two International Studies courses
- Two Economics courses
- Two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)
- Seven courses in Study Abroad
- One course as internship/co-op credits
- Five courses above the 300-level (third-year) in a range of disciplines
- Ten courses in one focus track

**Six thesis credits (LAS710)**

150 total credits

FILAS students also write a thesis based on an original research project. In addition, they present their findings in a meeting of the UM Center for Latin American Studies in their final semester.

**FILAS ADMISSION REQUIREMENTS**

- SAT1 composite score of 1360 or ACT 31.
- Top 10% of high school graduating class.
- Regular Application for Admission to the University of Miami. We recommend students submit their applications by November 15.
- Recommendations from three high school teachers.
- Statement of interest in FILAS, emphasizing prior language or area study
- To continue through the Master’s level, students must maintain at least a 3.4 GPA and they must take the GRE Exam.

**REQUESTS FOR INFORMATION**

For more information, contact:

LAS Degree Programs
University of Miami
1111 Memorial Drive
Coral Gables, FL 33124-2302
(305) 284-8180
FAX (305) 284-2796
lasgrad@miami.edu

[Latin American Studies Course Listing](#)
LIBERAL STUDIES - Dept. Code: MLS
www.as.miami.edu/mals

DEGREE PROGRAMS

The Liberal Studies program is founded on an interdisciplinary approach to issues and questions central to the history and development of human culture. It is designed to provide a broad understanding of these issues and questions through a focused and systematic program of study drawing upon faculty from various disciplines in the humanities, the social sciences, and the basic sciences.

THE MASTER OF ARTS IN LIBERAL STUDIES

The Master of Arts in Liberal Studies degree requires 24 credits, plus a six-credit thesis OR an additional six credits of coursework and a representative portfolio. In addition all students are required to participate in the MALS Writing Seminar. The curriculum is drawn from three core courses as well as additional courses designed for MALS students. Students may select from other graduate level courses with the approval of the director.

For the program with a thesis, a candidate must complete a minimum of 30 credits on the graduate level which includes:

- Three 3-credit core courses.
- 15 approved graduate credits.
- Six credits for thesis.

For the program without a thesis, a candidate must complete a minimum of 30 credits on the graduate level which includes:

- Three 3-credit core courses.
- 21 approved graduate credits.
- A portfolio representative of works completed.

For further information regarding this program, please write to:

Master of Arts in Liberal Studies Program
125-G Memorial Classroom Building
Coral Gables, FL 33124-2302

Call 305-284-6731 and/or email mals@miami.edu

Liberal Studies Course Listing
MAJOR PROGRAMS

The Mathematics Department offers graduate degree programs leading to the

- Master of Arts
- Master of Science
- Doctor of Philosophy

Prerequisites and requirements for these degrees are described below:

MASTER OF ARTS IN MATHEMATICS

A. Prerequisite:

A minimum of nine credits in mathematics courses numbered 200 and above is required.

B. Requirements:

1. A total of 30 credits must be earned; at least 18 credits of which are in mathematical courses numbered 500 or above. These courses must include at least one of the following year-long sequences: 513-514, 515-516, 524-525, 531-532, 533-534, and 561-562. All courses from other departments must be numbered 600 or above, be pertinent to the teaching of secondary school mathematics, and be approved by the graduate committee.

2. A three-hour written examination covering the material in one of the year-long sequences listed above.

MASTER OF SCIENCE IN MATHEMATICS

A. Prerequisite:

A minimum of 15 credits in mathematics courses numbered 200 and above is required.

B. Requirements:

1. A total of 30, 33, or 36 credits in approved courses must be earned, depending on whether at least 15, 12-14, or 9-11 credits, respectively, are in mathematics courses numbered 600 and above.

2. A minimum of 24 credits must be earned in mathematics courses.

3. At least two of the basic sequences 531-532, 533-534, and 561-562 are required.

4. Three written exams, at least two of which are on the basic sequences of the above list, must be passed.
DOCTOR OF PHILOSOPHY IN MATHEMATICS

The following requirements are in addition to the general requirements for the Doctor of Philosophy Degree as described by the Graduate School (see section on Doctor of Philosophy elsewhere in this Bulletin).

1. A minimum of 36 credits must be earned in mathematics courses numbered 600 and above.

2. All four basic sequences 630-631, 632-633, 640-641, and 661-662 or their equivalents are required.

3. Preliminary and three written qualifying exams must be passed. Of these written exams, two must be from the above basic sequences; the other may be another from the basic sequences or in the candidate’s area of specialty.

4. A proficiency in one of the languages French, German, or Russian must be demonstrated.

Mathematics Course Listing
MODERN LANGUAGES AND LITERATURES
Dept. Codes: FRE, GER, ITA, MLL (former FLL) POR, SPA
www.as.miami.edu/mll

DEGREE PROGRAMS

The Department of Modern Languages and Literatures offers programs leading to the Ph.D. in Romance Studies with concentrations in French and Spanish. Graduate course work comprehends all major periods and areas, providing the breadth needed for interdisciplinary work and required of today’s teachers. The program is designed to prepare students for careers as university professors, teachers and research scholars. It includes training in advanced language, teaching, and research skills that may also contribute to other professions.

For additional information on teaching and research opportunities, faculty, program policies and application requirements, visit http://www.as.miami.edu/mll/graduate/.

The Ph.D. in Romance Studies (with concentrations in French and Spanish) is designed to prepare you for a career as a university professor and research scholar. It also provides training in advanced language, teaching, and research skills that can be used in other professions. The requirements set out below for the Ph.D. in Romance Studies are minimum requirements; the Committee on Graduate Studies, the Director of Graduate Studies, or your advisor may set additional requirements.

1.  
   a) for students entering on the “five year plan” (B.A. or M. A., see below), passing satisfactorily a minimum of 45 credits in approved courses;
   b) for students entering on the “four year plan” (M.A., see below) passing satisfactorily a minimum of 36 credits in approved courses;

2. passing “Introduction to Literary Theory” (MLL 611; former MLL 505), “Introduction to Modern Language Teaching” (MLL 611; former MLL 503), and a minimum of 3 graded credits in each of the following areas:

<table>
<thead>
<tr>
<th>French</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Middle Ages and/or 16th Century</td>
<td>• Middle Ages and/or Golden Age</td>
</tr>
<tr>
<td>• 17th Century and/or 18th Century</td>
<td>• 18th-19th-Century Spain and/or 20th-Century</td>
</tr>
<tr>
<td>• 19th Century and/or 20th Century</td>
<td>• Century Spain</td>
</tr>
<tr>
<td>• Francophone Studies</td>
<td>• Colonial Latin America</td>
</tr>
<tr>
<td></td>
<td>• 19th-Century Latin America</td>
</tr>
<tr>
<td></td>
<td>• 20th-Century Latin America</td>
</tr>
</tbody>
</table>

Note: Ordinarily, students will take at least two graduate courses in the department each semester.
3. in addition to proficiency in English and the language of study, demonstrating the following
   a) reading knowledge of two other languages, or
   b) holistic knowledge of one other language by passing the equivalent of a course on at least the 300-level;

Note: In consultation with the student’s advisor, appropriate languages of study will be determined (e.g. Latin American literature students may be encouraged to study Portuguese; students of Early Modern literature may be encouraged to study Italian, etc.)

   c) if area of specialization is Medieval or Early Modern (including Colonial Latin America), then also demonstrating reading knowledge of Latin.

4. passing a breadth exam that covers either three periods in one region or two periods in two regions;

5. passing a qualifying exam, on an approved topic; The exam includes three general approaches that focus on literature, theory, and a cognate discipline (e.g. history, sociology, art, film, etc.);

6. successfully defending a dissertation prospectus;

7. completing and defending satisfactorily a dissertation;

8. satisfying the requirements of the Graduate School as stated in the Bulletin.

ADMISSIONS REQUIREMENTS

We accept applications for Fall admission only, and only for doctoral study (we do not have an independent Master’s program). You may apply for the Ph.D. while holding either a B.A. or an M.A. degree.

The priority deadline to apply to begin classes in Fall is December 1, (all fellowships and most teaching assistantships are awarded to those who apply by this deadline). However, we will continue to accept applications through January 15.

Your completed application must include the following (incomplete applications will not be considered):

1. A completed application form, including a detailed statement of purpose. We only accept on-line applications. Visit our web page for on-line application instructions: http://www.as.miami.edu/mll/graduate/admissions.html

2. A completed Graduate Assistantship Application (to be considered for departmental and university awards).

3. Three substantial letters of recommendation (please provide each recommender with a cover sheet, available on line at:
http://www.as.miami.edu/mll/graduate/admissions.html. Or use CollegeNet interface capability to have recommenders submit letters of recommendation online.

4. GRE scores, mailed directly from the testing agency (optional if you hold an M.A. degree and do not wish to be considered for fellowships. But we strongly recommend that you take the GRE because in case of equal qualifications we will give priority to student’s files that show GRE scores. Please remember to request school code to be 005815 for the University of Miami and Dept. Code 2603 copy for French and Dept. Code 2608 copy for Spanish.)

5. Official transcripts from all colleges and/or universities you have attended and listed in your application. If the transcripts are from international institutions, you must provide an official translation.

6. A substantial writing sample in English (research papers are preferable)

7. A substantial writing sample in the language of study (French or Spanish; research papers are preferable)

8. International students only: TOEFL scores, mailed directly from the testing agency

9. Application fee of $65.00.

Letters of recommendation and other printed materials should be sent to:

Graduate Program Admissions
Department of Modern Languages & Literatures
University of Miami
P. O. Box 248093
Coral Gables, Florida 33124-4650
FAX: 305-284-2068
E-mail: grad.mll@mail.as.miami.edu

We strongly encourage African-American and Hispanic candidates to apply for the Florida Education Fund domestic African American and Hispanic McKnight Doctoral Fellowships. Applications must be postmarked no later than January 15th of each year. The Fellowship is open to any incoming domestic Ph.D. African American or Hispanic student in ANY discipline. You may apply online at www.fefonline.org. The Florida Education Fund may be reached at (813) 272-2772. If an applicant who is accepted into our Ph. D. program receives a McKnight Fellowship, the College of Arts and Sciences will increase the amount of the fellowship’s stipend to match the current Teaching Assistantship stipend amount. Please note: If an applicant encounters any difficulty submitting the online application, the applicant should contact the FEF webmaster at webmaster@fefonline.org or call 813-943-7578 for assistance.

Course Listings for:

Modern Languages and Literatures

French

Spanish
PHILOSOPHY - Dept. Code: PHI
www.as.miami.edu/phi

DEGREE PROGRAMS

A. Course requirements

Satisfactory completion of a minimum of 45 course credits in philosophy, at least 24 of which must be at the 600 level. Students are required to pass the following courses:

1. Proseminar: PHI601 and PHI602
2. Logic requirement: PHI510
3. Ethics requirement: PHI530 or 533.
4. One course from the epistemology and metaphysics group: PHI540-545.
5. One course from the history group: PHI560-583 (except PHI 582).

In some cases certain course requirements may (with the approval of the director of graduate studies) be waived for students who have completed equivalent work as part of a prior M.A. degree in philosophy.

B. Qualifying examination

A comprehensive qualifying examination must be taken. Exams are given the grade of O, 1, or 2. A grade of 1 or 2 is sufficient for the student to be awarded the M.A. The qualifying examination is a broad examination in a general area of philosophy close to the student’s proposed dissertation topic or intended area of specialization, for example, epistemology, philosophy of mind, metaphysics, or ethics and political philosophy. The examination is based on a list of core texts in the area in question, with the required texts chosen for each student individually by his or her qualifying examination committee. The exam may be attempted at most two times.

C. Satisfying the requirements of the Graduate School as stated in this Bulletin.

The requirements for the Ph.D. degree in philosophy

A. Course requirements

Satisfactory completion of a minimum of 45 course credits in philosophy, at least 24 of which must be at the 600 level. Students are required to pass the following courses:

1. Proseminar: PHI601 and PHI602
2. Logic requirement: PHI510
3. Ethics requirement: PHI530 or 533.
4. One course from the epistemology and metaphysics group: PHI540-545.
5. One course from the history group: PHI560-583 (except PHI 582).

In some cases certain course requirements may (with the approval of the director of graduate studies) be waived for students who have completed equivalent work as part of a prior M.A. degree in philosophy.
Research Requirement: In addition, students are required to enroll in and complete 15 credits of PHI730 (Doctoral Dissertation Research).

B. Qualifying examination

A comprehensive qualifying examination must be taken. Exams are given the grade of either O, 1, or 2. A grade of 0 or 1 is considered a failing grade with respect to qualifying to continue in the Ph.D. program. A student must receive a grade of 2 in order to proceed to the dissertation stage. The qualifying examination is a broad examination in a general area of philosophy close to the student’s proposed dissertation topic or intended area of specialization, for example, epistemology, philosophy of mind, metaphysics, or ethics and political philosophy. The examination is based on a list of core texts in the area in question, with the required texts chosen for each student individually by his or her qualifying examination committee. The exam may be attempted at most two times.

Students can apply for Ph.D. candidacy after they have completed their coursework, received a mark of high pass on the qualifying examination and had their dissertation proposal approved.

C. The language requirement

A student who submits a dissertation proposal must possess the linguistic proficiency required by the proposed dissertation topic. This is determined by the dissertation proposal committee on the basis of examinations or coursework.

D. Ph.D. dissertation

Presentation and oral defense of an acceptable dissertation.

E. The requirements of the Graduate School as stated in this Bulletin

Philosophy Course Listing
PHYSICS - Dept. Code: PHY
www.physics.miami.edu

DEGREE PROGRAMS

All graduate students in physics must plan their entire program with the advice and approval of a departmental advisor.

The program of graduate studies in physics emphasizes research work, but also includes teaching experience as an essential element. Research and thesis opportunities are at present available in the fields of astrophysics and cosmology, atmospheric and ocean optics, complexity, condensed matter physics, elementary particle theory, plasma physics.

In addition to the general requirements for graduate degrees, the Physics Department makes the following specific requirements.

A. Submission of scores on the Graduate Record Examination (Aptitude Test and Advanced Test in Physics) with the application for admission.

B. A minimum of 24 physics course credits at the 500-600 level are required for the PhD.

C. The following specific courses, or their equivalent, are required for the PhD degree: PHY 540, 560, 561, 623, 650, 651, 670, 671. Also required: three additional physics lecture courses at the 500 or 600 level.

D. For the M.S. degree no more than three credits for reading courses may be counted, and no more than two credits of seminars. Up to six credits may be earned in thesis work for this degree.

E. The physics department offers a comprehensive graduate examination each year. A passing grade at an appropriate level is required for either the M.S. or the Ph.D. A student is required to take the exam each year and is allowed two attempts toward a passing grade.

F. Courses taken outside the department should be relevant to the students’ program and approved by the graduate advisor.

G. Students are required to participate in research at the earliest opportunity. Specifically, upon passing the written graduate examination and before the end of the following semester, the student is required to select a faculty member who consents to serve as the student’s Ph.D. thesis advisor. Student and thesis advisor are to form, in a timely fashion, a dissertation committee to review an oral presentation of the student’s initial research activities and future plans. Should a student need to select a new thesis advisor, this selection must be made without delay, and the review process must be repeated.

H. Renewal of financial support from the department is contingent, each semester, upon satisfactory performance of teaching duties and research activities, and upon timely progress towards completion of all requirements for the Ph.D. degree.
DEGREE PROGRAMS

The Department of Political Science offers a Master’s degree in Public Administration.

The requirements for the Masters in Public Administration degree are:

A. Thirty-six to forty-eight credits at the graduate level, depending on government management experience and academic preparation.

B. Completion of core and specialized track course requirements as specified by the POL Department in consultation with the student’s career goals and interests.

C. An option exists for those students who wish to complete in five years their Bachelor’s degree and a Master of Public Administration. Contact POL Department for details.

D. All other requirements as stated in sections Requirements for the Master of Arts Degree and General Information.
SECOND MASTER’S DEGREE IN PUBLIC HEALTH (MPA/MPH)

The Master of Public Administration/Master of Public Health combines programs from the College of Arts and Sciences and the School of Medicine and is designed for students who seek an in-depth knowledge of management and public policy administration with training in public health.

It is possible for full-time students to complete the requirements for both degrees requirements within two and one-half years.

Interested students must apply and be accepted by both Departments. For further information, contact the Department of Political Science at (305) 284-2401 or the Department of Epidemiology and Public Health at (305) 243-6759.

JD/MPA JOINT DEGREE PROGRAM (JD/MPA)

The joint program allows students to obtain both JD and MPA degrees in four years. The program is designed to prepare law school students for government, political and nonprofit legal positions. The first year is spent in the Law School and years two through four are spent taking both Law and MPA courses.

To be admitted to this program, students must apply separately to both programs. Students may apply to the MPA program prior to beginning law school or anytime during the first or second year of law school. Students may begin the MPA program in the fall, spring or summer semesters. For further information contact the Department of Political Science at (305) 284-2401 or the Law School at (305) 284-5535.

Political Science Course Listing
DEGREE PROGRAMS

Ph.D.

I. The principal goal of the graduate program in Psychology is that of preparing the student for a career contributing to the growth of scientific knowledge in psychology.

II. Applicants for admission to graduate status in psychology shall have

   A. a minimum average of B over-all
   B. at least 18 hours of psychology that must include courses in Introductory Psychology, Statistics, and Experimental Psychology or Research Methods.
   C. Students lacking the necessary preparation must ordinarily make up deficiencies prior to admission to the Graduate School.

III. All applicants must present the Graduate Record Examination (Aptitude Tests; Advanced Test in Psychology preferred). In all cases admission to graduate degree programs in Psychology is competitive, since available resources do not permit admission of all qualified applicants.

IV. The Ph.D. programs are categorized into three Divisions:

   • *Health Psychology* (including Health Clinical Psychology, Behavioral Medicine and Behavioral Neurosciences)
   • *Child Psychology* (including Clinical Child Psychology, Pediatric Health Psychology Applied Developmental Psychology)
   • *Adult Psychology* (including Adult Clinical Psychology)

   1. All Ph.D. programs in Psychology require a minimum of 72 credits, including thesis and dissertation credits.
   2. Psychology 680 and 681 will not be counted toward the 72 credit minimum.
   3. A Master of Science in Psychology based upon 24 credits of course work and six credits of Master’s thesis research is required in all programs.
   4. In cases in which a student has a prior graduate degree, the number of credits required for the Ph.D. may be reduced at the discretion of the Department.
   5. All programs in Clinical Psychology require an internship.

V. All students must successfully complete six foundation courses.

   A. PSY 604, 605, 614, 620, 625, and 640 or 641.
   B. Methodological courses 631, 632, and either 633, 634 or 698.
   C. A minimum grade average of B is required for all students.
   D. All students seeking an advanced degree in Psychology must participate substantially in the teaching of course offerings in the Psychology Department as an essential part of their education.

*Psychology Course Listing*
RELIGIOUS STUDIES - Dept. Code: REL

The Department of Religious Studies does not offer a graduate degree program. The graduate level courses may be taken for graduate credit with the consent of the major department.

[Religious Course Listing]
I. Graduate Program Overview

The Graduate Program in Sociology at the University of Miami is designed to equip students with the theoretical, methodological, and analytical tools required for research and teaching. The Graduate Program in Sociology offers two graduate degrees, the Master of Arts (M.A.) and the Doctor of Philosophy (Ph.D.). At the doctoral level, graduate students are encouraged to choose two concentrations from three substantive areas: (1) Criminology, (2) Race & Ethnic Relations, and (3) Medical Sociology. Although the strengths of the department lie within these major programmatic fields, students may also develop a course of study that meets unique research interests and career objectives. Assistantships and Fellowships are awarded each academic year to cover tuition and living expenses.

II. Requirements for the M.A. degree in Sociology:

A. A minimum of 31 credits at the graduate level (500 or 600) of which 6 must be taken in thesis work.
B. A maximum of 6 hours can be transferred from acceptable graduate institutions.
C. Course work must include Sociology 601, 602, 604, 610, 611, and one of 615 616 or 617.
D. 3 hours of course work may be earned in a related discipline. Such course selections must have prior departmental approval.
E. Submission and successful defense of a thesis in accordance with current Graduate School policy.
F. The completion of all other requirements stated in sections of the Bulletin that specify Requirements for the Master’s Degree, and General Information.

III. Requirements for the Ph.D. in Sociology:

A. An M.A. or M.S. degree is required.
B. A minimum of 42 credits beyond the M.A. or M.S. degree.
C. Demonstration of computer competency.
D. Passing two written substantive area examinations.
E. The completion of a publishable-quality paper.
F. Written presentation and oral defense of an acceptable dissertation.
G. The satisfactory completion of the requirements of the Graduate School as stated in this Bulletin.

For more details, consult the Guide to Graduate Study in Sociology available through the Sociology Department (www.as.miami.edu/sociology/).

Sociology Course Listing
DEPARTMENTs

Accounting
Business Law
Computer Information Systems
Economics
Finance
Management
Management Science
Marketing

DEGREE PROGRAMS

The School of Business offers the following degrees:
Doctor of Philosophy in Business & Doctor of Philosophy in Economics
Master degree in Business Administration (MBA)
Master of Professional Accounting
Master of Science in Taxation
Non-degree executive education programs are also available

The requirements for the Doctor of Philosophy degree are the same as those listed in the general section of this Bulletin.

DOCTOR OF PHILOSOPHY

The Doctoral program combines interdisciplinary study and research. It is designed to prepare students for careers in academic research and teaching. Students follow specialized programs of study under the guidance of faculty experts. In addition, they have the opportunity to participate in cross-disciplinary training outside of the traditional domains of business and economics. The curriculum will also equip students with the skills and experience necessary for academic placement in the world’s top research universities.

A minimum of 60 credits are required to earn the PhD in Business or PhD in Economics degree. The program requires year-round, full-time study in order to maximize interaction between faculty and students. Students are expected to interact and begin research projects with the faculty upon entering the program.

PhD Program in Business Curriculum:

Students may choose to concentrate their study in Accounting, Finance, Management Science, Marketing, Operations Management, Organizational Behavior, or Strategy/International Business.
Required Prerequisite Courses (must be completed prior to admission or in the summer prior to commencing doctoral studies):

One year of college calculus, one course in linear algebra, and one introductory statistics course.

Required “Core” Courses (these courses can be waived by consent of the appropriate department; waiver is granted by issuing transfer credit for similar courses taken at the advanced graduate level at accredited institutions):

There are two streams of “core” courses for students, each comprising of five courses.

Stream I: (Accounting, Finance, Management Science, Marketing-Quantitative, and Operations Management)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 533</td>
<td>Micro Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 521</td>
<td>Macro Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 520</td>
<td>Econometrics I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 620</td>
<td>Econometrics II</td>
<td>3</td>
</tr>
<tr>
<td>ECON 512</td>
<td>Math Economics II</td>
<td>3</td>
</tr>
</tbody>
</table>

Stream II: (Marketing-Consumer Behavior, Organizational Behavior, Strategy/International Business)

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 631</td>
<td>Psych Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>PSY 632</td>
<td>Psych Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>SOC 610</td>
<td>Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>PSY 625</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

and, any *one* of the following two courses:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 616</td>
<td>Small Group Theory</td>
<td>3</td>
</tr>
<tr>
<td>ECON 533</td>
<td>Micro Economics I</td>
<td>3</td>
</tr>
</tbody>
</table>

Area of Concentration Courses (to be decided by the student and faculty):

In total, a minimum of 33 credits in concentration courses are to be taken, up to 15 of which may be satisfied by transfer credit. Some Departments may require students to complete a minor field. If so, their major field must consist of a minimum of 24 hours (with at least 15 hours completed in doctoral program residence at the University of Miami). The minor field would then consist of 9-12 hours in an area outside of the major concentration (with a minimum of 9 hours taken in doctoral program residency at the University of Miami).

Dissertation Research

12 credits are to be taken at a minimum—two semesters of 6-9 hours each. No transfer credit is given for dissertation or prior research.
Total Credit Requirements

In total, a minimum of 60 credits are required for receiving the Ph.D. degree in Business Administration: 15 hours of "core" courses, 33 hours of "concentration" courses, and 12 hours of dissertation research. To this total must be added any prerequisite courses (as outlined above), with transfer credit being subtracted.

Admissions Requirements:

Application Form
Application Fee of $65.00
GPA of B+ or better in undergraduate and graduate (if any) coursework
Official Transcripts, Copies of Diplomas and/or Certificates
Strong quantitative skills, as demonstrated through GMAT/GRE scores and prior coursework
Potential to conduct and publish high-quality original research
Official TOEFL Score Report (International Students only)
Three Letters of Recommendation
Statement of Purpose
Resume

A master’s degree is not required; but an undergraduate degree (in any discipline) is required.

Financial aid packages are available to qualified PhD applicants.

PhD Program in Economics Curriculum:

The Ph.D. program in Economics prepares the recipient for a variety of career opportunities, including university teaching, federal, state, and local government employment, and a host of employment opportunities in the private sector.

All Ph.D. students are required to complete sixty (60) credit hours. There are 12 core courses (36 credit hours), two courses in one major field (6 credit hours), one course in a minor field (3 credit hours), one field/elective course (3 credit hours) and the dissertation (12 credit hours). A field is comprised of either two related courses in one of the major economic disciplines, e.g. international trade, or two courses in related disciplines, e.g. health economics and labor economics.

Applicants for admission to graduate study in Economics should have an extensive background in Economic Theory and Quantitative methods.

a. All Doctor of Philosophy students must take the core that consists of the following courses:
   i. 500-level mathematical economics courses (ECO 512)
   ii. a 500-level macroeconomics course (ECO 521)
   iii. a 500-level microeconomics course (ECO 533)
   iv. a 500-level econometrics course (ECO 520)
   v. two 600-level econometrics courses (ECO 620, 625)
   vi. A 500 level mathematics (MTH 533)
   vii. three 600-level microeconomics courses (ECO 633, 634, and 635)
   viii. two 600-level macroeconomics/monetary theory courses (ECO 621, 603)
b. Two fields of specialization are required. A field is comprised of two courses. These two fields are selected from the following areas of concentration:
   i. ECO 603, 604
   ii. international trade (ECO 661, 760)
   iii. human resource economics (ECO 511, 586, 611)
   iv. cognate areas with departmental approval

c. One elective must be taken. Elective courses may be selected from the graduate offerings of the Mathematics, Computer Information Systems, Management Science, and Finance departments.

d. Additional Requirements:
   i. comprehensive examinations covering the core and the one field of specialization
   ii. a doctoral dissertation for 12 credit hours

e. To be considered for admission, all applicants must
   i. score a minimum of 1250 on the Graduate Record Examination general tests (combined verbal and quantitative scores),
   ii. hold a baccalaureate degree from an institution of recognized standing,
   iii. submit two copies of their official undergraduate transcript,
   iv. have demonstrated, by their undergraduate record, capability of completing a Ph.D. program,
   v. In addition, foreign students are required to score a minimum of 94 on the internet based, 600 on the paper based, or 240 computer based Test of English as a Foreign Language (TOEFL).

**Required Admissions Materials:**

Application Form
Application Fee of $65.00
GPA of B+ or better in undergraduate and graduate (if any) coursework
Official Transcripts, Copies of Diplomas and/or Certificates
Official GRE scores report
Official TOEFL Score Report (International Students only)
Three Letters of Recommendation
Statement of Purpose
Resume/CV (optional)

A master's degree is not required for admissions.

Assistantships are available to qualified PhD applicants. The minimum additional requirements for consideration for an assistantship are a combined GRE score of 1250 and the equivalent of a cumulative "B+" GPA. The program only rarely admits students without an assistantship.
MASTER OF BUSINESS ADMINISTRATION

The University of Miami School of Business offers various full-time Master of Business Administration degrees.

FULL-TIME TWO-YEAR MBA PROGRAM

The Full-time two-year MBA Program is innovative, flexible, and career focused. It is designed to meet the needs of the student with an undergraduate background in business as well as the student who is just entering the business arena. In addition to preparing business leaders of the future, the curriculum adds a valuable dimension to other professions.

UM's full-time MBA program is a 56-credit, lock-step program that is completed in less than two calendar years. Students typically enroll in elective courses during the third semester and the first term of the fourth semester of the program. Students may be able to complete a concentration based on completion of appropriate electives. In addition, students may enroll in a foreign language class, with no additional charge.

CURRICULUM

YEAR ONE
FALL SEMESTER – Building Management Skills

Term 1-1
ACC 670 Financial Reporting and Analysis
BUS 602 Critical Thinking and Effective Writing
BUS 604 MBA Career Development and Enrichment
ECO 685 Managerial Decisions in a Global Economy
MGT 675 Business Policy and Strategy

Term 1-2
ACC 671 Accounting for Decision Making
BUS 603 Critical Thinking and Effective Presentation
MAS 631 Statistics for Managerial Decision Making
MGT 620 Managing Through People

SPRING SEMESTER – Making Management Decisions

Term 1-3
FIN 641 Valuation and Financial Decision Making
MAS 632 Management Science Models for Decision Making
MKT 640 Foundations of Marketing Management

Term 1-4
CIS 610 Foundations of Management Information Systems
FIN 642 The Financial Environment
MGT 643 Principles of Operations Management
YEAR TWO

FALL SEMESTER – Expanding Career Opportunities

Term 2-1
BUS 604 MBA Career Development and Enrichment
Elective
Elective
Elective
Elective

Term 2-2
Elective
Elective
Elective
Elective

SPRING SEMESTER – The Executive Perspective

Term 2-3
Elective
Elective
Elective
Elective

Term 2-4
BSL 690 Legal and Ethical Implications of Business Decision Making
MGT 677 Corporate Strategy and Organization
MKT 650 Strategic Marketing

Students may be able to complete a concentration based on completion of required electives. Areas of concentration include: Computer Information Systems, Finance, International Business, Management, Management Science, , Marketing, Mergers and Acquisitions, and Real Estate. Elective offerings are based on student demand. Students beginning the program in January obtain a cross-functional MBA in lieu of a concentration.

FULL-TIME ONE-YEAR MBA PROGRAM

The Full-time one-year MBA Program is offered once per year in January. This program is designed to meet the needs of the student with an undergraduate degree in business, who graduated in the last seven years from an accredited university. Applicants must demonstrate successful completion of the core business courses: Financial and Managerial Accounting, Microeconomics, Macroeconomics, Statistics, Calculus, Organizational Behavior, Operation Management, Marketing, and Finance. The curriculum prepares business leaders of the future, adding a valuable dimension to their education. Students beginning the program in January obtain a cross-functional MBA in lieu of a concentration.

CURRICULUM

The One-Year MBA program is a 35-credit, cohort program that is completed in one year.
There are no summer classes. Internship opportunities may be available through the Ziff Graduate Career Services Center during the summer months. The program is “lock-step” and students progress together through a sequential pattern of sixteen 2-credit courses, seven of which are electives and three 1-credit courses. There are two semesters totaling 28 weeks of class time. Each semester consists of two 7 week terms. There are no prerequisite courses required. Concentrations are not available or granted. This multidisciplinary MBA program will expose students to various areas of business.

SPRING SEMESTER

Term 1-1
BUS 602 Critical Thinking and Effective Writing
BUS 604 MBA Career Development and Enrichment
FIN 641 Valuation and Financial Decision Making
MAS 632 Management Science Models for Decision Making
Elective
Elective

Term 1-2
BSL 690 Legal & Ethical Implications of Business Decision Making
BUS 603 Critical Thinking and Effective Speaking
CIS 610 Foundations of Management Information Systems
FIN 642 The Financial Environment
MKT 645 International Marketing

FALL SEMESTER

Term 1-3
MGT 645 Principles of Supply Chain Management
MKT 650 Strategic Marketing
Elective
Elective

Term 1-4
MGT 677 Corporate Strategy and Organization
Elective
Elective
Elective

ACCELERATED MBA IN REAL ESTATE

The University of Miami School of Business Administration offers a new accelerated MBA program with a concentration in real estate highlighted by two internship opportunities. Bringing together the School’s strengths in management education with the strengths of the UM School of Architecture in new urbanism, the program is designed to prepare students to succeed in commercial real estate market careers. This program is designed to meet the needs of the student with an undergraduate degree in business, who graduated in the last seven years from an accredited university. Applicants must demonstrate successful completion of the core business courses: Financial and Managerial Accounting, Microeconomics, Macroeconomics, Statistics, Calculus, Organizational Behavior, Operation Management, Marketing, and Finance.

PROGRAM HIGHLIGHTS
• Six-month paid real estate industry internship prior to first semester
• Summer real estate industry internship between first and second semester classes
• Consulting project with real estate industry non-profit organization
• Specialized MBA curriculum focused on commercial real estate mentoring
CURRICULUM
The Accelerated MBA in Real Estate Program is a 40-credit program that is completed in 18 months. The program is "lock-step" and students progress together through a sequential pattern of Real Estate and MBA courses along with internships. In addition to the initial summer and fall semesters where students complete a three-credit course and participate in their internship/field experience, there are two semesters of coursework (fall and spring) totaling 28 weeks of class time. Each semester consists of two seven week terms. Students are registered for four to six courses per term. A concentration in Real Estate will be granted.

SUMMER SEMESTER
Introduction to Commercial Real Estate Analysis and Internship/Field Experience (3 credits)

FALL SEMESTER
Internship/Field Experience (3 credits) (Full-Time Status)

SPRING SEMESTER
Term 1-1
BUS 602 Critical Thinking and Effective Writing
BUS 604 MBA Career Development and Enrichment
FIN 641 Valuation and financial Decision Making
FIN 645 Real Estate Finance
MAS 632 Management Science Models for Decision Making
MKT 641 Marketing Research

Term 1-2
BSL 690 Legal & Ethical Implications of Business Decision Making
BUS 603 Critical Thinking and Effective Speaking
CIS 610 Foundations of Management Information Systems
FIN 642 The Financial Environment

FALL SEMESTER
1-3
BUS 604 MBA Career Development and Enrichment
FIN 644 Real Estate Investments and Appraisal
MAS 637 Applied Regression Analysis
MKT 650 Strategic Marketing
RED 601 Real Estate Development

Term 1-4
BSL 694 Real Estate Law
MGT 677 Corporate Strategy and Organization

FULL-TIME MBA DUAL DEGREE PROGRAMS
The University of Miami offers dual degree programs in the areas of JD/MBA, MD/MBA, and BARCH/MBA. Dual degree programs are only available in conjunction with the Full-time two-year MBA Program, with the exception of the JD/One Year MBA and JD/LLM/One Year MBA programs. Admissions and all requirements for each program must be fulfilled in order to apply to the MBA program.

For more information on dual degree programs, please contact the Office of Recruiting and Admissions at 305-284-2510 or visit our website at www.bus.miami.edu/grad.

INTERNSHIPS

The School of Business encourages students to augment their classroom experience through a comprehensive internship program. Students who are interested in internships must register with the Ziff Graduate Career Center as soon as they arrive on campus.

ADMISSION REQUIREMENTS

The Graduate Admissions Committee welcomes applications from individuals whose undergraduate degrees are from accredited colleges or universities. Acceptance is based upon an evaluation of all credentials presented by the applicant. The following are the requirements for admission for both the Full-time two-year and one-year MBA Programs:

- Completed application, which includes four essays
- Application Fee of $100.00
- Resume
- Transcripts
- Letter(s) of Recommendation
- Official GMAT or GRE score report
- English Language Proficiency Exam, (TOEFL or IELTS), if applicable
- International Student Financial Statement, if applicable
- Campus Visit, encouraged
- Interview, by invitation only.

International applicants must provide an official copy of all transcripts in addition to a certified English translation of said documents as well as a copy and translation of the respective diploma.

EXECUTIVE MBA PROGRAMS AND THE MBA FOR WORKING PROFESSIONALS

The University of Miami offers Executive MBA Programs and an MBA for Working Professionals that are designed for accomplished professionals who are ready to take their career to the next level. Participants gain insight and understanding into the business environment by gaining a more global outlook and are better equipped to meet the challenges of today's business world. They become better negotiators, strategic thinkers, and more effective team players in a variety of business related situations.
The Executive MBA and MBA for Working Professionals programs enable students to customize their MBA experience to better meet their industry and career goals - with a wide range of elective courses few other working professionals programs can match. This unique elective opportunity allows students to pursue a number of electives in specialty areas from accounting and marketing to management science and computer information systems. Students will also expand their professional network as they join elective classes with MBAs outside their regular cohort. (Five electives are offered in the Health EMBA program as cohort, lock-step courses that are already built into the curriculum).

**CURRICULUM**

To obtain detailed program curricula on the Executive MBA and MBA for Working Professional Programs, please reference the program brochures which can be requested by contacting the Office of Recruiting and Admissions at (305) 284-2510 or visit our website at [www.bus.miami.edu/grad](http://www.bus.miami.edu/grad).

**EXECUTIVE MBA**

The Executive MBA programs provide business executives and professionals the opportunity to earn an MBA by attending class on Saturdays or in a Friday/Saturday/Sunday structure. These programs include:

- Executive MBA
- Executive MBA - Health Administration and Policy Concentration
- Executive MBA – Off Campus Program in San Juan, Puerto Rico.

**ADMISSION REQUIREMENTS**

- Completed application, which includes four essays
- Application Fee of $100.00
- Resume
- Transcripts
- Letter(s) of Recommendation
- Official GMAT or GRE score report, may be required
- English Language Proficiency Exam, (TOEFL or IELTS) if applicable
- Interview required

International applicants must provide an official copy of all transcripts in addition to a certified English translation of said documents as well as a copy and translation of the respective diploma.

**MBA FOR WORKING PROFESSIONALS**

The MBA for Working Professionals Program also provides professionals the opportunity to earn an MBA by attending class on Monday evenings and Saturday mornings. MBA for Working Professionals programs include:

- MBA for Working Professionals
Dual Degree Program: MBA for Working Professionals and Master of Science in Industrial Engineering

ADMISSION REQUIREMENTS

• Completed application, which includes four essays
• Application Fee of $100.00
• Resume
• Transcripts
• Letter(s) of Recommendation
• Official GMAT or GRE score report, may be required
• English Language Proficiency Exam, (TOEFL or IELTS) if applicable
• Interview required

International applicants must provide an official copy of all transcripts in addition to a certified English translation of said documents as well as a copy and translation of the respective diploma.

GLOBAL EXECUTIVE MBA IN SPANISH

The Global Executive MBA in Spanish enables participants to broaden their business knowledge, improve their management skills and strategic decision-making abilities, and expand their professional network through close interaction with a select group of business leaders from across Latin America.

The UM Global Executive MBA is taught in seven, two-week sessions.

The program offers a total of 15 courses of which 13 take place on campus in Coral Gables and two abroad during a Residential Session Abroad. The courses are given in sequence; the same group of students advances together throughout the entire program. Students are also offered the opportunity to select 3 elective courses to be taken in the 4th, 5th and 6th session of the program.

A brief two-week residential session abroad provides MBA students with the opportunity to gain international business perspectives, first-hand. As part of this program, students may receive lectures on pressing international business matters, meet prominent local business leaders, tour companies and manufacturing operations, and immerse themselves in a country’s cultural, social, and business environment.

All classes are taught entirely in Spanish, with reading materials in English, so reading-level knowledge of English is required.

CURRICULUM

To obtain detailed program curricula on the Global Executive MBA program, please reference the program brochures which can be requested by contacting the Office of Recruiting and Admissions at (305) 284-2510 or visit our website at www.bus.miami.edu/grad.

Admission Requirements

• Completed online application, which includes four essays
• A bachelor’s degree or its equivalent
• Copy of degree diploma
• Official transcripts for each undergraduate institution attended including the certified English translations
• Resume (applicant must have six or more years of professional work experience)
• Letter(s) of recommendation, one must be from applicant’s employer, or applicant’s client if self-employed
• Reading-level knowledge of English
• Interview, by invitation only

CERTIFICATE PROGRAMS

GRADUATE BUSINESS CERTIFICATE

The Graduate Business Certificate program provides professionals and graduate students an opportunity to add basic business courses to their portfolio. The program consists of four three-credit courses in functional areas of accounting, finance, management and marketing. Students can take one or more courses for credit but must satisfactorily complete all four courses to be awarded the certificate. Students must have an undergraduate degree to be eligible for this certificate. Classes meet on Saturday from 8:00 a.m. – 12:00 p.m. and 1:00 p.m. – 5:00 p.m.

CURRICULUM

ACC 600 Accounting for Decision-Making and Control (3 credits)  
FIN 602 Fundamentals of Finance (3 credits)  
MGT 600 Managing Responsible Behavior in Organizations (3 credits)  
MKT 660 Foundations of Marketing Management (3 credits)

For complete information on the Graduate Business Certificate program, including course dates and descriptions, please visit the Graduate Business Programs website at www.bus.miami.edu or call 305-284-2510.

ADMISSION REQUIREMENTS

The Graduate Admissions Committee welcomes applications from individuals whose undergraduate degrees are from accredited colleges or universities. Acceptance is based upon an evaluation of all credentials presented by the applicant. The following are the requirements for admission:

• Completed online application  
• Application Fee of $100.00  
• Resume  
• Transcripts
RESEARCH INSTITUTES

INSTITUTE FOR THE STUDY OF QUALITY IN MANUFACTURING AND SERVICE

The University of Miami Institute for the Study of Quality in Manufacturing and Service (UMISQ) exists to advance the theory and practice of Quality Science. Its mission is to promote the improvement and innovation of quality on local, national, and international levels through the acquisition, dissemination, and application of knowledge in the areas of science, technology, and management as related to Quality Science in general, and Lean Six Sigma Management specifically.

Objectives

1. To conduct research in Quality Science and to publish its results through appropriate professional and academic outlets.
2. To educate and train management, labor, UM students, and others in the theories and practices of Quality Science in general, and Lean Six Sigma Management specifically.
3. To create internships for M.B.A. students in which they can solve real world problems using Quality Science theory and practice in general, and Lean Six Sigma management theory and practice in particular.
4. To remain financially self-sufficient.

The Institute pursues its objectives through involvement of faculty, students, and client organizations in all sectors of the economy.

INTELLIGENT COMPUTER SYSTEMS RESEARCH INSTITUTE

The Intelligent Computer Systems Research Institute is a center for research and information dissemination within the field of information business technology. The institute focuses on multi-disciplinary topics such as technology strategy, healthcare informatics, business intelligence, and embedded systems.

Objectives

1. To encourage partnerships between academia and industry. Corporate partners can provide data, field studies, test environments, and other resources through which leading theoretical work can be developed tested in an applied environment.
2. To conduct research for publication in leading academic and industry related journals, as well as working papers.
3. To encourage industry partners to work with students through the creation of internship positions. These internships provide students the opportunity to act as a link between the teaching and research of the institute’s members and the field based applied environment.

THE GRADUATE STUDENT ASSOCIATION
The Graduate Student Association (GSA) is the student government organization representing students in the Graduate School (and all schools and colleges included under the Graduate School). Established in 1969, the GSA is one of the oldest graduate student governments in the United States. The primary function of the GSA is to provide the means for responsible and effective graduate student participation in the planning and conduct of University affairs. The GSA serves as a liaison between graduate students, individually and collectively, the faculty and the administration. In addition, the GSA exists as a social and intellectual forum to support and improve the quality of the graduate student environment at the University of Miami.

The Graduate Student Association is made up of seven officers and nearly fifty full- and part-time senators; the role of the GSA is both supervisory and implementary, and its scope encompasses both academic and social interests of the University’s graduate student body. Officers and Senators meet regularly to discuss important issues and are often required to attend University-wide meetings with faculty, staff, administration and fellow students. The Graduate Student Senate is the primary body that represents the interests and concerns of the entire graduate student body at the University of Miami. The Senate is made up of one representative from every graduate department or program (currently there are 46 recognized graduate programs) at the University of Miami. The Senate coordinates most of the graduate activities and programs that the GSA sponsors, and acts as a hub for the exchange of information between different departments and programs. Typically, senators are either elected or appointed by their peers or program directors and serve for a one-year term. Each senator has one vote in the senate. Throughout the semester, the senate can issue directives, bills and resolutions pertaining to any aspect of graduate student life at the University of Miami, and works extremely closely with the Dean of the Graduate School in effecting changes and/or improvements.

The Senate, also as part of its charge, decides on and elects the new Executive Board of the Graduate Student Association each spring semester. Alternates are also elected or appointed to assist the senator when they are unable to carry out their duties.

The office of the GSA is located at Suite 21-T, 5606 Merrick Drive, please call 305-284-6750, e-mail: gsa@miami.edu, or visit our website at www.miami.edu/gsa for more information.

**GRADUATE ACTIVITY FEE ALLOCATION COMMITTEE (GAFAC)**

The unallocated portion of the graduate activity fee produces an annual fund that is available for graduate students to seek for enrichment of their various activities. The monies are allotted by a graduate student committee composed of nine elected representatives from Architecture, Arts and Sciences, Business, Communication, Education, Engineering, International Studies, Music and Nursing; and the Treasurer of the Graduate Student Association.

Petitions for funds are judged on the merits of the individual requests, the anticipated direct or indirect benefit to the University, the effort of the petitioners to generate support from other areas, past experience with the petitioning group, if applicable, and the current amount of funds available.

Forms for petitions are available in the Office of the Vice President for Student Affairs, Room 244, Ashe Building.

**THE GRADUATE BUSINESS STUDENT ASSOCIATION**
The Graduate Business Student Association (GBSA) is a professional and social student-run organization. All graduate business students become members once enrolled in a business master's program and are encouraged to attend meetings and events. The GBSA organizes activities and events aimed at strengthening networking within the graduate business student body and the business community and enriching the academic and social experience of its members. The GBSA is governed by a committee that consists of a president, vice president, speaker of senate, treasurer/executive secretary, director of community service, social director, and director of athletics. Elections take place at the end of each spring semester.

**FINANCIAL ASSISTANCE**

**GRADUATE BUSINESS SCHOLARSHIPS AND FELLOWSHIPS**

There are a limited number of merit-based graduate business scholarships which are awarded at the time of admission to qualified full-time MBA students entering in the fall semester only. A graduate business scholarship covers a portion of tuition for the MBA degree. Graduate business scholarships are not automatically renewed.

In addition to graduate business scholarships, there are a limited number of Emery Means Findley, Jr. Fellowships and scholarships which are awarded by Graduate Business Programs to applicants with outstanding academic credentials. Any applicant who wishes to be considered for a graduate business scholarship or a fellowship, must indicate this in the space provided on the application. Awards are available to both domestic and international students.

There are a limited number of merit/need-based scholarships which are awarded following admission for Executive and Working Professionals programs. Details on how to apply for these scholarships are provided at the time of admission.

**DONOR SCHOLARSHIPS**

Several endowed scholarships are made available to incoming graduate business students through the generosity of alumni and friends of the University of Miami School of Business Administration. These donor scholarships are for the purpose of recruiting students of high academic merit. The total number and amount of scholarship awards vary from year to year.

Scholarships will be awarded based on the recommendations of the Faculty Admissions Committee on a first come, first served basis. Since the number of scholarships is limited, students who meet the minimum criteria are not guaranteed a donor scholarship award.

We regret that a student may be ineligible for financial awards if he/she receives tuition benefits from the University of Miami or accepts any assistantship, scholarship, grant or fellowship from the University of Miami, in addition to our offer. This includes employees, their spouses, and dependents.

**BANK OF AMERICA - ENDOWED BUSINESS SCHOLARSHIPS**
Criteria: A graduate business school student based on a combination of scholarship and financial need, who will preferably specialize in Finance, Accounting, or Management.

JACK R. BORSTING - GRADUATE SCHOLARSHIP ENDOWMENT
Criteria: Outstanding candidate for a master’s level business degree.

RYDER/PATRICK J. CESARANO – ENDOWED SCHOLARSHIP*
Criteria: MBA student with a concentration in finance or management science/operations research. Based on academic excellence and financial need.

PAT & LON WORTH CROW - SCHOLARSHIP ENDOWMENT*
Criteria: Graduate business student specializing in Finance, who possesses several years of work experience, preferably with an expressed interest in a career in banking or a banking-related field. U.S. citizen, preferably resident in South Florida community.

EMERY MEANS FINDLEY, JR. – ENDOWED GRADUATE FELLOWSHIPS IN BUSINESS
Criteria: Outstanding candidates for Graduate Business Programs.

DEAN M. FOGEL BUSINESS ENDOWED SCHOLARSHIP
Criteria: Graduate Business Student with financial need and priority is for a United States veteran.
ALBERT AND ESTHER GREEN ENDOWED SCHOLARSHIP
Criteria: Graduate Business Student with a health challenge, or student studying or working in Health Administration.

ALLAN M. HERBERT & PATRICIA M. HERBERT – ENDOWED GRADUATE BUSINESS SCHOLARSHIP*
Criteria: Outstanding graduate business student, well-rounded, willing to finance his/her own education, and who appreciates the value of work and strives to combine study, work and extra-curricular activities.

JAMES W. McLAMORE – GRADUATE BUSINESS FELLOWSHIPS
Criteria: To recruit and retain outstanding graduate business students.

E. BRUCE MCLAUGHLIN & CYNTHIA M. SWOL - ENDOWED SCHOLARSHIP IN MARKETING*
Criteria: Graduate business student with concentration in Marketing, who has significant work experience prior to entering the MBA program. U. S. citizen, with preference given to female students with unmet financial need.

MERRILL LYNCH & CO. FOUNDATION, INC. – FELLOWSHIPS IN INTERNATIONAL FINANCE
Criteria: Graduate business student preparing for a career in International Finance.

SOUTHEAST BANKING CORPORATION FOUNDATION – ENDOWED SCHOLARSHIPS*
Criteria: Graduate student in the MBA program who is a Florida resident. Based on academic excellence and financial need.

* Essay Required
In 300 words or less, please explain why you need financial assistance to complete your MBA degree. The essay must be included with your application.

Various other donor scholarships are available based upon need, merit, or other specified criteria.

** ZIFF GRADUATE CAREER SERVICES CENTER **

** ZIFF GRADUATE CAREER SERVICES CENTER **

** A. ** The Ziff Graduate Career Services Center’s mission is to provide top quality resources and career guidance to School of Business graduate students and build strong partner relationships with the corporate community.

1. The Ziff Career Services Team is committed to providing each student with a personalized program and the resources and skills needed to be competitive in the marketplace.
2. The Ziff Career Services Team is the student’s frontline resource to securing employment upon graduation. Students who engage with the Ziff Graduate Career Services Center will utilize the staff to assist them in developing an effective career strategy and personal branding effort that will prepare them for a successful job search at all levels of their career. The personal branding effort will equip the student with a strategic résumé, improve their interview skills, generate contacts, develop networking opportunities, and prepare them for a successful career transition.

B. ONLINE RESOURCES
1. Ziffecareercenter.com – The center’s online portal where students find access to many of Ziff’s career resources, access to all current job postings and upcoming events. Documents such as résumés and cover letters will be held in the student’s site.

2. CareerLeader – An assessment tool specifically developed for MBA students that provide expert analysis of a student’s unique pattern of business relevant interests, values and abilities.

3. Vault’s Career Insider – Provides inside information and advice on industries, companies, the job search and industry interview prep.

4. GoingGlobal – the leading provider of both country-specific and USA city-specific career and employment information. Features 30 Country Career Guides, 41 USA City Career guides, corporate profiles and more than 500,000 internship and job listings within the USA and around the world.

C. REGISTRATION
1. Graduate business students that are seeking employment post-graduation are required to register with the Ziff Graduate Career Center to commence their Career Management Plan.

2. The registration process begins with the Pre-MBA OnBoarding Program. Students are required to complete key assignments prior to Orientation to have full access to the Ziff Career Center resources.

D. ON CAMPUS INTERVIEWS/CORPORATE RECRUITING
1. The recruiting program begins in the fall semester from mid-September through mid-December and continues from mid-January through May.

2. Ziff Graduate Career Center has established recruiting relationships with many local and national companies to increase exposure for University of Miami School of Business Administration MBA graduates.

3. MBA students must utilize the Ziff Graduate Career Services Center’s Internet Employment system, www.ziffecareercenter.com to sign up for on-campus interviews, monitor corporate presentation schedules, upload résumés and cover letters, and stay abreast of job opportunities offered by companies that are recruiting on campus.
4. The Ziff Graduate Career Center regularly receives career opportunities that are made available through www.ziffecareercenter.com to students and alumni alike so they can review career opportunities listed with the center.

E. INTERNSHIPS
1. The School of Business Administration encourages students to augment their classroom experience through participation in a summer internship. Internships in the Fall and Spring semesters are also encouraged if the student can accommodate in their schedule.

2. The internship is a key positioning element for the post-MBA career. The internship search should be the student’s main focus from the start of the first year.

F. NETWORKING CONTACTS
1. ’Cane Connections is an online University of Miami database that allows students access to alumni throughout the United States about their work experiences and gather other career related information. The database is a valuable network of contacts in a variety of fields. It is accessible through www.miamialumni.net.

2. Students are invited to join the School of Business MBA groups on LinkedIn and Facebook, an easy way to reach out to more contacts and build their network.

G. STUDENT RESPONSIBILITY
1. Ultimately, success in securing a job is defined by the student. Together with the Ziff Graduate Career Center as a partner, the student can create a successful personal branding effort that will connect him/her to a network of contacts and networking opportunities leading to interviews and job offers.

2. Students are to register online with the Ziff Graduate Career Center during the Pre-MBA OnBoarding cycle. All pre-MBA assignments need to be completed prior to Orientation in order to utilize the Ziff Center services. Students who do not complete the Pre-MBA assignments will be opted out of the Center’s resources.

3. Students are to meet with a career advisor in term one to discuss their career goals and develop a personalized career action plan/personal branding effort that will lay out the strategy and timing sequence of their goals. The career action plan and strategy will be built through numerous advising appointments and workshop events.

4. Students must regularly update and revisit their résumés in an ongoing résumé review process. A new resume must be uploaded after a summer internship is completed.

5. Students will participate in mock interviews and follow through with the suggestions.

6. Students are expected to visit the Ziff Graduate Career Center regularly and access www.ziffecareercenter.com to identify and attend on-campus recruiting activities, corporate presentations, relevant workshops and MBA clubs sponsored events.
7. Students MUST complete the exit survey and report their employment information as soon as they secure a job or internship.

The Ziff Graduate Career Services Center is located in the School of Business complex on the first floor of the Jenkins Building.

THE MENTOR PROGRAM

1. The School of Business Mentor Program is designed to enhance the classroom experience by matching students with local professionals who have experience and expertise in the students’ area of career interest, or are versed in areas of professional development.

2. Through personal interaction with experienced business professionals, students gain an understanding of corporate culture, career directions, and networking. Students also have the opportunity to interact with other mentors by attending regularly scheduled roundtables, hosted by the School.

3. Graduate business students are encouraged to participate.


ACCOUNTING - Dept. Code: ACC

DEGREE PROGRAMS

The Department of Accounting offers two degree programs leading to the Master's degree:

Master of Accounting (MAcc) and Master of Science in Taxation (MST).

While the programs are similar in that they offer an opportunity to concentrate in accounting, they differ in degree of specialization and career path orientation. The MAcc offers two separate tracks in assurance and corporate accounting while the MST is designed for students interested in careers in taxation.

For admission to either program, based on an undergraduate degree from an accredited U.S. institution, we consider the applicant's undergraduate grade point average, GMAT score, grades in specific accounting courses, the rigor of the undergraduate program, and other factors such as work experience. Admission decisions are made on a competitive basis from the applicant pool. Undergraduate students from the University of Miami that have a grade point average of 3.4 or higher do not have to take the GMAT exam. In addition individuals who have demonstrated their ability to do graduate work in accounting by becoming a CPA or who have earned a graduate degree from a business school accredited by the AACSB are also waved from the requirement to take the GMAT exam.

Students without an undergraduate degree in accounting will be required to take certain prerequisite courses to secure admission. These prerequisites will depend upon the
undergraduate major and previous accounting courses taken. Necessary prerequisite accounting courses can be taken in the University of Miami’s Accounting Summer Intensive Program, which is a seven-week program beginning in early July.

Foreign students must provide evidence of proficiency in English by supplying a TOEFL score.

Additionally, foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting systems and one semester of tax at a U.S. university accredited by the AACS B before enrolling in graduate accounting courses. Alternatively, foreign students may attend the University of Miami’s Accounting Summer Intensive Program to fulfill this requirement.

SCHOLARSHIPS

University of Miami School of Business - Alumni Association Endowed Accounting Scholarships are available for students pursuing Graduate Studies in Accounting. Various other scholarships and assistantships may be available.

MASTER OF ACCOUNTING (MACC)

The MAcc program offers two tracks: Assurance (MAcc-Assurance) for students planning to go into public accounting and Corporate Accounting (MAcc-Corporate) for students planning careers as controllers, CFOs or financial analysts.

In addition to the traditional one year of full-time study beyond the Bachelor’s level, the MAcc and the MST programs are offered as accelerated programs for University of Miami undergraduates. Students in the accelerated programs have the option of obtaining an International Designation.

The MAcc is designed for the student who has taken the accounting and related courses required for an undergraduate major in accounting or other undergraduate business majors who have successfully completed the Accounting Summer Intensive Program. These students should be able to complete the MAcc in a year or less provided they enroll as full time students.

Undergraduate Course Requirements

The courses listed below are undergraduate prerequisites that, unless already completed, must be fulfilled in order to be admitted for graduate study. For most graduate tax classes the equivalent of ACC 404: Advanced Taxation (Corporate and Partnership Income Taxation) is also required. If a candidate does not have an undergraduate business degree, additional business prerequisites (economics, marketing, management, finance and others) will also be required.

Principles of Financial Accounting (ACC 211)
Managerial Accounting (ACC 212)
Intermediate Financial Accounting I and II (ACC 311 and 312)
Cost/Managerial Accounting (ACC 301)
Auditing (ACC 402)
Fundamentals of Taxation (ACC 403)
Accounting Information Systems (ACC 406)

**Master of Accounting—Assurance Track (MAcc-Assurance)**

The program requires 30 semester hours consisting of five required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution. Of the elective courses, at least four credits must be selected from electives with an accounting emphasis (refer to list below). Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to graduate students and upper-level undergraduate students. Graduate students are permitted to take up to 6 semester hours in 500-level courses. The remaining credits must all be earned in 600-level courses.

**Required courses:**
- ACC 530 International Financial Reporting Standards (1 credit)
- ACC 603 Studies in Financial Reporting Issues
- ACC 610 Accounting Research and Theory
- ACC 611 Auditing Seminar

In addition to the four courses listed above, students must select one of the following courses:
- ACC 602 Analysis of Financial Statements
- ACC 672 Advanced Financial Analysis

Students must also take at least two credits from the following accounting courses:
- ACC 522 Advanced Issues in Auditing
- ACC 524 Accounting for Governmental and Not-for-Profit Entities
- ACC 620 Accounting Controls in Information Technology
- ACC 623 International Accounting and Taxation
- ACC 648 Financial Reporting of Income Taxes
- ACC 675 Compensation, Incentives and Strategic Control
- ACC 677 Forensic Accounting and Fraud Investigations

Students may select their other electives from the remaining courses above or the following courses:

**Recommended elective courses:**
- BUS 602 Critical Thinking and Effective Writing (1 credit)
- BUS 603 Critical Thinking and Effective Presentations (1 credit)

**Other elective courses:**
- ACC 640 Corporate Taxation I
- ACC 641 Corporate Taxation II
- ACC 642 Seminar in Taxation
- ACC 643 Tax Research
- ACC 645 Partnership Taxation
- ACC 647 Estate and Gift Taxes
- ACC 649 Issues in Tax Policy
- ACC 662 Taxation of Multinational Corporations
- ACC 677 Forensic Accounting and Fraud Investigations
- BSL 691 The Public Corporation
Any other electives must be selected in consultation with the Program Director.

**Master of Accounting—Corporate Accounting Track (MAcc-Corporate)**

The program requires 30 semester hours consisting of five required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution. Of the elective courses, at least two credits must be selected from electives with an accounting/finance emphasis (refer to list below). Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to graduate students and upper-level undergraduate students. Graduate students are permitted to take up to 6 semester hours in 500-level courses. The remaining credits must all be earned in 600-level courses.

**Required courses:**
ACC 530  International Financial Reporting Standards (1 credit)
ACC 603  Studies in Financial Reporting Issues
ACC 675  Compensation, Incentives and Strategic Control
FIN 670  Corporate Finance

In addition to the four courses listed above, students must select one of the following two courses:
ACC 602  Analysis of Financial Statements
ACC 672  Advanced Financial Analysis

a Students must also take at least one course from the following accounting or finance courses:
ACC 610  Accounting Research and Theory
ACC 677  Forensic Accounting and Fraud Investigations
FIN 650  Financial Investment
FIN 651  Advanced Topics in Investments
FIN 660  International Finance
FIN 671  Advanced Topics in Corporate Finance
FIN 685  Mathematics of Financial Derivatives

Students may select their other electives from the remaining courses above or the following courses:

**Recommended elective courses:**
BUS 602  Critical Thinking and Effective Writing (1 credit)
BUS 603  Critical Thinking and Effective Presentations (1 credit)

**Other elective courses:**
ACC 522  Advanced Issues in Auditing
ACC 524  Accounting for Governmental and Not-for-Profit Entities
ACC 601  Trends in Present Day Accounting
ACC 606  Internal Auditing
ACC 611  Auditing Seminar
ACC 620  Accounting Controls in Information Technology
ACC 623  International Accounting and Taxation
ACC 640  Corporate Tax I
ACC 641  Corporate Tax II
ACC 642  Seminar in Taxation
ACC 643  Tax Research
ACC 647  Estate and Gift Taxes
ACC 648  Financial Reporting of Income Taxes
ACC 649  Issues in Tax Policy
ACC 662  Taxation of Multinational Corporations
BSL 691  The Public Corporation

Any other electives must be selected in consultation with the Program Director.

MASTER OF SCIENCE IN TAXATION (MST)

This program affords the accounting major or equivalent the opportunity to specialize in the area of taxation. Through electives, students are able to expand their areas of expertise, so that they may adequately prepare themselves for careers requiring a high degree of specialized tax knowledge in public accounting, private industry, and government. The program requires 30 semester hours consisting of six required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution and has completed ACC403: Fundamentals of Taxation and ACC404: Advanced Taxation, or their equivalents. Of the elective courses, at least two courses must be selected from electives with a tax emphasis (refer to list below). Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to graduate students and upper-level undergraduate students. Graduate students are permitted to take up to 6 semester hours in 500-level courses. The remaining credits must all be earned in 600-level courses.

Required courses:
ACC 640  Corporate Taxation I
ACC 641  Corporate Taxation II
ACC 643  Tax Research
ACC 645  Partnership Taxation
ACC 648  Financial Reporting of Income Taxes

In addition to the five courses listed above, students must select at least one of the following courses:
ACC 623  International Accounting and Taxation
ACC 649  Issues in Tax Policy
ACC 662  Taxation of Multinational Corporations

Students may select their other electives from the remaining courses above or the following courses:

Recommended elective courses:
BUS 602  Critical Thinking and Effective Writing (1 credit)
BUS 603  Critical Thinking and Effective Presentations (1 credit)

Other elective courses:
ACC 522  Advanced Issues in Auditing
ACC 524  Accounting for Governmental and Not-for-Profit Entities
ACC 530  International Financial Reporting Standards (1 credit)
ACC 601  Trends in Present Day Accounting
ACC 602  Analysis of Financial Statements*
ACC 603  Studies in Financial Reporting Issues
ACC 606  Internal Auditing  
ACC 610  Accounting Research and Theory  
ACC 611  Auditing Seminar  
ACC 620  Accounting Controls in Information Technology  
ACC 642  Seminar in Taxation  
ACC 647  Estate and Gift Taxes  
ACC 672  Advanced Financial Analysis and Valuation**  
ACC 675  Compensation, Incentives and Strategic Control  
ACC 677  Forensic Accounting and Fraud Investigations  
BSL 691  The Public Corporation  

*Not open to students who have taken ACC 672  
**Not open to students who have taken ACC 602  
Any other electives must be selected in consultation with the Program Director.

ACCELERATED MASTER’S PROGRAMS

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) on the usual time frame involving one year of full-time study beyond the Bachelor’s level, the MAcc-Assurance Track, MAcc-Corporate Track, and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while seniors. The accelerated programs are available only to students who are undergraduate students at the University of Miami. The programs are designed in such a way that students can expect to complete both their Bachelor’s and Master’s degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

1. Internship in summer after junior year
2. Twelve credits of work in senior year will count towards their graduate degree (only students in the accelerated programs will be permitted to take these classes during their senior year).
3. In summer after senior year take one graduate course, CPA review course, and CPA exam.
4. Complete remaining credits of graduate work in fall semester after senior year.

Prerequisites

The following must be completed before students begin their senior year:

- A minimum of 102 credit hours
- 15 credit hours of the 21-hour Professional Business Core including CIS 410, ECO 302, FIN 302, MGT 303, and MGT 304. (MGT 401 must be taken in the final semester and FIN 303 will be taken as the core elective in the senior year.)
- The following Accounting major requirements: ACC 301, ACC 311, ACC 312, ACC 402, ACC 403, and BSL 301.
- All other requirements for a Bachelor’s degree other than those that will be satisfied through completion of the undergraduate courses taken while in senior-graduate status.
Senior Year Curriculum (Senior-Graduate Status)

The curriculum for the senior year is the same for all tracks (except that students selecting the MAcc-Corporate track must complete FIN 303 in order to take the graduate finance courses required for the track) and consists of 14 credits in the fall and 16 credits in the spring semester as follows:

Fall Semester Senior Year

Recommended Sequence:
ACC 404 Advanced Taxation (3 credits)
ACC 406 Accounting Systems (3 credits)
FIN 303 Intermediate Financial Management (3 credits)

Courses offered only in the fall:
ACC 524 Accounting for Governmental and Not-for-profit Entities (2 credits)
ACC 530 International Financial Reporting Standards (1 credit)
BSL 691 The Public Corporation (2 credits)

Spring Semester Senior Year

Recommended Sequence:
ACC 411 Advanced Accounting (3 credits)
MGT 401 Strategic Management (3 credits)
One other non-accounting undergraduate course (3 credits)

Courses offered only in the spring:
ACC 643 Tax Research (2 credits)
ACC 522 Advanced Issues in Auditing (3 credits)
BUS 602 Critical Thinking and Effective Writing (1 credit)
BUS 603 Critical Thinking and Effective Presentations (1 credit)
Students should select their track (MAcc-Assurance, MAcc-Corporate, or MST) by the spring semester of their senior year before registering for their final fall graduate classes.

Summer after Senior Year

Students must take one 2 or 3-credit accounting graduate course. Accounting courses are offered based on demand and could include ACC 620, Accounting Controls in IT (offered every summer) or ACC 649, Issues in Tax Policy.

To graduate on time you are REQUIRED to take an approved CPA review course during the summer following your senior year after you graduate. If you do not take a CPA review course you will have to register and pay for an addition six graduate credits in the next spring semester and you will graduate from graduate school a semester late, in May instead of December.

Students would also be expected to pass part, if not all of the CPA exam during this summer.

Final Fall Semester
In the final fall semester students will complete the remaining 15 or 16 graduate credits including the requirements for their track and electives selected in consultation with the Program Director.

**Admission to the Accelerated Programs**

**Incoming Freshmen**
- Prospective students apply to the accelerated program when they apply for admission to the University of Miami.
- SAT scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have an overall and accounting GPA of 3.0 or higher by their junior year in college and to maintain this GPA after their junior year.
- Students will need to have completed 102 credit hours by the start of their senior year.

**Current University of Miami Undergraduate Accounting Majors**
- Students apply to the accelerated program by September 30 of their junior year.
- Admission to the program will be primarily based on GPA, and letters of recommendation. It is expected that the students admitted to the program will have GPAs exceeding 3.5, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the application pool.
- After admission, students must maintain an overall GPA of 3.0 or higher and an accounting GPA of 3.0 or higher to remain eligible.
- Students will need to have completed 102 credit hours by the start of their senior year including ACC 301, ACC 311, ACC 312, ACC 402, ACC 403, and BSL 301.

**International Designation Requirements**

Admission to this accelerated program is expected to be more competitive given the small number of international internships that will be available.

**Incoming Freshman Admission Requirements**

Applicants must meet the freshman admission requirements of the accelerated program as well as:
- Maintain an overall GPA of 3.00 or higher and an accounting GPA of 3.25 or higher and
- Demonstrate proficiency in a second language.

**Current University of Miami Undergraduate Accounting Major Admission Requirements**

Applicants must meet accelerated program admission requirements:
- Applicants must meet accelerated program admission requirements;
- Have an overall and accounting GPA of 3.5 or higher, and
- Demonstrate proficiency in a second language.

**Educational Requirements to Sit for The CPA Exam**

Most of our students intend to become qualified as Certified Public Accountants (CPA). While the CPA exam is a national exam administered by the American Institute of Certified Public Accountants, its execution and licensing practices are governed by state law. For example, some states require a certain number of credit hours in particular subjects and have overall
accounting and business credit hour requirements. As such, you should check with the state in which you intend to practice to determine what the specific course requirements are for that state. Note, our department is unable to make a determination of your eligibility to sit for the CPA exam. This can only be done by the appropriate state board. The licensure requirements for the State of Florida can be viewed at: http://www.myfloridalicense.com/dbpr/cpa/licensure.html

For your convenience, the Florida rules that apply to most individuals are summarized here. Please check the State of Florida Web site noted above for updates and rules which may apply in particular circumstances.

As of July 1, 2008 the Florida State Board of Accountancy (BOA) separated the requirements to become a Certified Public Accountant (CPA) into two parts: (1) the requirements to be eligible to take the CPA exam and (2) the requirements for licensure to practice as a CPA in Florida.

**Requirements to Sit for the CPA Exam:** To be eligible to take the CPA exam, you must have completed 120 semester hours including 24 semester hours of accounting (auditing, cost and managerial accounting, financial accounting, accounting information systems, and taxation) at the upper division level (300-level or above) and 24 semester hours in general business courses (including at least 6 semester hours of business law courses). One course can be at a lower level (freshman or sophomore), the other course must be upper division (junior level or higher). The exam is offered in the following time periods; January – February, April – May, July – August and October – November. Note you do not have to have a bachelor’s degree in order to sit for the CPA exam.

**Requirements for Licensure:** In addition to passing all four parts of the CPA exam with at least a 75% within 18 month rolling period, the BOA requires that you have completed a bachelor’s degree plus an additional 30 hours for a total of 150 semester hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. (This experience may be obtained before or after sitting for the exam, however, all requirements to sit for the exam must be met before the work experience commences.) If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 semester hours must include a minimum of 36 semester hours of accounting courses and at least 39 semester hours of general business courses. Excess upper division accounting courses may be used to meet the general business requirement. Courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

**Licensed in Another State:** If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition if you passed the exam more than two years before applying you must provide evidence of meeting continuing professional education requirements.

**Accreditation**

The Board accepts degrees from schools accredited by the following associations: Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools
and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above mentioned means, then you must use the provisions of F.A.C. 61H1-27.001 (5) (see below).

**Applicants Who Have Graduated from Non-Accredited Schools (61H1-27.001) (5)**

Applicants who have graduated from a non-accredited school may still qualify to sit for the CPA examination. The candidate must take 15 semester hours of graduate classes. Those must consist of at least nine hours of graduate level accounting courses including a minimum of three semester hours of graduate tax. THESE HOURS MUST BE TAKEN AFTER ADMISSION TO GRADUATE SCHOOL. If the courses are taken before admission to a graduate program, the classes will not be accepted, even if the school includes them as part of the graduate program. These courses cannot duplicate other courses which the applicant has taken and they cannot be used to accredit the non-accredited degree and satisfy the educational requirements. The applicant must complete the graduate school courses to validate the non-accredited degree. The applicant must also meet all other requirements for endorsement or transfer of credit. An evaluation of foreign transcripts must be completed by an evaluation service which has been approved by the Board (see Board Approval Evaluation Services).

**Duplicate Courses**

No credit will be given for courses which duplicate another course for which the applicant has received credit. Review courses are considered as duplicates.

For the CPA requirements in other states, you should consult the State Board of Accountancy for your state.

[Accounting Course Listing](#)
BUSINESS LAW - Dept. Code: BSL

The Department of Business Law does not offer a graduate degree program.

Business Law Course Listing

COMPUTER INFORMATION SYSTEMS - Dept. Code: CIS

MASTER OF SCIENCE IN COMPUTER INFORMATION SYSTEMS (CIS)

The CIS department is not admitting students into the Master of Science degree program at this time. Anyone who is interested in the Information Systems / Information Technology area, within the School of Business, could pursue an MBA degree with a concentration in CIS.

Computer Information Systems Course Listing
ECONOMICS - Dept. Code: ECO

DEGREE PROGRAMS

The Department of Economics offers the Master of Arts and Doctor of Philosophy (refer to School of Business Doctor of Philosophy section for program specifics) degrees. Applicants for admission to graduate study in Economics should have an extensive background in Economic Theory and Quantitative methods.

The Master of Arts program may serve as a terminal degree for students preparing for careers in business, government, international agencies, or teaching, or as the first phase of a prospective doctoral program. The program of study, which consists of thirty credits, is structured as follows:

a. All Master of Arts students must take the following core that consists of the following courses:
   i. a 500-level mathematical economics course (ECO 510)
   ii. a 500-level econometrics course (ECO 520)
   iii. a 500-level macroeconomics course (ECO 521)
   iv. a 500-level microeconomics course (ECO 533)
   v. a 600-level macroeconomics course (ECO 621)
   vi. a 600-level microeconomics course (ECO 633)
   vii. a 500 level mathematics course (MTH 512)
   viii. 600 level econometrics (ECO 620)

b. Additional requirements are as follows:
   i. two courses in an area of specialization in a major economic discipline (e.g., international trade) or two related disciplines (e.g., health economics and labor economics)
   ii. comprehensive examinations over the core and area of specialization

c. Furthermore, all applicants must submit their scores on the GRE, hold a baccalaureate degree from an institution of recognized standing, and have demonstrated, by their undergraduate record, capability of completing an M.A. program. In addition, foreign students are required to score 90 on the internet based, 600 on the paper based, or 235 computer based Test of English as a Foreign Language.

Economics Course Listing
FINANCE - Dept. Code:  FIN
The Department of Finance does not offer a graduate degree program.

Finance Course Listing

GRADUATE BUSINESS PROGRAMS – Dept. Code :  BUS

Executive and Special Programs Course Listing

MANAGEMENT - Dept. Code:  MGT
The Department of Management does not offer a graduate degree program.

Management Course Listing

MANAGEMENT SCIENCE - Dept. Code:  MAS
The Management Science Department is not admitting students into the Master of Science degree program at this time. Students interested in Management Science, Operations Research, or Applied Statistics within the School of Business are encouraged to pursue an MBA degree with a concentration in Management Science.

Management Science Course Listing

MARKETING - Dept. Code:  MKT
The department of Marketing does not offer a graduate degree program.

Marketing Course Listing
SCHOOL OF COMMUNICATION – GRADUATE
www.com.miami.edu

DEPARTMENTS

The School of Communication offers the Master of Arts in the Department of Communication Studies (MA in Communication Studies), the Department of Journalism and Media Management (MA in Journalism), and the Department of Strategic Communication (MA in Public Relations), and the Master of Fine Arts in the Department of Cinema and Interactive Media (MFA in Motion Pictures and MFA in Interactive Media). The School also offers a Ph.D. in Communication.

ADMISSION REQUIREMENTS

Admission to Graduate Studies at the Master’s Level:

Requirements for admission to Graduate Studies for the Master of Arts or Master of Fine Arts degree in Communication are:

- A baccalaureate degree from an accredited institution
- The School’s official application
- A $65.00 non-refundable application fee
- Official transcripts of all undergraduate and graduate college work
- Three letters of recommendation
- Official TOEFL scores (International applicants only)
- Official Graduate Record Examination (GRE) scores (MA applicants only)
- Portfolio (Cinema MFA applicants only)
- GRE or Portfolio (Interactive Media MFA applicants only)
- Letter of intent - 500 word typed statement of academic and professional goals

Contact the Office of Graduate Studies, 305-284-5236 or socgrad@miami.edu, for information.

Admission to Graduate Studies for the Juris Doctor/Master of Arts in Communication joint degree:

Requirements for admission to Graduate Studies for Juris Doctor/Master of Arts in Communication joint degree are:

- Students must be admitted to the Law School first, prior to enrollment in the School of Communication, checking a box on their application indicating their interest in the joint degree program. Once accepted to the Law School, the student’s law school application including LSAT score, undergraduate transcript, and letters of recommendation (two of them required for the JD program) will be sent to the School of Communication for review. The student will then receive notification from the School of Communication regarding his/her admission to the joint degree program.
- The LSAT score may be submitted in lieu of the GRE score.

General notes
• Students will be admitted to the Law School JD program and the School of Communication (SoC) master’s program separately.
• Students in this joint degree program must commence law study first.
• Students who have already commenced work on the MA are not eligible for the joint program.

Admission to Graduate Studies at the Doctoral Level:

Requirements for admission to Graduate Studies for the Doctor of Philosophy in Communication are:

• A master’s degree in communication or another appropriate field. The degree must be in addition to a bachelor’s degree. All degrees must be from accredited institutions.
• The School’s official application
• A $65.00 non-refundable application fee
• Official transcripts of all undergraduate and graduate college work
• Three letters of recommendation
• Official TOEFL scores (international applicants only)
• Official Graduate Record Examination (GRE) scores
• Resume
• Letter of intent – a 500-word (at minimum) typed statement of the research area you want to pursue and why, what in your background has prepared you for this, and the faculty members in the School who work in your area of interest.
• A copy of the completed master’s thesis. If the master’s thesis is in progress, submit completed chapters. If a thesis is not required by your master’s program, submit comparable scholarly work.

DEGREE PROGRAMS

The School of Communication offers graduate programs leading to the Master of Arts and Master of Fine Arts, and Doctor of Philosophy degrees.

COMMUNICATION STUDIES (M.A.) is a program designed to provide students with a rigorous educational experience, to develop an advanced understanding of the human communication process, to increase awareness of the interdisciplinary nature of the communication field, and to develop oral, written, critical thinking, and research skills. The 30-credit thesis track program emphasizes the student’s development of research skills. The 36-credit non-thesis track program focuses on a theoretical foundation with emphasis on applied communication. Students have the option to concentrate in Communication Studies, Health Communication, or Intercultural Communication.

JOURNALISM (M.A.) is an intensive program of academic study and hands-on practice designed to develop competitive, high-level, cross-platform digital media skills appropriate for today’s media landscape. Students take a common core of courses designed to provide a foundation in all aspects of contemporary journalism (e.g., writing, reporting, multimedia, data visualization, broadcasting, media law and ethics). In addition, students have the opportunity to focus their work in various areas of study, including broadcast journalism, news and feature writing and various aspects of multimedia journalism. Through a combination of journalism courses and related courses offered by other programs, students may also concentrate some of their work in particular areas of interest (e.g., sports reporting, journalism for social change or
international journalism). The program begins in the fall semester and lasts for 18 months. No prior training or experience in journalism is required.

PUBLIC RELATIONS (M.A.) offers two tracks. The 30-credit thesis track program provides an opportunity to supplement a working foundation and knowledge with pertinent theory and research methodologies. A second 36-credit, coursework-only non-thesis track program builds from a foundation of public relations and communication courses.

JOINT DEGREE JURIS DOCTOR (J.D.)/M.A. IN COMMUNICATION. A powerful background in law and in communication can be a launching pad for a career in law, business, entertainment or government. For this reason, the University of Miami School of Law and School of Communication have brought together these two dynamic fields to offer a joint degree program. Through this joint program, students can acquire a law degree and a master’s degree in communication in less time (3 to 3½ years). The joint degree program is intended for students with a variety of goals including students who plan to practice professionally in a communication field such as journalism or strategic communication with a law-related emphasis. Graduates of these programs may also work as in-house counsel for new communication technology companies, or serve with government agencies concerned with communication law or with law firms practicing in that field. This program also provides a solid foundation for future journalists who wish to report on legal affairs, and offers ideal preparation for the rapidly growing field of public affairs management, in which practitioners work in business, government and non-profits to communicate with key audiences.

The School of Communication M.A. degree programs participating in the joint J.D. program are:

- Communication Studies (Communication Studies, Health Communication, Intercultural Communication)
- Public Relations
- Journalism

MOTION PICTURES (M.F.A.) The Motion Picture graduate program provides a student-centered, learning experience within a globally diverse moving image context. The M.F.A. curriculum emphasizes the relationship between theory and practice and encourages both creative collaboration and independent thinking as it prepares motion picture professionals and artists. M.F.A. candidates are expected to follow a set sequence of courses during the first two semesters of their studies. During the second year of studies, candidates are strongly encouraged to explore not only a primary but also a secondary area of specialization in the program and develop a minimum of two creative projects consistent with their areas of primary interest and secondary specialization. A minimum of six credit hours in each area of specialization is required. Under faculty committee supervision, students will develop one or two creative projects in the third year of their studies. This three-year program culminates with a thesis portfolio that demonstrates, not only skillful execution of craft, but strong conceptual development rooted in collaborative work and innovative uses of technology. Graduate students are encouraged to pursue independent and critical thinking, research and creative work as appropriate to the fulfillment of the requirements of their degree. In addition, the graduate program seeks to support innovative approaches and ideas and to aid in the pursuit of relevant scholarly and creative endeavors.
INTERACTIVE MEDIA (M.F.A.) The Interactive Media graduate program aims to prepare a new generation of innovators and leaders in the field of interaction design. The M.F.A curriculum emphasizes exploration of the use of technology, design, and human behavior, to impact, augment, and influence how people communicate. The multidisciplinary curriculum brings together students from different backgrounds to learn about gaming, mobile, data visualization, interaction design, and other emerging technologies. The program trains students to research, prototype, design, and build projects in business, social, academic, and cultural contexts.

COMMUNICATION (Ph.D.) is a recently reconceptualized innovative program. Faculty assist students in developing the requisite theoretical and research foundations, field research experience, and the teaching, writing, and media skills necessary for a career in education, media, business, industry, research institutions, and government or non-government (i.e., non-profit) organizations.

Research interests of the School of Communication faculty are diverse. Possible areas of specialization for doctoral work include health communication (broadly defined), intercultural communication, organizational communication, international communication, public relations, and journalism studies and accompanying new/digital media foundations and skills.

DEGREE REQUIREMENTS

DEPARTMENT OF COMMUNICATION STUDIES

COMMUNICATION STUDIES (M.A.)

Two programs are offered in Communication Studies. The thesis program emphasizes the student’s development of research skills under faculty supervision (30 credits). The non-thesis program focuses on a theoretical foundation with emphasis on applied communication (36 credits). Students will be prepared for leadership positions in public or private organizations at the national or international level, or pursue advanced degrees.

Thesis students must complete a minimum of 30 credit hours at the graduate level with the approval of a faculty advisor or department chair. Of the 30 credits, 15 credit hours must be at or above the 600-level. Non-thesis students must complete a minimum of 36 credit hours at the graduate level with the approval of a faculty advisor or department chair. Of the 36 credits, 18 credit hours must be at or above the 600-level. Communication Studies students must maintain an overall minimum GPA of 3.0 for all courses. Core courses must be completed during the first year of study, or by completion of 18 credits. No more than six hours will be allowed for advanced projects and directed research. Only one intersession course (3 credits) can be counted towards the degree.

Communication Studies Track

The goals of the Master of Arts program in Communication Studies are to provide students with a rigorous educational experience, to develop an advanced understanding of the human communication process, to increase awareness of the interdisciplinary nature of the communication field, and to develop oral, written, critical thinking, and research skills. Students may complete coursework in persuasion, and interpersonal, intercultural, organizational, and health communication together with research methods applicable to these areas.
REQUIRED COMMUNICATION CORE: (Thesis/Non-Thesis Programs) 9 CREDITS

COM 601  Theories of Communication (3)
COM 602  Methods of Communication Research (3)
COM 603  Qualitative Research Methodologies (3)

ELECTIVES:  

(Thesis Program) 15 CREDITS
(Non-Thesis Program) 27 CREDITS

Students may select elective courses within the School of Communication or the University; a maximum of six (6) credits thesis track and nine (9) credits non-thesis track may come from outside the School of Communication.

Recommended electives are:

COM 615  Social Effects of Mass Communication (3)
COM 672  Seminar in Persuasive Communication (3)
COS 545  Intercultural Communication: International Perspectives (3)
COS 546  Intercultural Communication: Domestic Perspectives (3)
COS 560  The Executive Communicator (3)
COS 591  Advanced Special Topics in Communication Studies (3)
COS 599  Advanced Projects and Directed Research (3)
COS 674  Seminar in Interpersonal Communication (3)
COS 682  Seminar in Organizational Communication (3)
COS 684  Organizational Communication Audit Procedures (3)
COS 690  Communication Studies Practicum (1-3)

THESIS COM 710  Master’s Thesis  (Thesis Program) 6 CREDITS
TOTAL CREDITS (Thesis Program) = 30 CREDITS
TOTAL CREDITS (Non-Thesis Program) = 36 CREDITS

Health Communication Track

Health Communication is an emerging specialty in the field of communication. This graduate program is designed to provide a broad introduction to human communication in a health-care context. Career opportunities in this area include public health leaders, practitioners, and researchers who design, evaluate, and disseminate health communication messages for private and governmental organizations, advertising, public relations and marketing agencies, and journalists. Students will explore the roles of patients and caregivers, social and cultural issues, communication in health organizations, and the role of mass media. Two programs are offered. The thesis track program emphasizes the student’s development of research skills under faculty supervision (30 credits). The non-thesis track program emphasizes a theoretical foundation based on application of communication courses (36 credits).

REQUIRED COMMUNICATION CORE: (Thesis/Non-Thesis Programs) 9 CREDITS

COM 601  Theories of Communication (3)
COM 602  Methods of Communication Research (3)
COM 603  Qualitative Research Methodologies (3)

ELECTIVES:  

(Thesis Program) 15 CREDITS
(Non-Thesis Program)  27 CREDITS

Students may select elective courses within the School of Communication or the University; a maximum of six (6) credits thesis track and nine (9) credits non-thesis track may come from outside the School of Communication.

Recommended electives are:

COS 545  Intercultural Communication: International Perspectives (3)
COS 546  Intercultural Communication: Domestic Perspectives (3)
COS 591  Advanced Special Topics in Communication Studies: Seminar in Health Communication (3)
COS 599  Advanced Projects and Directed Research (3)
COS 674  Seminar in Interpersonal Communication (3)
COS 682  Seminar in Organizational Communication (3)
COS 690  Communication Studies Practicum (1-3)
COM 609  Special Topics (Social Change Communication Theory) (3)
COM 672  Seminar in Persuasive Communication (3)
HST 536  U.S. Health Care Crisis: Politics and Policies (3)
INS 570  Globalization and Health (3)
INS 670  Advanced Seminar in International Health (3)
NUR 550  Sociopolitical Dynamics of Health Issues (3)
SOC 632  Social Psychology of Health and Illness (3)
SOC 635  Medical Sociology: Issues in Research and Theory (3)
SOC 691  Special Topics and Current Issues in Medical Sociology (3)

THESIS COM 710  Master’s Thesis (Thesis Program)  6 CREDITS
TOTAL CREDITS (Thesis Program) = 30 CREDITS
TOTAL CREDITS (Non-Thesis Program) = 36 CREDITS

Intercultural Communication Track

The Intercultural Communication Track is designed to provide students with an understanding of the way communication functions in intercultural settings, how culture affects the communication process, and the reciprocal effects of intercultural perceptions on policy in the history of Eastern-Western relations. Career opportunities in this field include corporate diversity trainer, communication director, human resource manager, international service representative, negotiator, and foreign correspondent with government and business organizations. Two programs are offered. The thesis track program emphasizes the student’s development of research skills under faculty supervision (30 credits). The non-thesis track program emphasizes a theoretical foundation based on application of communication courses (36 credits).

REQUIRED COMMUNICATION CORE: (Thesis/Non-Thesis Programs)  9 CREDITS

COM 601  Theories of Communication (3)
COM 602  Methods of Communication Research (3)
COM 603  Qualitative Research Methodologies (3)

ELECTIVES: (Thesis Program)  15 CREDITS
(Non-Thesis Program)  27 CREDITS
Students may select elective courses within the School of Communication or the University; a maximum of six (6) credits thesis track and nine (9) credits non-thesis track may come from outside the School of Communication.

Recommended electives are:

- COS 545 Intercultural Communication: International Perspectives (3)
- COS 546 Intercultural Communication: Domestic Perspectives (3)
- COS 599 Advanced Projects and Directed Research (3)
- COS 674 Seminar in Interpersonal Communication (3)
- COS 682 Seminar in Organizational Communication (3)
- COS 690 Communication Studies Practicum (1-3)
- COM 609 Special Topics (Social Change Communication Theory) (3)
- COM 672 Seminar in Persuasive Communication (3)
- CNJ 510 Comparative Media Systems
- INS 513 Information and Communication in International Relations (3)

**THESIS COM 710**  Master’s Thesis (Thesis Program)  6 CREDITS

**TOTAL CREDITS** (Thesis Program)  = 30 CREDITS

**THESIS COM 710**  Master’s Thesis (Non-Thesis Program)  6 CREDITS

**TOTAL CREDITS** (Non-Thesis Program)  = 36 CREDITS

**DEPARTMENT OF JOURNALISM AND MEDIA MANAGEMENT**

**JOURNALISM (M.A.)**

The Journalism M.A. program is designed to prepare students for professional participation in a number of digital and multimedia news environments, including television, online, mobile, magazine, and newspaper. Coursework stresses journalistic values, critical thinking, and storytelling, combined with the digital and technical skills to create content in the context of today’s dynamic and evolving media landscape. In consultation with faculty advisors, students are strongly encouraged to develop areas of special interest, and are required to complete an individually produced, in-depth Qualifying Project.

Journalism M.A. students must complete a minimum of 36 credit hours at the graduate level with the approval of the Chair of the Department of Journalism and Media Management. Of the 36 credit hours, all must be at or above the 500 level, and 15 must be at or above the 600 level. Students with strong prior experience in a particular area may request a written waiver of a required course from the department chair, upon the demonstration of sufficient expertise in that subject.

**REQUIRED COMMUNICATION AND JOURNALISM CORE (All tracks):**  18 CREDITS

- COM 605 Theories and Methods for Mass Communication Research (3)
- CNJ 614 Media Law and Ethics Seminar (3)
- CNJ 537 The Business of Modern Journalism (3)
- CEM 606 Writing and Reporting Across Platforms (3)
- CVJ 521 Seminar in Visual Storytelling (3)
- CVJ 522 Infographics and Data Visualization (3)

**ELECTIVES:**  15 CREDITS

Students must complete five additional elective courses, chosen with the approval of a faculty advisor. These courses may come from either within or outside of the School of
Communication. It is highly recommended that students consider pursuing a professional internship for one of these electives. Elective options include (but are not limited to):

CEM 517 Television News Reporting (3)  
CEM 527 Television Newscast (3)  
CEM 630 Topics in Electronic Communication (3)  
CEM 725 Journalism Internship (3)  
CMP 540 Programming for Designers (3)  
CNJ 510 Comparative Media Systems (3)  
CNJ 511 Global Media (3)  
CNJ 513 Computer-Assisted Reporting (3)  
CNJ 515 Reporting and the Internet (3)  
CNJ 523 Sports Reporting (3)  
CNJ 544 Feature Writing (3)  
CNJ 599 Advanced Projects and Directed Research (3)  
CNJ 609 Internship in Journalism and Media Management (3)  
CVJ 531 Database Journalism (3)  
CVJ 550 3D Design and Graphics (3)  
CVJ 541 Advanced Audio Video Narratives (3)  
CVJ 551 Advanced Programming (3)  
CVJ 519 Interactive Storytelling (3)  

FINAL QUALIFYING PROJECT: 3 CREDITS

Students, in consultation with a faculty committee of their choosing, will complete a final reporting project that reflects in-depth knowledge and analysis of a subject and professional competence in reporting and presenting it for the appropriate medium.

TOTAL CREDITS = 36 CREDITS

DEPARTMENT OF STRATEGIC COMMUNICATION

PUBLIC RELATIONS (M.A.)

Public Relations – Thesis Track

This program includes a thesis. Students must complete a minimum of 30 credit hours at the graduate level with the approval of a faculty advisor. Of the 30 credit hours, 15 credit hours must be at or above the 600 level. No more than six hours will be allowed for advanced projects and directed research (599). Six credit hours will be earned for thesis work. Public Relations students must receive a “B” or higher in core courses (COM 601, CPR 620, CPR 621, COM 602 OR COM 603).

REQUIRED COMMUNICATION AND PUBLIC RELATIONS CORE: 12 CREDITS

COM 601 Theories of Communication (3)  
CPR 620 Public Relations Fundamentals (3)  
CPR 621 Writing for Public Relations (3)  

Select one of the following courses:

COM 602 Methods of Communication Research (3) or
COM 603 Qualitative Research Methodologies (3)

**PUBLIC RELATIONS ELECTIVES:**  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CPR 501</td>
<td>Crisis Communication and Management</td>
<td>3</td>
</tr>
<tr>
<td>CPR 517</td>
<td>Media Relations</td>
<td>3</td>
</tr>
<tr>
<td>CPR 533</td>
<td>Sports Publicity, &amp; Promotions</td>
<td>3</td>
</tr>
<tr>
<td>CPR 546</td>
<td>Religion, Culture, &amp; Communication</td>
<td>3</td>
</tr>
<tr>
<td>CPR 581</td>
<td>Public Relations Experience Program (PREP)</td>
<td>3</td>
</tr>
<tr>
<td>CPR 582</td>
<td>International Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>CPR 584</td>
<td>Public Relations Management</td>
<td>3</td>
</tr>
<tr>
<td>CPR 622</td>
<td>Design Tactics for Public Relations</td>
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</tr>
<tr>
<td>CPR 625</td>
<td>Cases in Public Relations Administration</td>
<td>3</td>
</tr>
<tr>
<td>CPR 629</td>
<td>Special Topics Seminar in Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>CPR 632</td>
<td>Seminar in Public Relations and Political Campaigns</td>
<td>3</td>
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<tr>
<td>CPR 634</td>
<td>Non-Profit and Public Information Campaigns</td>
<td>3</td>
</tr>
<tr>
<td>CPR 635</td>
<td>Seminar in Public Relations Measurement</td>
<td>3</td>
</tr>
<tr>
<td>CPR 644</td>
<td>Seminar in Public Relations Ethics</td>
<td>3</td>
</tr>
<tr>
<td>CPR 650</td>
<td>Strategic Communication in Health Care</td>
<td>3</td>
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<tr>
<td>CPR 660</td>
<td>Corporate Communication and Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>COM 615</td>
<td>Social Effects of Mass Communication</td>
<td>3</td>
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<tr>
<td>CPR 690</td>
<td>Public Relations Practicum I</td>
<td>3</td>
</tr>
</tbody>
</table>

No comprehensive examinations are required for this degree.

**THESIS COM 710 Master’s Thesis (Thesis Program) 6 CREDITS**

**TOTAL CREDITS (Thesis Program) = 30 CREDITS**

**Public Relations – Professional (Non-thesis) Track**

Students who elect the professional, non-thesis track must complete a minimum of 36 credit hours at the graduate level with the approval of the faculty advisor. Public Relations students must receive a “B” or higher in core courses (COM 601, CPR 620, CPR 621, CPR 622, COM 602 OR COM 603). Of the 36 credit hours, 18 must be at or above the 600 level.

**REQUIRED COMMUNICATION AND PUBLIC RELATIONS CORE:**  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 601</td>
<td>Theories of Communication</td>
<td>3</td>
</tr>
<tr>
<td>CPR 620</td>
<td>Public Relations Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CPR 621</td>
<td>Writing for Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>CPR 622</td>
<td>Design Tactics for Public Relations</td>
<td>3</td>
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</table>

Select one of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 602</td>
<td>Methods of Communication Research</td>
<td></td>
</tr>
<tr>
<td>COM 603</td>
<td>Qualitative Research Methodologies</td>
<td>3</td>
</tr>
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</table>

**PUBLIC RELATIONS ELECTIVES (Choose 5):**  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPR 501</td>
<td>Crisis Communication and Management</td>
<td>3</td>
</tr>
<tr>
<td>CPR 517</td>
<td>Media Relations</td>
<td>3</td>
</tr>
<tr>
<td>CPR 533</td>
<td>Sports Publicity, &amp; Promotions</td>
<td>3</td>
</tr>
<tr>
<td>CPR 546</td>
<td>Religion, Culture, &amp; Communication</td>
<td>3</td>
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</tbody>
</table>

591
CPR 581 Public Relations Experience Program (PREP) (3)
CPR 582 International Public Relations (3)
CPR 584 Public Relations Management (3)
CPR 625 Cases in Public Relations Administration (3)
CPR 629 Special Topics Seminar in Public Relations (3)
CPR 632 Seminar in Public Relations and Political Campaigns (3)
CPR 634 Non-Profit and Public Information Campaigns (3)
CPR 635 Seminar in Public Relations Measurement (3)
CPR 644 Seminar in Public Relations Ethics (3)
CPR 650 Strategic Communication in Health Care (3)
CPR 660 Corporate Communication and Public Relations (3)
CPR 690 Public Relations Practicum I (3)
COM 615 Social Effects of Mass Communication (3)

ELECTIVES: 6 CREDITS

Six elective credits must be taken outside the School of Communication’s Public Relations program, with approval of the program's graduate coordinator.

No written comprehensive examinations are required for this degree.

COM 720 Continuous Registration – Research in Residence (0) (may be required for full time study)

TOTAL CREDITS (Non-Thesis Program) = 36 CREDITS

J.D./M.A. IN SCHOOL OF COMMUNICATION

This program allows students to earn a J.D. and an M.A. in Communication in 3 to 3½ years. The three School of Communication programs participating in the joint J.D./M.A. program are Communication Studies, Public Relations, and Journalism. This joint degree program will allow 9 J.D. credits to be applied to the M.A. degree and 6 M.A. credits to be applied to the J.D. degree, saving the student 15 credits between the two programs.

In the J.D. program, students will complete 82 credits in the School of Law. Additionally, 6 credits from the School of Communication program will be applied to their Law School transcript, for a total of 88 required J.D. credits. In the M.A. program, students will complete 27 credits in the School of Communication. Additionally, 9 law school credits will be applied toward their master's degree, for a total of 36 required M.A. credits. As defined above, 15 credits will be counted toward both degrees: 6 credits from the School of Law and 9 credits from the School of Communication. During the first year of the joint program, students will be required to attend the J.D. program full-time. Students will be able to take courses in the School of Communication beginning in the fall of their 2L year. Students must complete all J.D. requirements and all M.A. requirements as defined by their programs. Participants in the joint J.D./M.A. program are not required to complete the M.A. capstone project. The thesis-track is not open to students in the J.D./M.A. joint program without specific approval of the School of Communication. Students may take summer law courses, which may reduce the length of the joint degree program by up to one semester. Students may not take more than 16 credits each semester, excluding summer sessions. Seventeen credits per semester may be taken with permission from the Associate Dean, Academic Affairs, School of Law.
LAW SCHOOL REQUIREMENTS:

Nine Law School credits should come from the following courses:

Administrative Law
Communications law
Constitutional Law II
Copyright Law
First amendment Law
Intellectual Property Law
Internet Law
Mass Media Law


The Law School will accept 6 credits from the following School of Communication courses: (the courses selected will depend on the specific program, e.g., Journalism, Public Relations or Communication Studies, though following consultation with, and approval by, a faculty advisor, substitutions may be allowed)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COM 601</td>
<td>Theories of Communication</td>
<td>3</td>
</tr>
<tr>
<td>COM 602</td>
<td>Methods of Communication Research</td>
<td>3</td>
</tr>
<tr>
<td>COM 603</td>
<td>Qualitative Research Methodologies</td>
<td>3</td>
</tr>
<tr>
<td>COM 605</td>
<td>Theories and Methods for Mass Communication Research</td>
<td>3</td>
</tr>
<tr>
<td>CPR 620</td>
<td>Public Relations Fundamentals</td>
<td>3</td>
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<tr>
<td>CNJ 611</td>
<td>Newswriting and Reporting Seminar</td>
<td>3</td>
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<tr>
<td>CEM 606</td>
<td>Writing and Reporting Across Platforms</td>
<td>3</td>
</tr>
<tr>
<td>CEM 592</td>
<td>Special Topics in Electronic Media: The Business of Modern Journalism</td>
<td>3</td>
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</tbody>
</table>

COMMUNICATION STUDIES (M.A.):

The program has three tracks, each with 9 credits of required courses and 27 credits of elective courses but students in the joint program take 18 credits of electives and transfer 9 credits from the School of Law to make 27 credits. Communication Studies students must receive a “B” or higher in core courses (COM 601, 602, 603), as well as maintain an overall minimum GPA of 3.0 for all courses. Core courses must be completed during the first year of study, or by completion of 18 credits.

Students may select elective courses within the School of Communication or the University; a maximum of six (6) credits thesis track and nine (9) credits non-thesis track may come from outside the School of Communication.

Communication Studies Track
This program focuses on developing a theoretical foundation with emphasis on applied communication.

REQUIRED COMMUNICATION CORE: (Non-Thesis Program) 9 CREDITS

COM 601  Theories of Communication (3)
COM 602  Methods of Communication Research (3)
COM 603  Qualitative Research Methodologies (3)

ELECTIVES: (Non-Thesis Program) 27 CREDITS

COM 615  Social Effects of Mass Communication (3)
COM 672  Seminar in Persuasive Communication (3)
COS 545  Intercultural Communication: International Perspectives (3)
COS 546  Intercultural Communication: Domestic Perspectives (3)
COS 560  The Executive Communicator (3)
COS 591  Advanced Special Topics in Communication Studies (3)
COS 599  Advanced Projects and Directed Research (3)
COS 674  Seminar in Interpersonal Communication (3)
COS 682  Seminar in Organizational Communication (3)
COS 684  Organizational Communication Audit Procedures (3)

**Health Communication Track**

This program focuses on human communication in a health-care context.

REQUIRED COMMUNICATION CORE: (Non-Thesis Programs) 9 CREDITS

COM 601  Theories of Communication (3)
COM 602  Methods of Communication Research (3)
COM 603  Qualitative Research Methodologies (3)

ELECTIVES: (Non-Thesis Program) 27 CREDITS

COS 545  Intercultural Communication: International Perspectives (3)
COS 546  Intercultural Communication: Domestic Perspectives (3)
COS 591  Advanced Special Topics in Communication Studies: Seminar in Health Communication (3)
COS 599  Advanced Projects and Directed Research (3)
COS 674  Seminar in Interpersonal Communication (3)
COS 682  Seminar in Organizational Communication (3)
COM 609  Special Topics (Social Change Communication Theory) (3)
COM 672  Seminar in Persuasive Communication (3)
HST 536  U.S. Health Care Crisis: Politics and Policies (3)
INS 570  Globalization and Health (3)
INS 670  Advanced Seminar in International Health (3)
NUR 550  Sociopolitical Dynamics of Health Issues (3)
SOC 632  Social Psychology of Health Illness (3)
SOC 635  Medical Sociology: Issues in Research and Theory (3)
SOC 691  Special Topics and Current Issues in Medical Sociology (3)

**Intercultural Communication Track**
This program focuses on the way communication functions in intercultural settings, how
culture affects the communication process, and the reciprocal effects of intercultural
perceptions on policy in the history of East-West relations.

REQUIRED COMMUNICATION CORE: (Non-Thesis Program) 9 CREDITS

COM 601 Theories of Communication (3)
COM 602 Methods of Communication Research (3)
COM 603 Qualitative Research Methodologies (3)

ELECTIVES: (Non-Thesis Program) 27 CREDITS

COS 545 Intercultural Communication: International Perspectives (3)
COS 546 Intercultural Communication: Domestic Perspectives (3)
COS 599 Advanced Projects and Directed Research (3)
COS 674 Seminar in Interpersonal Communication (3)
COS 682 Seminar in Organizational Communication (3)
COM 609 Special Topics (Social Change Communication Theory) (3)
COM 672 Seminar in Persuasive Communication (3)
CNJ 510 Comparative Media Systems (3)
INS 513 Information and Communication in International Relations (3)

JOURNALISM (M.A.)

The program in journalism has 15 credits of required courses and 12 credits of elective
courses (plus 9 credits that will be transferred from the School of Law). Law students with
particular areas of interest may consult with a faculty advisor in Journalism to request
course substitutions.

REQUIRED COMMUNICATION AND JOURNALISM CORE: 15 CREDITS

COM 605 Theories and Methods of Communication (3)
CNJ 537 The Business of Modern Journalism (3)
CEM 606 Writing and Reporting Across Platforms (3)
CVJ 521 Seminar in Visual Storytelling (3)
CVJ 522 Infographics and Data Visualization (3)

ELECTIVE OPTIONS: 12 CREDITS

CEM 517 Television News Reporting (3)
CEM 527 Television Newscast (3)
CEM 630 Topics in Electronic Communication (3)
CEM 725 Journalism Internship (3)
CMP 540 Programming for Designers (3)
CNJ 510 Comparative Media Systems (3)
CNJ 511 Global Media (3)
CNJ 513 Computer-Assisted Reporting (3)
CNJ 515 Reporting and the Internet (3)
CNJ 523 Sports Reporting (3)
CNJ 544 Feature Writing (3)
CNJ 599 Advanced Projects and Directed Research (3)
CNJ 609 Internship in Journalism and Media Management (3)
CVJ 531 Database Journalism (3)
CVJ 550  3D Design and Graphics (3)  
CVJ 541  Advanced Audio Video Narratives (3)  
CVJ 551  Advanced Programming (3)  
CVJ 519  Interactive Storytelling (3)  

TOTAL CREDITS = 36 CREDITS

PUBLIC RELATIONS (M.A. – NON-THESIS)

This program is focused on public relations with 9 credits of required courses and 18 credits of elective courses (plus 9 credits that will be transferred from the School of Law.) Public Relations students must receive a “B” or higher in core courses (COM 601, CPR 620, CPR 621, CPR 622, COM 602 OR COM 603).

REQUIRED COMMUNICATION AND PUBLIC RELATIONS CORE: 15 CREDITS

COM 601  Theories of Communication (3)  
CPR 620  Public Relations Fundamentals (3)  
CPR 621  Writing for Public Relations (3)  
CPR 622  Design Tactics for Public Relations (3)  

Select one of the following courses:

COM 602  Methods of Communication Research (3) or  
COM 603  Qualitative Research Methodologies (3)  

The 12 elective credits can be selected from the following courses:

CPR 501  Crisis Communication and Management (3)  
CPR 517  Media Relations (3)  
CPR 533  Sports Publicity, & Promotions (3)  
CPR 546  Religion, Culture, & Communication (3)  
CPR 581  Public Relations Experience Program (PREP) (3)  
CPR 582  International Public Relations (3)  
CPR 584  Public Relations Management (3)  
CPR 625  Cases in Public Relations Administration (3)  
CPR 629  Special Topics Seminar in Public Relations (3)  
CPR 632  Seminar in Public Relations and Political Campaigns (3)  
CPR 634  Non-Profit and Public Information Campaigns (3)  
CPR 635  Seminar in Public Relations Measurement (3)  
CPR 644  Seminar in Public Relations Ethics (3)  
CPR 650  Strategic Communication in Health Care (3)  
CPR 660  Corporate Communication and Public Relations (3)  
CPR 690  Public Relations Practicum I (3)  
COM 615  Social Effects of Mass Communication (3)  

DEPARTMENT OF CINEMA AND INTERACTIVE MEDIA

MOTION PICTURES (M.F.A.)

Students must complete a minimum of 66 credit hours with the approval of the faculty advisor. Of the 66 credit hours, at least 24 must be at or above the 600-level, and 12 credit
hours at the 700-level must be earned for thesis work. Motion Picture students must maintain an overall minimum GPA of 3.0 for all courses.

M.F.A. candidates are expected to follow a set sequence of courses during the first two semesters of their studies. During the second year of studies, candidates are strongly encouraged to explore not only a primary but also a secondary area of specialization in the program and develop a minimum of two creative projects consistent with their areas of primary interest and secondary specialization. A minimum of 6 credits hours in each area of specialization is required. Under faculty committee supervision, students will develop one or two creative projects in the third year of their studies.

All M.F.A. students must demonstrate deeper, critical understanding of motion picture practice in diverse social and cultural contexts. To this purpose, and during their first year of studies, students are expected to produce a short motion picture project abroad. Students are also encouraged to participate in an internship during the summer of the first year or second year of studies.

This three-year program culminates with a thesis portfolio that demonstrates, not only skillful execution of craft, but strong conceptual development rooted in collaborative work and innovative uses of technology.

**FIRST YEAR:**

**REQUIRED FALL SEMESTER COURSE WORK:** 12 CREDITS

- CMP 501 Principles of Aesthetics & Analysis (3)
- CMP 510 Foundations of Screenwriting (3)
- CMP 520 Cinematography (3)
- CMP 560 Directing the Actor (3)

**REQUIRED SPRING SEMESTER COURSE WORK:** 12 CREDITS

- CMP 530 Introduction to Editing (3)
- CMP 511 Writing the Short Script (3)
- CMP 570 Producing the Motion Picture (3)
- CMP 550 Production Workshop I - Narrative (3)

**SECOND YEAR:**

**FALL SEMESTER COURSE OFFERINGS:** 12 CREDITS

- CMP 650 Production Workshop II – Individual Projects (3)
- CMP 610 Writing the Feature-length Screenplay (3)
- CMP 612 Writing for Episodic Television (3)
- CMP 670 The Business of Motion Pictures (3)
- CMP 660 Directing Performance and Creative Collaboration (3)
- CMP 603 Film Directors (3)

**SPRING SEMESTER COURSE OFFERINGS:** 12 CREDITS

- CMP 611 Re-Writing the Feature Screenplay (3)
- CMP 653 Documentary Production (3)
- CMP 661 Directing the Camera (3)
CMP 640  Sound Design (3)  
CMP 630  Advanced Editing (3)  
CMP 607  National Cinemas (3)  

**THIRD YEAR:**

RECOMMENDED FALL SEMESTER COURSE WORK:  
9 CREDITS

CMP 715  MFA THESIS (6)  
CMP 613  Advanced Writing for Episodic Television (3)  
CMP 671  Production Management (3)  

RECOMMENDED SPRING SEMESTER COURSE WORK:  
9 CREDITS

CMP 715  MFA THESIS (6)  
CMP 672  Marketing and Distribution (3)  

No more than nine credit hours will be allowed for graduate internships and advanced projects and directed research. Courses may be taken, with program director approval, from other programs or departments within the University of Miami.

**INTERACTIVE MEDIA (M.F.A.)**

Students must complete a minimum of 45 credits at the graduate level with an average of B and no grade lower than a C-. Prior written approval is required from both the chair of the interactive media program and the director of graduate studies for transfer credits, for course substitutions as well as for taking a course at another university.  
Students are required to register for a capstone project seminar. To register for this course, students must complete all courses with a standing 3.0 GPA. The capstone course is designed to help students define and execute their final projects. To graduate, students must complete and present a fully articulated capstone project and related documentation. Students must complete all master’s degree requirements within 6 years.

**Core (Year One – 12 credits)**

CMP 541 Technology Trends  
CMP 540 Programming for Designers  
CMP 543 Interaction Design  
CMP 542 Physical Computing  

**Individual Elective Experience (27 Credits)**

CMP 590 Building Interfaces  
CMP 591 Game Design Fundamentals  
CMP 593 Dynamic Data  
CVJ 522 Infographics and Data Visualization  
CMP 621 Game Development Studio  
CMP 622 UX Research  
CVJ 550 3D for Graphics  
CMP 544 Media Activism  

**Electives**

Students will be able to take 6 elective credits (two courses) across campus.

**Capstone (6 credits)**
CMP 623 CoLab
CMP 624 Capstone Project

DOCTOR OF PHILOSOPHY IN COMMUNICATION

The doctoral program allows you to collaborate across content and creative areas, methodological orientations, and platforms of expression for engaged scholarship and immersive experience, globally and locally. The program will prepare you for careers in higher education, non-profits, business, and government organizations. You may choose from health, environmental, international, intercultural, and organizational communication as well as from journalism studies and media development to create an appropriate combination for your career goals. You will engage with communication theory, research, and practice using public relations and journalism, with particular attention to new and social media for social and behavioral change. This will be your niche: conducting research, engaging in immersive experience, and translating these into evaluation-based practice for the well being of community, society and the world.

Students must have earned a master’s degree in communication or another appropriate field before they can be admitted to the doctoral program. For the doctoral program, students must complete 57 credits of course work beyond the master’s degree. Twenty-four credits must be in courses at the 600-level. No transfer credits may count toward these 24 credits, and 12 of the 57 credits must be dissertation credits. Doctoral students must receive a “B” or higher in core courses (COM 601, 602, 603, 604, 609, AND 698).

REQUIRED CORE COURSES:            21 CREDITS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 601</td>
<td>Theories of Communication</td>
<td>(3)</td>
</tr>
<tr>
<td>COM 602</td>
<td>Methods of Communication Research</td>
<td>(3)</td>
</tr>
<tr>
<td>COM 603</td>
<td>Qualitative Research Methodologies</td>
<td>(3)</td>
</tr>
<tr>
<td>COM 604</td>
<td>Advanced Communication Research Methods and Statistics</td>
<td>(3)</td>
</tr>
<tr>
<td>COM 609</td>
<td>Special Topics in Communication</td>
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<tr>
<td>COM 698</td>
<td>Seminar in Communication</td>
<td>(3)</td>
</tr>
<tr>
<td>COM 610</td>
<td>Doctoral Colloquium</td>
<td>(0)</td>
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</tbody>
</table>

Students must take a total of 9 credits in COM 609 and/or COM 698 or any combination of the two. Students are allowed to take up to six credit hours of Advanced Projects/Directed Readings in total.

School of Communication Electives                  9-12 CREDITS

Courses outside the School of Communication         12-15 CREDITS

Qualifying Examinations

All School of Communication Ph.D. students will be given written and oral qualifying examinations following the conclusion of all course work prior to being admitted to candidacy for the Ph.D. degree. A student who fails the exam is given one opportunity to retake it with the permission of the committee and must pass it within one calendar year of failing the first exam. To be admitted to candidacy, students must have successfully completed qualifying exams and received approval from the department chair, have a minimum GPA of 3.0, and have submitted all original transcripts and
standardized test results. Any student who fails to be admitted to candidacy for the degree within this one-year period will be dismissed from the program. A qualifying exams committee consists of a minimum of four members including the chair. All members must hold a Ph.D. degree or its equivalent.

Dissertation

The dissertation committee may be the same as the student’s qualifying exams committee. The guidelines for the composition of the dissertation committee are the same as those for the qualifying exams committee. Students must complete 12 dissertation credits. These credits begin after students have successfully completed their qualifying exams. Students are required to defend a dissertation proposal to the dissertation committee. Students may proceed with the dissertation once the proposal has been approved by the committee and accepted by the director of graduate studies. The dissertation must be an investigation of a substantial scholarly topic and must be defended orally in the presence of the dissertation committee. Students should note that they cannot conduct human subjects research without approval from the University of Miami’s Institutional Review Board.

Communication Course Listing

Communication Studies Course Listing

Public Relations Course Listing

Electronic Media Course Listing

Journalism Course Listing

Motion Pictures Course Listing
DEPARTMENTS
- Educational and Psychological Studies (EPS)
- Kinesiology and Sport Sciences (KIN)
- Teaching and Learning (TAL)

DEGREE PROGRAMS

DOCTOR OF PHILOSOPHY IN EDUCATION (Ph.D)
The Doctor of Philosophy degree with a major in education is designed to develop personnel competent to conduct research in a particular field of education or behavioral sciences. Concentrations are offered in:

- exercise physiology (KIN),
- community well-being (EPS),
- counseling psychology (EPS),
- language and literacy learning in multilingual settings (TAL),
- science, technology, engineering and mathematics (TAL),
- special education (TAL), and
- research, measurement, and evaluation (EPS).

DOCTOR OF EDUCATION (Ed.D)
The Doctor of Education degree is designed to develop personnel in education competent to utilize the results of research in practical situations. The Ed.D. program offers a concentration in higher education leadership (EPS).

SPECIALIST IN EDUCATION (Ed.S)
The Specialist in Education degree is an advanced terminal, practice-oriented degree that is designed to prepare recipients to assume positions of leadership within educational and affiliated settings. Concentrations are offered in:

- Advanced professional studies (TAL),
- Early childhood/special education (TAL),
- Reading education (TAL), and
- Math, science and technology resource teacher (TAL)

MASTER OF SCIENCE IN EDUCATION (M.S.Ed)
The Master of Science in Education degree is a practice-oriented degree that is designed to prepare its recipients to assume professional positions that require advanced course work and post-graduate degrees. Concentrations are offered in:

- Advanced professional studies (TAL)
- Community and social changes (EPS)
- Counseling: Marriage and family therapy (EPS)
- Counseling: Mental health (EPS)
- Early childhood, special education (TAL)
- Education and social change (TAL)
- Exercise physiology: Strength and conditioning (KIN)
- Exercise physiology (KIN)
- Higher education: Student life and development (EPS)
- Higher education: Enrollment management (EPS)
Mathematics, Science and Technology: K-6 Resource Teacher (TAL)
Nutrition and human performance (KIN)
Reading (TAL)
Research, measurement and evaluation (EPS)
Sport administration (KIN)
Sports medicine (KIN)

NOTE: The School of Education and Human Development’s graduate programs are governed by the rules, regulations and policies of the larger University and Graduate School. In places where what appears in the following is judged to be in conflict with these other policies, the University and/or Graduate School’s policies will take priority.

APPLICATION REQUIREMENTS
Admission to all graduate-degree concentrations in the School of Education and Human Development is based on the recommendation of the faculty. Admissions decisions are based on faculty review of the following general requirements that apply to all Graduate Programs in the School as well as specific documents listed under each concentration. Applicants must:

• achieve acceptable scores on the Graduate Record Exam (GRE) taken within the past five years. International applicants whose native language is not English or applicants whose degrees are from a non-U.S. University must pass the Test of English as a Foreign Language (TOEFL) and the GRE;
• provide official transcripts showing completion of a bachelor’s degree from an accredited institution and an acceptable undergraduate grade point average. A minimum of 3.0 undergraduate GPA is required. Official transcripts from every institution attended by an applicant, whether or not the applicant completed a degree program at the institution, are required;
• provide three letters of recommendation that address the issues and meet the criteria established by the program being applied to;
• provide a personal statement that addresses the mission and purpose of the program being applied to;
• take part in an admissions interview (required by some programs); and
• exhibit personal and professional experiences and characteristics that are relevant to the profession and/or field and/or degree program for which the application is being submitted.
DOCTOR OF PHILOSOPHY (Ph.D)

In addition to the factors listed as general requirements for all applications to the SOEHD’s graduate programs, consideration for admission to the Ph.D program will include the following:

- letters of recommendation should address the applicant’s academic potential;
- available student space in program;
- For TAL: availability of faculty advisor willing to mentor the student.
- For EPS, Counseling: receipt of completed applications by predetermined cut-off date. Please reference the SOEHD web site, as doctoral applications are reviewed once each year.

DOCTOR OF EDUCATION (Ed.D)

In addition to the factors listed as general requirements for all applications to the SOEHD’s graduate programs, consideration for admission to the Ed.D program will include the following:

- letters of recommendation should address the applicant’s academic potential;
- available student space in program; and
- admissions interview.

SPECIALIST IN EDUCATION (Ed.S)

In addition to the factors listed as general requirements for all applications to the SOEHD’s graduate programs, consideration for admission to the Ed.D program will include the following:

- completion of a master’s degree with an outstanding record from an accredited institution;
- adequacy of previous study in the field for which the Ed.S. is being requested;
- an appropriate period of successful teaching experience (TAL only);
- acceptable scores on the Graduate Record Examination (GRE); or in the case of TAL only, approval of a GRE waiver. Applicants who seek a GRE waiver must have taught for a minimum of three years in a full-time capacity, fill out and submit a GRE waiver form, and submit a 3-page essay on an important educational.
MASTER OF SCIENCE IN EDUCATION (M.S.Ed)

In addition to the factors listed as general requirements for all applications to the SOEHD’s graduate programs, consideration for admission to the MSED program will include the following:

- For all MSED programs in TAL: Teachers with at least three years full-time teaching experience may apply for a GRE waiver for programs in the Department of Teaching and Learning. An application for waiver of the GRE requirement may be found on the SOEHD web site. Teachers who apply for a GRE waiver must submit a 3-page essay on an important topic in education.

- For Community and Social Change (EPS): Professionals who have worked full-time for at least three years in a not-for-profit setting may apply for a waiver of the GRE requirement. Please contact the program directly for conditions governing this waiver.

INTERNATIONAL APPLICATIONS

All international applications must provide additional information and meet additional requirements as required by the UM Graduate School and the UM Office of International Admissions. For an appropriate link to these requirements, please visit the Graduate School web site.

ADMISSIONS DECISION

She/she should meet with the faculty advisor who was appointed to serve in that capacity and whose name appears in the admissions letter. This advisor will help the student enroll in courses that are appropriate to the program; to develop and to refine a Program of Study or Course Sequence Plan that must be on file in the Senior Associate Dean’s Office by the end of the first semester of study.

HONOR CODE

The School of Education and Human Development follows the Graduate School’s Honor Code. All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

CONTINUOUS ENROLLMENT/FINANCIAL ASSISTANCE

In addition to University-wide fellowships and the availability of student loans, the School of Education and Human Development provides many forms of financial assistance for students enrolled in its graduate programs. These include tuition-based scholarships (including federally funded scholarships), teacher-tuition scholarships, training fellowships, graduate student assistantships, and other forms of help.

Notwithstanding a student’s time to completion, the SOEHD limits a student’s eligibility for scholarships and other financial assistance that is under its control to five years from the time of initial enrollment.

Scholarship-based financial assistance is to be used only for courses that define each student’s program of study. Students who enroll in courses outside of their programs of study will be charged full tuition for those courses.
Teacher Tuition Scholarships do not apply to doctoral (Ph.D. and Ed.D.) programs.

Financial assistance may not be applied to retaking of courses.

Financial assistance whose sources of funding are outside of the School of Education and Human Development, for example Federal loans provided by the University of Miami, shall be governed by all applicable rules, regulations and policies. Specifically, many federal loans and grants have conditions limiting the programs and/or courses to which they may be applied. Some federal loans are restricted to graduate courses only; some fellowships, grants or traineeships may entail post-graduation employment commitments. Alternatively, private scholarships or fellowships may have their own conditions. Before accepting any form of financial assistance, please be sure to ask about and to fully understand the conditions that govern whatever type of financial assistance you are offered.

DEGREE REQUIREMENTS
In addition to the formal academic requirements (as outlined below), the School of Education and Human Development requires its students to demonstrate personal qualities that, in the judgment of the faculty, would permit them to function effectively in their professional roles. The School of Education and Human Development reserves the right to dismiss any students who are academically or personally unwilling or unable to carry out the professional responsibilities of the respective profession for which they are being trained. Conduct which may be considered unprofessional may include, but is not limited to, research or professional misconduct; dishonesty, cheating, plagiarism; exercise of professionally poor judgment; sexual harassment, discrimination on the basis of race, ethnicity, religion, or sexual orientation; and inappropriate interpersonal behavior. It is up to all students to fulfill their responsibilities in a timely and professional manner, to represent themselves and the University with honesty, and to treat others with dignity and respect.

DOCTOR OF PHILOSOPHY IN EDUCATION (Ph.D)
Upon admission to graduate study, a supervisory committee, consisting of four members (composed as per UM Graduate School regulations), will be appointed by the School of Education and Human Development.

The student will meet with the chairperson of this committee to design a Program of Study/Residency Plan.

The Program of Study/Residency Plan must be approved by the supervisory committee, the department chairperson, and the Senior Associate Dean of Graduate Studies in the School of Education and Human Development.

The Program of Study/Residency Plan must be filed with both the Graduate School and the School of Education and Human Development by the end of the second semester of enrollment or future registration will not be permitted.

All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

The residence requirement is two full-time consecutive semesters of course work at the University of Miami.
The minimum total credits required beyond the Bachelor’s are 60, plus a minimum of 12 dissertation-research credits.

Fifteen credit hours of statistics and research methods are required as prescribed by the supervisory committee.

A student must pass a Qualifying exam before being admitted to candidacy for a doctorate. The content and conditions for administering the Qualifying examination are defined by the program area in which a student is enrolled.

A student’s score on the Qualifying examination is the professional judgment of the committee that was appointed to score that examination. As such, no academic appeals of scores on qualifying examination are possible.

If a student fails an initial attempt at passing a program’s Qualifying examination, the student’s advisory committee may allow a student a second opportunity to pass a new qualifying examination that is administered within a year of the original, at its sole discretion.

A student who fails a program’s qualifying examination may not proceed any farther in the program and is, instead, dismissed at the end of the then-current term. Beyond the then-current term in which a student’s qualifying examination is scored, no additional financial assistance will be provided to a student who is scheduled to be dismissed from the program for failure in the qualifying examination.

Students are required to complete all Ph.D. requirements within 8 years of initial enrollment.
DOCTOR OF EDUCATION (Ed.D)
Upon admission to graduate study, a supervisory committee, consisting of three members, will be appointed by the School of Education and Human Development.

The student will meet with the chairperson of this committee to design a Program of Study/Residency Plan.

The Program of Study/Residency Plan must be approved by the supervisory committee, the department chairperson, and the Senior Associate Dean of Academic Studies in the School of Education and Human Development.

The Program of Study/Residency Plan must be filed with both the Graduate School and the School of Education and Human Development by the end of the second semester of enrollment or future registration will not be permitted.

All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

The minimum total credits required beyond the bachelors are 60, including a minimum of 12 dissertation credits.

A supporting area consisting of at least 12 credits is required; the student must be qualified for admission to graduate status in this area, and receive approval for enrollment from the appropriate department and from the School of Education and Human Development.

A minimum of twelve credit hours of statistics and research methods are required as prescribed by the supervisory committee.

Students are required to complete all Ed. D requirements within 8 years of initial enrollment.
SPECIALIST IN EDUCATION (Ed.S)
The Specialist in Education is a terminal degree that is independent of both doctoral
degrees (Ph.D. and Ed.D.) that are offered by the SOEHD. Although there is normally
some overlap in coursework, admission to a specialist program does not imply
admission to a doctoral program.

A supervisory committee consisting of three faculty members in the student’s area of
study will be appointed by the School of Education and Human Development.

Upon admission to the specialist program, a formal program of study is approved by
the Supervisory Committee.

A minimum of 60 graduate credits, (or 30 credits after completion of the Master’s
program) is required. The program must include at least 30 graduate credits earned
at the University of Miami and at least 18 graduate credits earned following
admission to the specialist program. The specialist program of study is developed in
consultation with the Supervisory Committee that consists of 3 faculty members (a
chairperson and 2 other members).

Students must pass a comprehensive written examination, portfolio (with an oral
examination as a possible additional requirement), capstone course, project, thesis,
or requirement specified by the program. When a thesis is chosen (in the KIN Dept.
or EPS Dept.), a maximum of six credits may be counted toward the total degree
requirements, and an oral examination in defense of the thesis will be required. The
written comprehensive examination will cover the student’s program of study. The
examination must be taken during or after the final semester in which the student is
enrolled for coursework in the program. The project will be directed by the
Chairperson of the Specialist Supervisory Committee.

All specialist students must engage in teaching and/or research appropriate to their
degree program.

All work for the degree of Specialist in Education must be completed within six years
of initial enrollment.
MASTER OF SCIENCE IN EDUCATION (M.S.Ed)
A minimum of 30 graduate credits is required.

TAL: Students enrolled in any certification program that has been approved by Florida Department of Education must fulfill any and all additional requirements (e.g., passing state teacher tests) that are specified by the program approval.

EPS: Students enrolled in any counseling program must complete the required “Personal Growth Experience” form.

Students must pass a comprehensive written examination, portfolio (with an oral examination as a possible additional requirement), capstone course, project, thesis, or requirement specified by the program. When a thesis is chosen (in the KIN Dept. or EPS Dept.), a maximum of six credits may be counted toward the total degree requirements, and an oral examination in defense of the thesis will be required. The written comprehensive examination will cover the student’s program of study. The examination must be taken during or after the final semester in which the student is enrolled for coursework in the program. The project will be directed by the student’s advisor.

All work towards the Master’s degree must be completed within six years of initial enrollment.

DEPARTMENT OF EDUCATIONAL AND PSYCHOLOGICAL STUDIES
Dept. Code: EPS

PROGRAMS

DOCTOR OF PHILOSOPHY (Ph.D.)

- Community Well-Being
- Counseling Psychology
- Research, Measurement, and Evaluation

COMMUNITY WELL-BEING
Please contact the Department of Educational and Psychological Studies for a program sheet and course listings for Ph.D. program in Community Well Being.

COUNSELING PSYCHOLOGY
The Counseling Psychology Program has been fully accredited by The American Psychological Association since 1995 and has a proud tradition of preparing students as scholars, clinicians and community leaders. Firmly committed to the foundational values of the discipline of counseling psychology, including its emphasis on prevention, optimal human development and the promotion of individual, family and community well-being, the program strives to prepare students who will make a difference in the world through research, scholarship and reflective practice. The mission of the program is to nurture the development of counseling psychology graduate students and faculty as reflective researchers and scientist-practitioners committed to promoting psychological well-being in a multicultural complex world.
<table>
<thead>
<tr>
<th>Prerequisite Counseling Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS505  Lifespan Human Development</td>
</tr>
<tr>
<td>EPS510  Professional, Legal &amp; Ethical Issues in Counseling</td>
</tr>
<tr>
<td>EPS511  Lifestyle &amp; Career Counseling</td>
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<tr>
<td>EPS512  Assessment Strategies for Counselors I</td>
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<tr>
<td>EPS513  Counseling Process and Practice</td>
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<tr>
<td>EPS610  Therapeutic Group Procedures</td>
</tr>
<tr>
<td>EPS612  Counseling Theories &amp; Practice</td>
</tr>
<tr>
<td>EPS619  Practicum Laboratory I</td>
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<table>
<thead>
<tr>
<th>Major Field of Study</th>
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</thead>
<tbody>
<tr>
<td>EPS620  Counseling Psychology: Theory, Research and Practice</td>
</tr>
<tr>
<td>EPS621  Psychological Appraisal I</td>
</tr>
<tr>
<td>EPS622  Psychological Appraisal II</td>
</tr>
<tr>
<td>EPS628  Doctoral Practicum I</td>
</tr>
<tr>
<td>EPS629  Doctoral Practicum II</td>
</tr>
<tr>
<td>EPS632  Preparing Future Faculty</td>
</tr>
<tr>
<td>EPS634  Supervision in Counseling Psychology</td>
</tr>
<tr>
<td>EPS680  Cultural Diversity and Mental Health</td>
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<tr>
<td>EPS703  Internship in Counseling Psychology</td>
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<tr>
<th>Supporting Field of Study</th>
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<tbody>
<tr>
<td>PSY604  Cognition and Emotion</td>
</tr>
<tr>
<td>PSY605  Cognitive Neuroscience</td>
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<tr>
<td>PSY625  Social Psychology</td>
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<tr>
<td>PSY640  Adult Psychopathology</td>
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<tr>
<th>Research Competencies</th>
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<tbody>
<tr>
<td>EPS670  Introduction to Research Methods</td>
</tr>
<tr>
<td>EPS671  General Linear Methods</td>
</tr>
<tr>
<td>EPS672  Applied Multivariate Statistics</td>
</tr>
<tr>
<td>EPS673  An Introduction to Structural Equation Modeling for Multivariable Data</td>
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<tr>
<td>EPS650  Meta-analytic Methods for Research Synthesis</td>
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<tr>
<th>Dissertation</th>
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</thead>
<tbody>
<tr>
<td>EPS730  Pre-Candidacy to Dissertation Research</td>
</tr>
<tr>
<td>EPS740  Post-Candidacy to Dissertation Research</td>
</tr>
</tbody>
</table>
RESEARCH, MEASUREMENT AND EVALUATION
The objective of the RME programs is to train individuals to become experts in the research methodology, measurement, and applied statistics used in conducting applied research, evaluations, and assessments related to educational, psychological, and health outcomes. Graduates of the program have obtained skills concerning: (a) how to design research studies and evaluations, (b) what statistical and measurement analyses must be conducted to answer the desired research questions, and (c) how to analyze the collected data using appropriate statistical software. An emphasis of the program is on gaining experience in the application of the relevant methodologies using real-world data examples.

<table>
<thead>
<tr>
<th>Core courses (36 credits)</th>
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<tbody>
<tr>
<td>EPS553 Introduction to Statistics</td>
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<tr>
<td>EPS568 Computer Applications in Educational and Behavioral Sciences Research</td>
</tr>
<tr>
<td>EPS650 Meta-analytic Methods for Research Synthesis</td>
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<tr>
<td>EPS661 Measurement and Psychometric Theory</td>
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<tr>
<td>EPS662 Item Response Theory</td>
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<tr>
<td>EPS670 Introduction to Research Methods</td>
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<tr>
<td>EPS671 General Linear Models</td>
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<tr>
<td>EPS672 Applied Multivariate Statistics</td>
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<tr>
<td>EPS673 Introduction to Structural Equation Models (SEM)</td>
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<tr>
<td>EPS674 Introduction to Multilevel Modeling</td>
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<tr>
<td>EPS675 Qualitative Research Methods I</td>
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<tr>
<td>PSY698 Seminar in Quantitative Psychology (Advanced Structural Equation Modeling)</td>
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<tr>
<th>Research Apprenticeship (6 credits)</th>
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<tbody>
<tr>
<td>EPS607 Advanced Individual Study</td>
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<table>
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<tr>
<th>Field Experience (6 credits)</th>
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<tbody>
<tr>
<td>EPS659 Field Experience in Educational Research</td>
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<table>
<thead>
<tr>
<th>Electives (12 credits): Approved by Advisor**</th>
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<tbody>
<tr>
<td>EPS607 Advanced Individual Study</td>
</tr>
<tr>
<td>EPS651 Survey Research Methods</td>
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<tr>
<td>EPS652 Nonparametric Methods for Quantitative Analysis</td>
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<tr>
<td>EPS654 Program Evaluation</td>
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<tr>
<td>EPS659 Field Experience in Educational Research</td>
</tr>
<tr>
<td>EPS676 Qualitative Research Methods II: Case Studies &amp; Grounded Theory</td>
</tr>
<tr>
<td>EPS677 Qualitative Research Methods III: Interviewing &amp; Content Analysis</td>
</tr>
<tr>
<td>MAS602 Multivariate Statistics</td>
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<tr>
<td>MAS603 Design of Experiments</td>
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<tr>
<td>MTH524 Introduction to Probability Theory</td>
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</table>
DOCTOR OF EDUCATION (Ed.D.)

HIGHER EDUCATION LEADERSHIP
The Higher Education Leadership program, which offers a Doctor of Education degree (Ed.D), is committed to preparing high-quality graduates for senior leadership positions in colleges and universities, state and federal agencies, and other educational organizations. The Ed.D program is guided by a practitioner-scholar model that combines theoretical offerings with application to practical higher education problems. Students focus on areas of special interest and choose dissertation projects that address issues confronting the contemporary higher education workplace.

The Executive Track is an innovative option in the Ed.D program explicitly designed to meet the needs of working professionals. Courses are offered on weekends, and a cohort design allows students to develop meaningful relationships, support one another, and learn from the diverse experiences of fellow educators. Ed.D students may also choose to take courses in a traditional weekly format.

An emphasis across the traditional and Executive Ed.D curriculum is on how theory and empirical evidence inform the administrative, organizational, and policy contexts within postsecondary education. Unique to the University of Miami’s Higher Education Leadership program curriculum is its component in Enrollment Management, a comprehensive strategy that promotes the seamless integration of administrative responsibilities to efficiently and effectively meet institutional needs and promote student success.

Higher Education Foundations

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>EPS533</td>
<td>Organization and Administration of Higher Education I</td>
</tr>
<tr>
<td>EPS603</td>
<td>Higher Education in the United States: From Harvard to the Present</td>
</tr>
<tr>
<td>EPS631</td>
<td>Student Diversity in American Higher Education</td>
</tr>
<tr>
<td>EPS633</td>
<td>Organization and Admin of Higher Education II: Governance, Leadership and Finance</td>
</tr>
<tr>
<td>EPS635</td>
<td>College Student Development: Theory, Research and Practice</td>
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<tr>
<td>EPS640</td>
<td>Enrollment Management Theory and Practice</td>
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</table>

Practicum/Internship

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>EPS688</td>
<td>Practicum: Administration of Higher Education</td>
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Research - 9 credit hours required
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<thead>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>EPS553</td>
<td>Introduction to Statistics</td>
</tr>
<tr>
<td>EPS651</td>
<td>Survey Research Methods</td>
</tr>
<tr>
<td>EPS652</td>
<td>Nonparametric Methods for Quantitative Analysis</td>
</tr>
<tr>
<td>EPS654</td>
<td>Program Evaluation</td>
</tr>
<tr>
<td>EPS661</td>
<td>Measurement and Psychometric Theory</td>
</tr>
<tr>
<td>EPS670</td>
<td>Introduction to Research Methods</td>
</tr>
<tr>
<td>EPS671</td>
<td>General Linear Methods</td>
</tr>
<tr>
<td>EPS672</td>
<td>Applied Multivariate Statistics</td>
</tr>
<tr>
<td>EPS673</td>
<td>An Introduction to Structural Equation Modeling</td>
</tr>
<tr>
<td>EPS674</td>
<td>Qualitative Research Methods I</td>
</tr>
<tr>
<td>EPS675</td>
<td>Qualitative Research Methods II: Case Studies</td>
</tr>
<tr>
<td></td>
<td>Grounded Theory</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
</tr>
<tr>
<td>EPS513</td>
<td>Counseling Process and Practice</td>
</tr>
<tr>
<td>EPS568</td>
<td>Computer Applications in Educational and Behavioral Sciences Research</td>
</tr>
<tr>
<td>EPS570</td>
<td>Basic Skills in Counseling and Interviewing</td>
</tr>
<tr>
<td>EPS601</td>
<td>Philosophy of Education</td>
</tr>
<tr>
<td>EPS604</td>
<td>Group Dynamics and Communication Skills</td>
</tr>
<tr>
<td>EPS605</td>
<td>Psychological Bases of Education</td>
</tr>
<tr>
<td></td>
<td>Dissertation</td>
</tr>
<tr>
<td>EPS685</td>
<td>Dissertation Seminar</td>
</tr>
<tr>
<td>EPS730</td>
<td>Pre-Candidacy to Dissertation Research</td>
</tr>
<tr>
<td>EPS735</td>
<td>Doctor of Education Dissertation</td>
</tr>
</tbody>
</table>

**MASTER OF SCIENCE IN EDUCATION (M.S.Ed.)**

- Community and Social Change
- Counseling:
  - Marriage and Family Therapy
  - Mental Health Counseling
- Higher Education Administration:
  - Enrollment Management
  - Student Life and Development
- Research, Measurement, and Evaluation

**COMMUNITY AND SOCIAL CHANGE**

The Community and Social Change Master’s program is designed to prepare a new generation of creative leaders for the not-for-profit sector who are knowledgeable in the research, theories, and practice of individual and social well-being. The vision of the program is to be a hub for innovative and applied leadership in community well-being and social change. The mission of the program is to prepare globally aware
leaders, researchers, and agents of change who create, inspire, and engage community organizations to foster well-being in diverse community settings. The program is designed to develop community leaders who can help understand and address the real challenges faced by local communities in a multi-cultural and global context. The program is designed to accommodate a variety of students by offering courses in a unique format that incorporates the following domains: 1) Core theory and skill-building coursework, 2) Core research coursework, 3) Experiential field experience (practicum), and 4) Capstone experience (Comprehensive exam or major project).

### Core Courses (18 Credits Required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS606</td>
<td>Community Well-being and Change: Theory and Practice</td>
</tr>
<tr>
<td>EPS648</td>
<td>Multicultural Communities in a Globalized Society</td>
</tr>
<tr>
<td>EPS554</td>
<td>Essentials of Res in the Social &amp; Behavioral Sciences or EPS559</td>
</tr>
<tr>
<td></td>
<td>Research in Higher Education</td>
</tr>
<tr>
<td>EPS644</td>
<td>Development and Change in Community Organizations: Theory and Practice</td>
</tr>
<tr>
<td>EPS654</td>
<td>Program Evaluation</td>
</tr>
<tr>
<td>EPS609</td>
<td>Managing Community Organizations</td>
</tr>
</tbody>
</table>

### Practicum Field Experience (3 Credits Required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS658</td>
<td>Seminar in Community and Social Change</td>
</tr>
</tbody>
</table>

### Electives/Cognate (9 Credits) – NOTE: If electives are not specified (to be determined) when form is submitted to the Associate Dean’s Office, then you should complete a Course Substitution form when you register for the approved electives.

### COUNSELING

Programs offered in counseling and counseling psychology are characterized by intensive clinical supervision by faculty members in an on-campus clinic, by strengths in the areas of family systems and health psychology, and by the rich multi-ethnic composition of the community, students and clients.

#### Marriage and Family Therapy – This 60 credit program provides the academic and pre-degree supervision requirements for licensing as a Marriage and Family Therapist in the State of Florida.

### Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS505</td>
<td>Lifespan Human Development</td>
</tr>
<tr>
<td>EPS10</td>
<td>Professional, Legal &amp; Ethical Issues in Counseling</td>
</tr>
<tr>
<td>EPS12</td>
<td>Assessment Strategies for Counselors I</td>
</tr>
<tr>
<td>EPS13</td>
<td>Counseling Process and Practice</td>
</tr>
<tr>
<td>EPS14</td>
<td>Psychosocial Bases of Social and Cultural Diversity</td>
</tr>
<tr>
<td>EPS612</td>
<td>Counseling Theories &amp; Practice</td>
</tr>
<tr>
<td>EPS613</td>
<td>Psychopathology for Counselors</td>
</tr>
</tbody>
</table>
### Counseling & Sexuality

- EPS614 Counseling & Sexuality
- EPS623 Substance Abuse and Addictions: Theories and Counseling
- EPS624 Theory and Practice with Children & Adolescents
- EPS625 Research & Program Evaluation in Counseling

### Marriage and Family Specialty

- EPS515 Dynamics of Marriage and Family Systems
- EPS615 Family Therapy
- EPS616 Therapy for Couples
- EPS618 Practicum in Counseling I
- EPS619 Practicum Laboratory I

### Mental Health Counseling

- EPS511 Lifestyle & Career Counseling
- EPS623 Substance Abuse and Addictions: Theories and Counseling
- EPS624 Theory and Practice with Children & Adolescents
- EPS625 Research & Program Evaluation in Counseling

### Core Courses

- EPS505 Lifespan Human Development
- EPS510 Professional, Legal & Ethical Issues in Counseling
- EPS512 Assessment Strategies for Counselors I
- EPS513 Counseling Process and Practice
- EPS514 Psychosocial Bases of Social and Cultural Diversity
- EPS612 Counseling Theories & Practice
- EPS613 Psychopathology for Counselors
- EPS614 Counseling & Sexuality

### Elective (3 credit hours required) – See Advisor.
HIGHER EDUCATION ADMINISTRATION
(Enrollment Management/Student Life and Development)

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management or Student Life and Development, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment.

Our graduates enter a variety of roles in college and university administration with the ability to consider today’s challenges from a broad-based, highly informed perspective.

Also offered is a Certificate Program for working professionals who already have Master’s degrees and seek career-furtheing credentials and skills.

The Enrollment Management concentration (33 credits), the product of a unique collaboration between the School of Education and Human Development and the Division of Enrollments, integrates theory, research, teamwork, and effective communication. It is an interdisciplinary program, with courses also required in the School of Business Administration. Opportunities abound for integrating research and theory in daily practice.

<table>
<thead>
<tr>
<th>Core Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS640 Enrollment Management Theory and Practice</td>
</tr>
<tr>
<td>EPS641 Advanced Seminar in Enrollment Management</td>
</tr>
<tr>
<td>EPS647 Seminar in Higher Education Administration: Contemporary Issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS533 Organization and Administration of Higher Education I</td>
</tr>
<tr>
<td>EPS603 Higher Education in the United States: From Harvard to the Present</td>
</tr>
<tr>
<td>EPS631 Student Diversity in American Higher Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business (6 credit hours required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT603 Leading Teams</td>
</tr>
<tr>
<td>MKT660 Foundations of Marketing Management</td>
</tr>
<tr>
<td>POL501 Budget and Financial Management and Administration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research (EPS553 is required. Must choose 1 other course for a total of 6 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS553 Introduction to Statistics</td>
</tr>
<tr>
<td>EPS554 Essentials of Research in Social and Behavioral Sciences</td>
</tr>
<tr>
<td>EPS651 Survey Research Methods</td>
</tr>
<tr>
<td>EPS654 Program Evaluation</td>
</tr>
<tr>
<td>EPS675 Qualitative Research Methods I</td>
</tr>
</tbody>
</table>
Electives (3 credit hours required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO690</td>
<td>Essentials of Economic Theory</td>
</tr>
<tr>
<td>EPS543</td>
<td>The Community College</td>
</tr>
<tr>
<td>EPS545</td>
<td>Student Affairs Practice in Higher Education</td>
</tr>
<tr>
<td>EPS570</td>
<td>Basic Skills in Counseling and Interviewing</td>
</tr>
<tr>
<td>EPS604</td>
<td>Group Dynamics and Communication Skills</td>
</tr>
<tr>
<td>EPS605</td>
<td>Psychological Bases of Education</td>
</tr>
<tr>
<td>EPS633</td>
<td>Organization and Administration of Higher Education II: Governance, Leadership and Finance</td>
</tr>
<tr>
<td>EPS635</td>
<td>College Student Development: Theory, Research and Practice</td>
</tr>
<tr>
<td>EPS636</td>
<td>Critical Issues in Student Affairs</td>
</tr>
<tr>
<td>EPS688</td>
<td>Practicum: Administration of Higher Education</td>
</tr>
<tr>
<td>KIN594</td>
<td>Practical Approach to Motivation and Ethical Decision Making</td>
</tr>
<tr>
<td>KIN595</td>
<td>Creative Approaches to Problem Solving and Conflict Management</td>
</tr>
<tr>
<td>MGT602</td>
<td>Human Resources Management</td>
</tr>
<tr>
<td>MGT603</td>
<td>Leading Teams</td>
</tr>
<tr>
<td>POL501</td>
<td>Budget and Financial Management and Administration</td>
</tr>
<tr>
<td>POL699</td>
<td>Political Ethics: The Dynamics of Contemporary Leadership</td>
</tr>
</tbody>
</table>

The Student Life and Development concentration (36 credits) provides knowledge and skills necessary to facilitate undergraduate students’ transition, adjustment and involvement in college, in ways that enhance their academic achievement and lead to persistence and graduation.

Core Course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS545</td>
<td>Student Affairs Practice in Higher Education</td>
</tr>
<tr>
<td>EPS631</td>
<td>Student Diversity in American Higher Education</td>
</tr>
<tr>
<td>EPS635</td>
<td>College Student Development: Theory, Research and Practice</td>
</tr>
</tbody>
</table>

Education

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS533</td>
<td>Organization and Administration of Higher Education I</td>
</tr>
<tr>
<td>EPS603</td>
<td>Higher Education in the United States: From Harvard to the Present</td>
</tr>
<tr>
<td>EPS640</td>
<td>Enrollment Management Theory and Practice</td>
</tr>
<tr>
<td>EPS647</td>
<td>Seminar in Higher Education Administration: Contemporary Issues</td>
</tr>
</tbody>
</table>

Counseling and Advising

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS513</td>
<td>Counseling Process and Practice</td>
</tr>
<tr>
<td>EPS570</td>
<td>Basic Skills in Counseling and Interviewing</td>
</tr>
</tbody>
</table>
### RESEARCH, MEASUREMENT AND EVALUATION

The objective of the RME programs (30 credits) is to train individuals to become experts in the research methodology, measurement, and applied statistics used in conducting applied research, evaluations, and assessments related to educational, psychological, and health outcomes. Graduates of the program have obtained skills concerning: (a) how to design research studies and evaluations, (b) what statistical and measurement analyses must be conducted to answer the desired research questions, and (c) how to analyze the collected data using appropriate statistical software. An emphasis of the program is on gaining experience in the application of the relevant methodologies using real-world data examples.

<table>
<thead>
<tr>
<th>Core courses (24 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS553 Introduction to Statistics</td>
</tr>
<tr>
<td>EPS568 Computer Applications in Educational and Behavioral Sciences Research</td>
</tr>
<tr>
<td>EPS654 Program Evaluation</td>
</tr>
<tr>
<td>EPS661 Measurement and Psychometric Theory</td>
</tr>
<tr>
<td>EPS670 Introduction to Research Methods</td>
</tr>
<tr>
<td>EPS671 General Linear Modeling</td>
</tr>
<tr>
<td>EPS672 Applied Multivariate Statistics</td>
</tr>
<tr>
<td>EPS673 Introduction to Structural Equation Models (SEM)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives (6 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS607 Advanced Individual Study</td>
</tr>
<tr>
<td>EPS650 Meta-analytic Methods for Research synthesis</td>
</tr>
<tr>
<td>EPS651 Survey Research Methods</td>
</tr>
</tbody>
</table>
### EPS Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS659</td>
<td>Field Experience in Educational Research</td>
</tr>
<tr>
<td>EPS675</td>
<td>Qualitative Research Methods I</td>
</tr>
<tr>
<td>EPS676</td>
<td>Qualitative Research Methods II: Case Studies &amp; Grounded Theory</td>
</tr>
<tr>
<td>EPS677</td>
<td>Qualitative Research Methods III: Interviewing &amp; Content Analysis</td>
</tr>
<tr>
<td>MAS602</td>
<td>Multivariate Statistics</td>
</tr>
<tr>
<td>MAS603</td>
<td>Design of Experiments</td>
</tr>
<tr>
<td>MTH524</td>
<td>Introduction to Probability Theory</td>
</tr>
<tr>
<td>MTH525</td>
<td>Introduction to Mathematical Statistics</td>
</tr>
<tr>
<td>MTH542</td>
<td>Statistical Analysis</td>
</tr>
<tr>
<td>MTH625</td>
<td>Multivariate Analysis</td>
</tr>
</tbody>
</table>

### Comprehensive exams

CERTIFICATES (non-degree programs)

- Higher Education Administration/Enrollment Management
- Higher Education Administration/Student Life and Development
- Latino Mental Health Counseling

HIGHER EDUCATION ADMINISTRATION/ENROLLMENT MANAGEMENT, Post Master’s Degree (a minimum of 4 courses)

The Certificate can be integrated into the Master’s Program in Higher Education Administration. It can be completed in addition to or after completion of a Master’s Program in Higher Education Administration, or a related field.

Core Courses (Required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS640</td>
<td>Enrollment Management Theory and Practice</td>
</tr>
<tr>
<td>EPS641</td>
<td>Advanced Seminar in Enrollment Management</td>
</tr>
</tbody>
</table>

Electives - Electives are divided into three "academic areas". Students may choose a minimum of two courses from the following list or as otherwise approved by their advisor.

- **Education**
  - EPS533, EPS543, EPS545, EPS603, EPS631, EPS633, EPS635, EPS636, EPS647
- **Business**
  - ECO690, MGT603, MKT660, POL501
- **Research**
  - EPS553, EPS554, EPS651, EPS654, EPS675, MKT661

HIGHER EDUCATION ADMINISTRATION/STUDENT LIFE AND DEVELOPMENT, Post Master’s Degree (a minimum of 4 courses)

The Certificate can be integrated into the Master’s Program in Higher Education Administration. It can be completed in addition to or after completion of a Master’s Program in Higher Education Administration, or a related field.

Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS545</td>
<td>Student Affairs Practice in Higher Education</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>EPS631</td>
<td>Student Diversity in American Higher Education</td>
</tr>
<tr>
<td>EPS635</td>
<td>College Student Development: Theory, Research and Practice</td>
</tr>
</tbody>
</table>

Electives - Students may choose a minimum of two courses from the following categories or as otherwise approved by an advisor.

<table>
<thead>
<tr>
<th>Counseling and Advising</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS513, EPS570, EPS604</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS533, EPS543, EPS545, EPS603, EPS631, EPS633, EPS635, EPS640, EPS641, EPS647</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS553, EPS554, EPS651, EPS654, EPS675</td>
<td></td>
</tr>
</tbody>
</table>

**LATINO MENTAL HEALTH COUNSELING (a minimum of 3 courses)**

This Certificate requires previous graduate training. It can be acquired after graduation from the Masters Program in Counseling or can be integrated into the Doctoral Program in Counseling Psychology. It can be completed in addition to or after completion of a degree program in counseling, psychology or a related field.

<table>
<thead>
<tr>
<th>Core Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS663 Professional Psychological Spanish</td>
</tr>
<tr>
<td>EPS665 Psychological Interventions with Hispanic / Latino Populations</td>
</tr>
</tbody>
</table>
KINESIOLOGY AND SPORT SCIENCES
Dept. Code: KIN

PROGRAMS

DOCTOR OF PHILOSOPHY (Ph.D.)

Exercise Physiology

Coursework specialization is available in this program for persons interested in clinical and research orientation in the area of exercise physiology.

<table>
<thead>
<tr>
<th>Required Core in the Major (21 Credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN520       Cellular Exercise Physiology</td>
</tr>
<tr>
<td>KIN521       Advanced Systemic Exercise Physiology</td>
</tr>
<tr>
<td>KIN530       Laboratory: Techniques in Functional Evaluation of Skeletal Muscle</td>
</tr>
<tr>
<td>KIN577       Advanced Nutrition for Health and Human Performance</td>
</tr>
<tr>
<td>KIN579       Principles of Exercise Prescription/Assessment: Cardiovascular</td>
</tr>
<tr>
<td>KIN586       Exercise Prescription Assessment Laboratory</td>
</tr>
<tr>
<td>KIN640       Neurophysiology in Exercise Science</td>
</tr>
</tbody>
</table>

Restricted Electives (Required) – Students must take 9 credits of graduate KIN courses. For further information, please contact the Program Director.

Unrestricted Electives (Required) – Students must take 3 credits of graduate coursework. For further information, please contact the Program Director.

Outside Supporting Field (Required) – Students must take 12 credits from relevant supportive field. For guidance, please contact the Program Director.

Research Competencies – All 15 Credits are Required.

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN646       Research Methods in Exercise and Sport Sciences</td>
</tr>
<tr>
<td>EPS661       Measurement and Psychometric Theory</td>
</tr>
<tr>
<td>EPS671       General Linear Models</td>
</tr>
<tr>
<td>EPS672       Regression Methods</td>
</tr>
<tr>
<td>EPS673       Introduction to Structural Equation Models (SEM)</td>
</tr>
</tbody>
</table>

Dissertation (Required) – Students must take 12 credits

Note: 2/3 of all coursework must be at or above the 600 level. Students entering with a Master's degree in Exercise Physiology or a related degree must take a minimum of 30 credits of graduate coursework at the University of Miami in addition to 12 credits of dissertation.

MASTER OF SCIENCE IN EDUCATION (M.S.Ed.)

- Exercise Physiology (NOTE: accelerated tracks are offered in each of the following, pursuant to a BS degree in Exercise Physiology or Athletic Training from the University of Miami.)
  - Regular track
  - Strength and Conditioning/Fitness Entrepreneurship
• Nutrition and human performance Sports Medicine with a Concentration in Athletic Training (Note: an accelerated track is offered pursuant to a BS degree in Athletic Training from the University of Miami)
• Sport Administration

PROGRAM IN EXERCISE PHYSIOLOGY (regular track)
NOTE: starred (*) items comprise the accelerated track

Graduate students in this program receive a sound scientific education with opportunities for applied physiological research and hands-on clinical experiences.

<table>
<thead>
<tr>
<th>36 credits (30 for the accelerated track,*) are to be taken from among the following courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>*EPS553            Introductory Statistics</td>
</tr>
<tr>
<td>*KIN520            Cellular Exercise Physiology</td>
</tr>
<tr>
<td>KIN521             Systemic Exercise Physiology</td>
</tr>
<tr>
<td>*KIN530            Laboratory: Techniques in Functional Evaluation of Skeletal Muscle</td>
</tr>
<tr>
<td>*KIN579            Principles of Exercise Prescription Assessment: Cardiovascular</td>
</tr>
<tr>
<td>*KIN586            Exercise Prescription Assessment Laboratory</td>
</tr>
<tr>
<td>*KIN640            Neurophysiology in Exercise Science</td>
</tr>
<tr>
<td>KIN646             Research Methods in Exercise &amp; Sport Sciences</td>
</tr>
<tr>
<td>*EPS671 or 553     General Linear Modeling and/or Introductory Statistics</td>
</tr>
<tr>
<td>*KIN699            Special Project in Exercise and Sport Sciences or Comprehensive Exam</td>
</tr>
<tr>
<td>*KINXXX            Restricted Electives</td>
</tr>
</tbody>
</table>

**NOTE:** Those students taking the comprehensive exam must enroll in another KIN elective course to complete their master’s degree requirements in exercise physiology.

PROGRAM IN EXERCISE PHYSIOLOGY: TRACK IN STRENGTH AND CONDITIONING/FITNESS ENTREPRENEURSHIP
Note: Starred (*) items comprise the accelerated track

This program is for persons interested in advanced skill in exercise programming and instruction, the fitness entrepreneur, and those looking for administrative positions in the fitness industry.

<table>
<thead>
<tr>
<th>36 credits (30 for the accelerated track,*) are to be taken from among the following courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>*KIN520            Cellular Exercise Physiology (athletic training majors only)</td>
</tr>
<tr>
<td>*KIN521            Systemic Exercise Physiology (athletic training majors only)</td>
</tr>
<tr>
<td>*KIN536            Strength and Conditioning I</td>
</tr>
<tr>
<td>*KIN537            Strength and Conditioning II</td>
</tr>
<tr>
<td>*KIN545            Clinical Exercise Programs</td>
</tr>
<tr>
<td>*KIN546            Elite Conditioning I</td>
</tr>
</tbody>
</table>

623
*KIN547 Elite Conditioning II
*KIN561 Fitness Facility Management
*KIN569 Exercise Physiology (athletic training majors only)
*KIN570 Advanced Exercise Programming
*KIN577 Advanced Nutrition (athletic training majors only)
*KIN579 Principles of Exercise Prescription/Assessment: Cardiovascular
KIN580 Neuromuscular Basis of Exercise Prescription
*KIN586 Laboratory: Exercise Prescription Assessment
*KIN599 Adv. Programming for Endurance
*KIN646 Research Methods

**KIN695** Graduate/Clinical Field Experience in Kinesiology and Sport Sciences (Optional)

**PROGRAM IN SPORTS MEDICINE WITH A CONCENTRATION IN ATHLETIC TRAINING**

Note: Starred (*) items comprise the accelerated track

A program for persons interested in the medical aspects of sports injuries including prevention, treatment, and rehabilitation.

36 credits (30 for the accelerated track,*) are to be taken from among the following courses:

*KIN535 Clinical Biomechanics for Sports Medicine Professionals
*KIN588 Advanced Gross Anatomy in Kinesiology and Sport Sciences
*KIN557 Advanced Diagnostic Image Techniques in Sports Medicine
*KIN615 Evidence Based Sports Medicine
*KIN616 Advanced Rehabilitation Techniques in Sports Medicine
*KIN617 Advanced Evaluation Techniques in Sports Medicine
*KIN620 Practicum in Athletic Training 1
*KIN621 Independent Study 1
*KIN622 Practicum in Athletic Training 2
*KIN623 Independent Study 2
*KIN624 Practicum in Athletic Training 3
*KIN625 Independent Study 3
*KIN626 Practicum in Athletic Training 4
*KIN627 Independent Study 4
*KIN646 Research Methods in Exercise and Sport Sciences
*KIN691 Practicum in Exercise and Sport Sciences
**KIN699** Special Project in Exercise and Sport Sciences

**PROGRAM IN SPORT ADMINISTRATION**

A program for persons interested in athletic sport administration or recreation and leisure sports administration.
Courses include (*indicates required courses):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN562</td>
<td>Fiscal Management in Sport Administration*</td>
</tr>
<tr>
<td>KIN563</td>
<td>Facilities &amp; Event Management*</td>
</tr>
<tr>
<td>KIN564</td>
<td>Sport Marketing*</td>
</tr>
<tr>
<td>KIN565</td>
<td>Legal Aspects of Sports and Exercise Science*</td>
</tr>
<tr>
<td>KIN566</td>
<td>Organization &amp; Administration of Sport Programs</td>
</tr>
<tr>
<td>KIN567</td>
<td>Elements of Sport Psychology</td>
</tr>
<tr>
<td>KIN573</td>
<td>Sport Governance</td>
</tr>
<tr>
<td>KIN574</td>
<td>Ethical Decision Making in Sport and the Professions*</td>
</tr>
<tr>
<td>KIN575</td>
<td>Essential Leadership Skills in Sport and the Professions*</td>
</tr>
<tr>
<td>KIN590</td>
<td>Special Topics in Exercise &amp; Sport Sciences</td>
</tr>
<tr>
<td>KIN603</td>
<td>Contemporary Issues in Exercise and Sport Sciences</td>
</tr>
<tr>
<td>KIN646</td>
<td>Research Methods*</td>
</tr>
<tr>
<td>KIN696/697/698</td>
<td>Graduate/Clinical Field Experiences in Exercise and Sport Sciences</td>
</tr>
<tr>
<td>KIN699</td>
<td>Special Project in Exercise and Sport Sciences*</td>
</tr>
<tr>
<td>KIN710</td>
<td>Master's Thesis</td>
</tr>
<tr>
<td>KINXXX</td>
<td>Restricted Electives</td>
</tr>
</tbody>
</table>

**CERTIFICATE (non-degree, graduate program)**

**WOMEN'S HEALTH**

A certificate in women’s health (12 credits) is available for those wishing to specialize in research issues, trends, and physiological concerns of women across the female lifespan. Students must earn a grade of "C" or higher in this specialty. Students will receive a certificate of completion upon completing all coursework in this specialty area. These courses may be considered as part of a student’s outside supporting field in the doctoral program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN681</td>
<td>Issues Specific to Women's Health</td>
</tr>
<tr>
<td>KIN682</td>
<td>Psychosocial Issues in Women's Health</td>
</tr>
<tr>
<td>KIN683</td>
<td>Sports Medicine for the Female Athlete</td>
</tr>
<tr>
<td>KIN684</td>
<td>Science and Etiology of Obesity</td>
</tr>
</tbody>
</table>

*Kinesiology and Sport Sciences Course Listing*
TEACHING AND LEARNING
Dept. Code: TAL

PROGRAMS

DOCTOR OF PHILOSOPHY (Ph.D.)

Teaching and Learning with specializations in:
- Language and Literacy Learning in Multilingual Settings (LLLMS),
- Science, Technology, Engineering and Mathematics (STEM) Education,
- Special Education

This is an individually tailored program to help students achieve their professional research-based career goals. A central component includes work on research projects that support collaboration with faculty and application of course work as students develop their own research goals. Emphasizes an understanding of theory in scholarly research; the intellectual framing and conduct of empirical research; the placement of research within cultural contexts and policy settings; designing, implementing and testing of transformative learning-environments that promote deep learning; and critical analysis of policy, research and practice.

Ph.D. PROGRAM IN TEACHING AND LEARNING: LANGUAGE AND LITERACY LEARNING IN MULTILINGUAL SETTINGS

<table>
<thead>
<tr>
<th>Strand 1: Core Language and Literacy Courses (15 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL649 Language and Literacy Policy and Planning (K-12)</td>
</tr>
<tr>
<td>TAL653 Applied Linguistics</td>
</tr>
<tr>
<td>TAL657 Theory and Research in Reading</td>
</tr>
<tr>
<td>TAL658 Theory and Research in Writing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strand 2: Interdisciplinary Topical Seminars on Language, Literacy, and Learning in Multilingual Settings (9 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strand 3: Coursework in Diversity (6 credits)</td>
</tr>
<tr>
<td>Strand 4: General Teaching and Learning Requirements (6 credits)</td>
</tr>
<tr>
<td>TAL603 Teacher in American Society</td>
</tr>
<tr>
<td>TAL662 Issues and Trends in Multicultural Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strand 5: Research Methods Competencies (15 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Prerequisite EPS 553 or equivalent )</td>
</tr>
</tbody>
</table>
### EPS670: Introduction to Research Methods

### EPS671: Group Comparative Research Designs and ANOVA Methods

### EPS672: Correlational Designs and Regression Methods

### EPS673: Advanced Multivariate Statistics

### EPS675: Qualitative Research Methods I

### EPS676: Qualitative Research Methods II

### EPS677: Qualitative Research Methods III

### EPS671: Survey Research Methods

### EPS674: Program Evaluation

**Strand 6: Dissertation Study (12 credits required)**

- **TAL730** or **TAL740**

**Dissertation**

---

**Ph.D. PROGRAM IN TEACHING AND LEARNING: SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) EDUCATION**

60 post-graduate course credits plus 12 credits of research. Course work will dovetail with students’ ongoing research activities.

**15 credits (minimum) in the core of STEM education to be selected from among the following courses:**

- **TAL683** STEM teaching and teacher education;
- **TAL684** STEM learning;
- **TAL685** STEM curriculum and policy;
- **TAL686** assessment in STEM education;
- **TAL687** STEM education research practicum;
- **TAL642** diversity and equity in STEM education;
- **TALXXX** Interaction analysis in STEM learning settings;
- **TALXXX** Instructional design in STEM education

**15 credits of research-methods courses (minimum), including quantitative, qualitative, and mixed methods approaches:**

**9 credits on student diversity including:**

- **TAL662** issues and trends in multicultural education, and
- **TALXXX** six credits focused on a specific dimension of diversity from an allied field;

**6 credits in foundations including a course in the social and cultural foundations of education and a content course in student’s field of specialization**
15 credits of electives meant to provide greater focus on field of specialization.

### Ph.D. PROGRAM IN TEACHING AND LEARNING: SPECIAL EDUCATION

<table>
<thead>
<tr>
<th>Core Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL636</td>
<td>Cognitive Psychology in Special Education.</td>
</tr>
<tr>
<td>TAL666</td>
<td>Research in Special Education.</td>
</tr>
<tr>
<td>TAL668</td>
<td>Current issues in special education.</td>
</tr>
<tr>
<td>TAL663</td>
<td>Disability and Diversity - Critical Views</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diversity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL662</td>
<td>Issues and Trends in Multicultural Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Foundations</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL603</td>
<td>Teacher in American Society</td>
</tr>
<tr>
<td>TAL661</td>
<td>The Social and Cultural Foundations of Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS670</td>
<td>Introduction to research Methods</td>
</tr>
<tr>
<td>EPS671</td>
<td>Group Comparative Research Designs and ANOVA Methods</td>
</tr>
<tr>
<td>EPS672</td>
<td>Correlational Designs and Regression Methods</td>
</tr>
</tbody>
</table>

Research (EPS553 Introductory Statistics, or an approved equivalent, is prerequisite for EPS568, EPS652, EPS654, and EPS670.)

<table>
<thead>
<tr>
<th>Doctoral</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>students are required to take at least two of the following courses:</td>
<td></td>
</tr>
<tr>
<td>EPS673</td>
<td>Advanced Multivariate Statistics</td>
</tr>
<tr>
<td>EPS652</td>
<td>Nonparametric Methods for Quantitative Analysis</td>
</tr>
<tr>
<td>EPS675</td>
<td>Qualitative Research Methods I</td>
</tr>
<tr>
<td>EPS676</td>
<td>Qualitative Research Methods II</td>
</tr>
<tr>
<td>EPS677</td>
<td>Qualitative Research Methods III</td>
</tr>
<tr>
<td>EPS651</td>
<td>Survey Research Methods</td>
</tr>
<tr>
<td>EPS654</td>
<td>Program Evaluation</td>
</tr>
<tr>
<td>EPS661</td>
<td>Measurement and Psychometric Theory</td>
</tr>
<tr>
<td>EPS662</td>
<td>Item Response Theory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dissertation</th>
<th>Description</th>
</tr>
</thead>
</table>

628
SPECIALIST IN EDUCATION (Ed.S.)

- Advanced Professional Studies
- Early Childhood Special Education
- Mathematics, Science and Technology for Resource Teachers (MST-RT) in Elementary Schools
- Reading

The Ed.S. degree is a terminal degree, for educators who already have acquired a relevant Master’s degree and who wish to increase their proficiency in their chosen field.

The program requires 30 additional credits beyond the Masters Degree (minimum) and is individually designed after admission. Some programs for cohorts of teachers feature lock-step curricula. These programs typically combine students pursuing M.S.Ed. degrees with those pursuing Ed.S. degrees. While all students in these programs follow the same curriculum, students pursuing Ed.S. degrees receive additional or different assignments.

Please contact the Department of Teaching and Learning for a program sheet and course listings for the above programs.

MASTER OF SCIENCE IN EDUCATION (M.S.Ed.)

- Advanced Professional Studies
- Education and Social Change
- Early Childhood Special Education
- Mathematics, Science and Technology for Resource Teachers (MST-RT) in Elementary Schools
- Reading

PROGRAM IN ADVANCED PROFESSIONAL STUDIES

Periodically, the Department of Teaching and Learning offers various Advanced Professional Studies programs to specific groups of teachers (cohorts). The purpose of these programs is to prepare teachers to assume leadership roles in various disciplines and to enhance the teachers’ current knowledge of “best practices” in education. Each cohort’s curriculum is designed to meet that cohort’s primary mission. Successful completion of these programs leads to conferral of the Master’s of Education (M.S.Ed.) or Specialist in Education (Ed.S.) degree.

Please contact the Department of Teaching and Learning for a program sheet and course listings for the above program.
PROGRAM IN EDUCATION AND SOCIAL CHANGE
The Education and Social Change program’s conceptual framework focuses on the world of education beyond classroom walls, the classroom context of teaching, and the students in classrooms, comprising a holistic, developmental approach across the three areas. Overall, the goals of the program track are to improve instruction for diverse populations, to prepare teachers for leadership roles within their schools, and to develop capacity to lead future change efforts in support of public education.

<table>
<thead>
<tr>
<th>Core Courses: 30 credits required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Classes</strong></td>
</tr>
<tr>
<td>TAL501  Classroom Based Measurement</td>
</tr>
<tr>
<td>TAL531  Educating Exceptional Students</td>
</tr>
<tr>
<td>TAL553  Mentoring and Internship in Classroom Teaching (3-6 credits)</td>
</tr>
<tr>
<td>TAL568  Reform, Politics, and Social Organization of Schooling</td>
</tr>
<tr>
<td>TAL577  Development, Learning, and Schooling</td>
</tr>
<tr>
<td>TAL629  Language and Reading Instruction</td>
</tr>
<tr>
<td>TAL647  Understanding Culture in the Classroom</td>
</tr>
<tr>
<td>EPS602  Psychosocial Change and Well-Being in Education</td>
</tr>
<tr>
<td><strong>Social Change Track (3 credits)</strong></td>
</tr>
<tr>
<td>TAL590  Educational Change: Meanings, Policies, and Politics</td>
</tr>
<tr>
<td><strong>Teaching Track (3 credits)—Choose one:</strong></td>
</tr>
<tr>
<td>TAL541  Methods of Teaching English in the Secondary School</td>
</tr>
<tr>
<td>TAL542  Methods of Teaching Math in the Secondary School</td>
</tr>
<tr>
<td>TAL543  Methods of Teaching Science in the Secondary School</td>
</tr>
<tr>
<td>TAL544  Methods of Teaching Social Studies in the Secondary School</td>
</tr>
<tr>
<td>TAL545  Methods of Teaching in the Elementary School</td>
</tr>
</tbody>
</table>
### PROGRAM IN EARLY CHILDHOOD SPECIAL EDUCATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL590b</td>
<td>Behavior Management</td>
</tr>
<tr>
<td>TAL610</td>
<td>Early Childhood Curriculum Development</td>
</tr>
<tr>
<td>TAL614</td>
<td>Typical and Atypical Child Development</td>
</tr>
<tr>
<td>TAL615</td>
<td>Evaluation and Assessment in Infant and Early Childhood Special Education</td>
</tr>
<tr>
<td>TAL616</td>
<td>Intervention Strategies in Infant and Early Childhood Special Education</td>
</tr>
<tr>
<td>TAL617</td>
<td>Working with Children who Exhibit Challenging Behaviors</td>
</tr>
<tr>
<td>TAL625</td>
<td>Literature for Children and Adolescents</td>
</tr>
<tr>
<td>TAL677</td>
<td>Advocacy Project and LEND Rotation</td>
</tr>
<tr>
<td>TAL678</td>
<td>Practicum with Children with Special Needs</td>
</tr>
<tr>
<td>TAL680</td>
<td>Working with Families of Young Children with Disabilities: Strategies and Medical Issues</td>
</tr>
<tr>
<td>TAL681</td>
<td>Methods for Communication and Language in Young Children with Disabilities and Adaptive Technology and Computers in Early Childhood</td>
</tr>
</tbody>
</table>

### PROGRAM IN MATHEMATICS, SCIENCE and TECHNOLOGY for RESOURCE TEACHERS (MST-RT) in ELEMENTARY SCHOOLS

30 credits from the following courses or their equivalents; courses will be taught so as to include a K-6 focus.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL518</td>
<td>Curriculum, Assessment, Teaching and Learning for Number Operations, and Algebra;</td>
</tr>
<tr>
<td>TAL520</td>
<td>Curriculum, Assessment, Teaching and Learning in Measurement and Geometry;</td>
</tr>
<tr>
<td>TAL523</td>
<td>Curriculum, Assessment, Teaching and Learning for Data Analysis and Probability,</td>
</tr>
<tr>
<td>TAL517</td>
<td>Curriculum, Assessment, Teaching and Learning in Physical Sciences</td>
</tr>
<tr>
<td>TAL521</td>
<td>Curriculum, Assessment, Teaching and Learning for the Life Sciences,</td>
</tr>
<tr>
<td>TAL522</td>
<td>Curriculum, Assessment, Teaching and Learning in Earth and Space Sciences</td>
</tr>
<tr>
<td>TAL642</td>
<td>Diversity and Equity STEM education</td>
</tr>
<tr>
<td>TAL503</td>
<td>Technology applications in education</td>
</tr>
<tr>
<td>TAL621</td>
<td>Language Arts and Culture in the Classroom</td>
</tr>
<tr>
<td>TAL601</td>
<td>Instructional Leadership</td>
</tr>
</tbody>
</table>
### PROGRAM IN READING

<table>
<thead>
<tr>
<th>Core Courses: 30 Credits Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAL502</td>
</tr>
<tr>
<td>TAL508</td>
</tr>
<tr>
<td>TAL601</td>
</tr>
<tr>
<td>TAL609</td>
</tr>
<tr>
<td>TAL621</td>
</tr>
<tr>
<td>TAL625</td>
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<tr>
<td>TAL626</td>
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<tr>
<td>TAL651</td>
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<tr>
<td>TAL652</td>
</tr>
<tr>
<td>TAL656</td>
</tr>
</tbody>
</table>

*Teaching and Learning Course Listing*
DEGREE PROGRAMS
The College of Engineering offers courses of graduate study leading to the degrees of

Master of Science,
Master of Science in Architectural Engineering,
Master of Science in Biomedical Engineering,
Master of Science in Civil Engineering,
Master of Science in Electrical and Computer Engineering,
Master of Science in Industrial Engineering, and
Master of Science in Mechanical Engineering.

Ph.D. degrees are offered in the areas of
1. Biomedical Engineering,
2. Civil Engineering,
3. Electrical and Computer Engineering,
4. Ergonomics and Human Factors
5. Industrial Engineering, and

ADMISSION REQUIREMENTS
Students with an appropriate B.S. degree may seek direct entry to either the M.S. track or Ph.D. track. Admission guidelines for the various tracks are as follows. Please refer to program specific sections of the bulletin for more information with respect to admission and degree requirements.

- B.S. to M.S.:
  In engineering, the master’s – not the bachelor’s – degree is the first professional degree, so all engineers should seek to obtain an M. S. degree. In order to facilitate the obtainment of an M.S. degree, the University of Miami (UM) College of Engineering (CoE) offers the M.S. degree through a number of possible venues or entry points, as summarized below. Every one of our M.S. degree programs requires 10 courses or 30 credit hours to complete; this can be typically undertaken in one, 9-month academic year (i.e., by enrolling in 15 credit hours per semester).
General Admission Requirements:

1. A B.S. degree from an accredited program.
2. Typically a cumulative grade point average of 3.0 on a 4.0 scale.
3. Typically a GRE score of 300 or higher (verbal + quantitative).
4. Typically for international students a TOEFL PBT score of 550 or higher, or a TOEFL iBT score of 80 or higher, or an IELTS score of 6.5 or higher.

Some students may be required to take additional pre-requisite coursework, depending on the nature and content of their B.S. degree. A maximum of 6 credit hours above and beyond those required for a B.S. degree can be transferred into our 30-credit hour M.S. program. Additionally, qualified students may apply for a partial tuition scholarship (which at present is averaging about 25% of the cost). More detailed information can be found in the Prospective Graduate Students section of our website at www.miami.edu/coe.

<table>
<thead>
<tr>
<th>UM Entry Point</th>
<th>Typical Duration</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Freshman Year</td>
<td>4 + 1 years</td>
<td>Students enter UM CoE as a freshman and apply by their junior year to obtain a joint B.S./M.S. degree after 5 years.</td>
</tr>
<tr>
<td>2. Transfer Year</td>
<td>2 + 2 + 1 years</td>
<td>Students enter UM CoE as a transfer from another accredited program after 2 years and apply by their junior year to obtain a joint B.S./M.S. degree after 3 years.</td>
</tr>
<tr>
<td>3. Summer Semester Before M.S.</td>
<td>4 + 1 year</td>
<td>International students complete their B.S. capstone project at UM CoE as exchange students, then receive their B.S. from their home institution and transition – without leaving U.S. – into the M.S. program, beginning in the Fall semester.</td>
</tr>
<tr>
<td>4. First M.S. Semester On-Campus</td>
<td>1 year</td>
<td>Students enter M.S. program either after receiving a B.S. or after being in the workforce following their B.S. degree.</td>
</tr>
<tr>
<td>5. First M.S. Semester Off-Campus</td>
<td>1.5 to 3 years</td>
<td>Working professionals enter a specially customized M.S. degree program at an off-campus location.</td>
</tr>
<tr>
<td>6. First Semester of An Intensive English Program (IEP)</td>
<td>IEP + 1.5 years (in depth detail of program found on reverse of this page)</td>
<td>International students with a B.S. in engineering who are unable to meet TOEFL/IELTS requirements and have a minimum 146 or higher score on the quantitative section of the GRE may enter into the IEP and, assuming a minimum score of 450 on TOEFL, must take one required M.S. course per IEP semester; if they graduate from IEP and their M.S. course grades average 3.0 or better, they will not be required to retake the GRE before continuing – as a full-time student – in their chosen M.S. program.</td>
</tr>
</tbody>
</table>
• B.S. to Ph.D.: Direct admission to the Ph.D. track by students holding B.S. degrees is limited to students with exceptional credentials. These credentials typically include a minimum GPA of 3.5 on a 4.0 scale and a minimum GRE of 308 (verbal plus quantitative). After completion of the Departmental M.S. requirements, students enrolled in the direct B.S. to Ph.D. track may apply for an M.S. degree.

• M.S. to Ph.D.: Criteria for admission into the Ph.D. program for students with an appropriate M.S. degree include a minimum GPA of 3.5 on a 4.0 scale within their M.S. degree program and a minimum GRE of 302 (verbal plus quantitative).

The College offers graduate programs leading to degrees in both traditional and interdisciplinary areas of study. The primary focus of the College lies in those areas and problems that cross traditional lines. Given the interdisciplinary nature of programs, flexibility is provided in course selection which allows each student to pursue a program especially tailored to the goals of the individual. Given the strengths of the University, graduate programs are offered in conjunction with other schools or units. These programs include:

• Biomedical Engineering in conjunction with the School of Medicine
• Engineering Management
  Dual M.S. in Industrial Engineering and M.B.A. in conjunction with the School of Business Administration
• M.S. program in Management of Technology in conjunction with the School of Business Administration
• M.S. in Environmental Health and Safety in conjunction with the School of Medicine.

The M.S. and Ph.D. programs in Interdepartmental Graduate Studies permit, with approval of the Graduate Council, highly qualified students to pursue a privileged individualized program which cuts across disciplinary lines.

Further details on the various College of Engineering areas of specialization are given under the Departmental and Program headings that follow this section.

Students applying for graduate admission to the College should submit three letters of recommendation from individuals familiar with the applicant’s abilities and background.

Students who hold a bachelor’s degree in a field other than their proposed major may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree.

A student’s overall program is planned by the student and the student’s advisory committee. Requirements for the M.S. thesis and non-thesis options (not available in all areas of specialization) are shown below.

Accepted M.S. applicants can apply and be considered on a competitive basis for partial tuition scholarships. Need based aid also can be awarded, as determined through the financial aid process. A minimum graduate GPA of 3.0 must be maintained in order to maintain satisfactory progress.
Accepted Ph.D. applicants financial assistance is available in the form of fellowships, partial tuition scholarships, teaching and research assistantships, and graduate cooperative assistantships combining study and work assignments with private engineering and architectural firms and government agencies. A minimum graduate GPA of 3.3 must be maintained in order to maintain satisfactory progress.

Financial support is provided predominantly to students pursuing Ph.D. degrees.

For further information, contact David T. Poole, Director of Admission, College of Engineering at dtpoole@miami.edu or 305-284-4773.

DEGREE REQUIREMENTS

Requirements for the Master of Science Degree (thesis option):

- An approved integrated program with a minimum of 30 semester credits with an average grade of B or better and no grade below C.
- At least six (6) course credits must be at the 600-level.
- Six credits of the required 30 must be earned in thesis work.
- An oral examination in defense of the thesis.

Requirements for the Master of Science Degree (non-thesis option):

- An approved integrated program with a minimum of 30 semester credits with an average grade of B or better and no grade below C.
- At least twelve (12) of the course credits must be at the 600 level.
- In most departments a 3-credit graduating project is required.

Requirements for the Doctor of Philosophy Degree:

- The programs leading to the degree of Doctor of Philosophy comply in full with the regulations of the Graduate School concerning admission, residence requirements, qualifying and final examinations and dissertation.
- Applicants for admission to the Ph.D. program will be expected to have superior records in their M.S. and B.S. degree programs, well above average scores on the Graduate Record Examination, and strong letters of recommendation.
- At least 18 credits in courses must be taken beyond the requirements for the M.S. degree of which 6 credits must be at the 600 level.
- All candidates for the doctorate are expected to complete an appropriate integrated program of studies in preparation for the comprehensive Qualifying Examination.
- Students are expected to take their qualifying exams during the first year of enrollment. Admission to candidacy across College of Engineering Departments includes passing the qualifying exam and successful defense of a proposal for research.
Minimum of one year beyond admission to candidacy is usually necessary for the completion of an acceptable dissertation (12 credits or more), whereupon the student is then expected to defend their Ph.D. thesis during the Final Oral Examination.

Departments may have requirements in addition to the above general requirements for their own graduate programs.

For further information, contact Office of Admission, College of Engineering (David Poole, dtpoole@miami.edu or 305-284-4773).

**POSTGRADUATE CERTIFICATE PROGRAM**

- A Postgraduate Certificate Program is available requiring the completion of a minimum of 15 semester hours of individually planned advanced course work in an area of engineering specialization, or interdisciplinary study.
- Course sequences culminate at an advanced level, but may begin at a basic level if a new area of specialization is to be undertaken.
- The Program must be completed with a grade average of at least C, within a period of five calendar years from the date of enrollment.
- No transfer credits will be accepted. International students requiring a student visa must be in a degree program, and cannot obtain a student visa for the Certificate Program; but international students with certain other types of visas may enroll in the Program.
- Basic admission requirement for the Program is a bachelor’s degree in a recognized field of engineering or registration as a Professional Engineer by examination.
- Students demonstrating marked ability in the Program may be encouraged to apply for admission to study for the Master’s Degree, and may apply up to six credits toward the M.S. degree.

**Customized Engineering Master’s Program**

The College of Engineering at the University of Miami has a unique graduate admission option for students wishing to be accepted into graduate studies to pursue a Master of Science degree in Engineering, but who are unable to demonstrate acceptable levels of English proficiency at the time of their application for admission. The IEP+ 1.5 Year Program is focused on helping non-native English applicants to obtain a Master of Science degree in Engineering.

Prospective students must complete and submit an application for graduate admission into the College of Engineering, providing all supporting documents as outlined in our graduate admission application and meet the following criteria:

1. Applicants must be academically admissible into graduate studies with appropriate academic credentials. They must have a Bachelor of Science degree in Engineering, or its equivalent, or be a candidate for one at the time of application.
2. Applicants must score a 146 or higher on the quantitative portion of the GRE.
3. Applicants must score a 450 or higher on TOEFL PBT (paper based test), or a 133 on TOEFL CBT (computer based test), or 45 on TOEFL iBT (internet based test) or 4.5 on ILETS (International English Language Testing System).

Students who are accepted under these criteria will enroll in our Intensive English Program (IEP) for a designated time, typically a year. The actual length of time a student will spend in IEP will be determined through a placement exam given once the student has arrived on the University of Miami Coral Gables campus. Students will also be required to enroll in a minimum of one graduate engineering course each semester while enrolled in IEP. Selection of these courses will be done after academic advising has taken place with our Associate Dean for Academics for students in this program.

Full-time enrollment in the M.S. portion of the IEP/M.S. Program will commence when the student has successfully completed Level Five of IEP and has completed two or more approved engineering courses, with a cumulative GPA of 3.0 or higher. Depending on the student’s background, the M.S. degree will require the taking of 30 or more credit hours – corresponding to 10 or more 3-credit courses – and the achievement of a cumulative GPA of 3.0 or higher in the taken courses. Assuming a 30-credit M.S. program, it is anticipated that the IEP and 6 credit hours will be completed in the first year, 18 credit hours the second year (9 credit hours in the Fall and 9 credit hours in the Spring) and a minimum of 6 credit hours in Fall of the third year; thus, the duration is expected to be IEP+1.5 years.

If you have any questions about the CEM Program including cost of the program, please contact David T. Poole, Director of Admission, College of Engineering at dtpoole@miami.edu or 305-284-4773 or Associate Dean for Academics, Dr. Shihab Asfour at sasfour@miami.edu.

**Ph.D. Course Exchange with Florida International University**

University of Miami Ph.D. students are eligible to enroll in courses at Florida International University for a maximum of 6 credits. Enrollment in FIU courses requires approval through the student’s program of study committee. See FIU/UM Ph.D. exchange section of the Graduate School section of the bulletin for more details.
BIOMEDICAL ENGINEERING - Dept. Code: BME

DEGREE PROGRAMS
The Department of Biomedical Engineering offers graduate programs leading to the degrees of Master of Science (thesis or non-thesis option) and Doctor of Philosophy in Biomedical Engineering. A 5-year BS/MS option is available for qualified undergraduate students enrolled within the Department.

AREAS OF RESEARCH
The areas of research in Biomedical Engineering include:

1. Biomedical instrumentation and devices
2. Medical imaging
3. Applications of computers to diagnostic and therapeutic systems
4. Biomechanics, biofluid dynamics, hemodynamics
5. Biomaterials, Tissue and cellular engineering
6. Biomedical signal and image processing
7. Rehabilitation and neural engineering
8. Brain-computer interface
9. Biomedical optics and lasers
10. Medical physics and engineering

ADMISSION REQUIREMENTS
A. The Department of Biomedical Engineering uses the same general graduate admission requirements as the College of Engineering.

B. Students who hold a Bachelor’s degree in a field other than engineering may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate courses, in addition to the regular requirements for the graduate degree.

MASTER OF SCIENCE
A. The Master of Science degree offers the graduate student an opportunity to obtain advanced training in selected areas of biomedical engineering and to begin independent research.

B. General requirements for the M.S. degree are listed in this Bulletin under Engineering and under Master's Degree-General.

C. Both a 30-credit thesis option and a 30 credit non-thesis option are available.

D. There is also a 5-year BS/MS option available for qualified undergraduate students enrolled within the Department.

E. The department admits four types of students to its MS program:
1. Students with BS degrees in Biomedical Engineering or similar engineering fields
2. Students with BS degrees in Electrical, Computer, Mechanical, Chemical, or similar engineering fields
3. Students with BS degrees in Physics, Mathematics, Computer Science, Chemistry, Biology or similar fields
4. Students with MD or similar degrees

F. Students in the last two groups are generally given conditional admission and required to take additional undergraduate courses in engineering, mathematics and science depending on their previous course work as decided by the graduate program director and the designated advisor.

G. There are three paths to earn a Master of Science degree in Biomedical Engineering:

1. The Thesis Option requires a minimum of 30 credits beyond the BS degree. These must include a minimum of 6 thesis credits (BME 710) and the completion of at least two appropriate courses at the 600 level.
2. The Non-Thesis Option requires a minimum of 30 credits beyond the BS degree. These must include at least 3 credits for an independent design or research project for which the student enrolls in BME 605. In addition, at least three appropriate courses at the 600 level must be completed.
3. The BS/MS Dual degree Program (see separate section below).

H. The student’s overall graduate program is planned by the student, advisor, graduate program director and the thesis committee (for the thesis option).

1. The thesis committee consists of a minimum of 3 members.
2. Two members, including the chair of the committee, shall be faculty members from the BME Department (primary or secondary), and one member must be from outside the Department.
3. Outside members of the thesis committee can include part-time faculty that teach within the Department.
4. One of the committee members must be a member of the Graduate Faculty.

I. The three courses of the Unified Medical Sciences sequence (BME 501, 502 and 503) were designed to apprise the engineer of the basic knowledge in the life sciences necessary to work in the broad field of biomedical engineering.

1. MS Students coming from traditional engineering field with no biology/medicine backgrounds are required to complete all of the three Unified Medical Sciences courses.
2. Other MS students are required to take at least two of the three courses unless the student holds a degree in medicine (MD, DO or equivalent) or an advanced degree (or its equivalent) in the life sciences.
3. Each such exception requires the approval of the department’s faculty for the course of concern.
BS/MS 5-YEAR PROGRAM

This program is available only to qualified undergraduate students enrolled within the Department as described in the Undergraduate Bulletin.

A. This program permits students to receive a baccalaureate degree (BSBE) and a Master of Science (MS) degree in five years.

B. The two degrees are awarded simultaneously when the combined requirements have been met for both degrees.

C. Qualified students who want to be enrolled in this program must apply before the end of their junior year and meet all pertinent graduate school and College of Engineering requirements.

D. In lieu of the senior design requirement, the participants complete either one significant design project or two shorter duration projects by registering for BME 605 and 606.

E. The design project(s) is (are) monitored by at least two mentors, one of the mentors must be a member of the primary faculty in the department.

F. The project(s) is (are) completed by the acceptance of a verbal presentation and a written report by the student’s mentors.

DOCTOR OF PHILOSOPHY

A. The goal of the PhD program in Biomedical Engineering at the University of Miami is to prepare graduates for careers in academia, industrial research and development, or government. The program is designed to train students for advanced independent research and technical innovation in biomedical engineering.

B. The general requirements for award of the Doctor of Philosophy degree include:

1. Completion of a minimum of 60 credits beyond the Bachelor of Science degree.

2. Satisfactory completion of a qualifying examination.

3. The submission, oral defense, and approval of a dissertation proposal.

4. The submission and oral defense and approval of a dissertation.

There are no foreign language competency requirements for the PhD in biomedical engineering.

C. The requirements for admission to the PhD program in biomedical engineering usually include:

1. In general, the department admits three types of students to its PhD program:
   a) Students with MS degrees in Biomedical Engineering or related science and engineering fields.
   b) Students with MD degrees with undergraduate degrees in sciences or engineering.
   c) Highly qualified students with BS degrees in engineering or sciences (direct BS to PhD track).

2. The general requirements for admission of BS students to the doctoral degree program are consistent with the admission requirements of the College of Engineering.
3. Students in M.S. thesis or non-thesis tracks who wish to pursue a doctoral degree can transfer to the doctoral degree program without completing a thesis or project under the following general requirements:
   a) A letter of support by a faculty member who agrees to serve as the student’s Ph.D. dissertation advisor.
   b) Completion of an application for admission to the PhD program, which will be reviewed by the Department’s Graduate Admissions Committee, using the standard admission criteria for the doctoral program.

4. Regulations concerning admission, course requirements, residence requirements, qualifying and final examinations, and dissertation are listed in this Bulletin under Engineering and Doctor of Philosophy.

D. The doctoral program in biomedical engineering requires each student to pass a departmental qualifying screening examination.

1. The screening examination consists of three written examinations on each of the following broad subjects:
   a) basic engineering;
   b) applied mathematics and computer science; and
   c) applied physiology and medical science.

2. These examinations are usually offered once or twice each year.

3. The examination must be taken the first time it is scheduled after completion of the first two semesters.

4. A student may repeat once any or all parts of the examination where the results were found unsatisfactory.

5. Students admitted to the doctoral program with a BS degree that do not pass the qualifying examination may complete the MS degree.

E. Following the successful completion of the screening examination, a PhD Supervisory Committee is appointed by the Chairperson of the Department of Biomedical Engineering. The role of the Supervisory Committee is to administer the dissertation proposal, and to make up any additional written or oral examination deemed necessary to complete the qualifying examination.

1. The supervisory committee is composed of a minimum of 5 members.

2. Three members, including the chair, shall be members of the Graduate Faculty, and one member shall be from outside the Department.

3. A minimum of three members, including the chair of the committee, must be primary faculty members from the BME Department.

4. A research mentor who is not a Primary Faculty member of the Department of Biomedical Engineering, can serve as Co-Chair of the Supervisory Committee, together with a second Co-Chair who shall be a member of the primary faculty of the Department of Biomedical Engineering.

5. A written dissertation proposal is submitted along with an oral presentation to the supervisory committee.
6. Acceptance of the dissertation proposal in combination with other examinations as determined by the committee to assure the qualifications of the student for the doctorate leads to candidacy for the Ph.D.

F. When the student is admitted to candidacy, a dissertation committee is formed.
   1. The Dissertation Committee is nominated by the Department, and is approved and appointed by the Dean of the Graduate School.
   2. In the Department of Biomedical Engineering, the Dissertation Committee is generally the same as the Supervisory Committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation.
   3. The composition of the Dissertation Committee is subject to the same rules as for the Supervisory Committee (see above).
   4. The duties of the Dissertation Committee are:
      a) to consult with and to advise students on their research;
      b) to meet, at intervals, to review progress and expected results;
      c) to read and comment upon the draft dissertation;
      d) to meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

G. Successful defense of the dissertation leads to the award of the PhD degree.

H. All students in the BME Doctor or Philosophy program are required to complete the following course or credit requirements:
   1. At least two of the following three courses: BME 501, BME502, BME503.
      a. Students, who have completed these courses or similar coursework in their previous MS programs, may substitute technical electives for this requirement.
      b. Students in the direct BS to PhD track and students with no prior exposure to biology/medicine are required to complete all three courses
      c. This requirement can only be waived for students holding MD degrees.
   2. A zero-credit Biomedical Engineering Seminar course (BME 680). This requirement is not waived, even if the student has taken this course in his/her MS program.
   3. Students admitted with an MS degree must complete at least 18 credits of graduate level course work followed by at least 12 credits of dissertation work (BME 730 before admission to candidacy or BME 740 after admission to candidacy). A minimum of 6 course credits must be at the 600 level.
   4. Students admitted with a BS degree must complete at least 42 credits of graduate level course work followed by at least 18 credits of dissertation work (BME 730 before admission to candidacy or BME 740 after admission to candidacy). A minimum of 12 course credits must be at the 600 level.
• 500 level courses are open to advanced undergraduates and to graduate students; 600 level courses are open only to graduate students and seniors with graduate standing.

Biomedical Engineering Course Listing
CIVIL, ARCHITECTURAL, AND ENVIRONMENTAL ENGINEERING -
Dept. Code: CAE

DEGREE PROGRAMS

The Department of Civil, Architectural, and Environmental Engineering offers graduate programs leading to the degrees of:

- Master of Science in Architectural Engineering
- Master of Science in Civil Engineering
- Doctor of Philosophy in Civil Engineering

The specialty areas of study in Civil Engineering include:

- structural engineering and structural materials
- environmental engineering
- water-resources engineering

The specialty areas of study in Architectural Engineering include:

- integrated building systems
- MEP systems

In all fields of specialization, up to one-half of the required course work for the selected degree may be taken outside of the Department.

ADMISSION REQUIREMENTS

All students applying to the graduate program are required to submit GRE scores and three letters of recommendation. Admission criteria are described under Colleges of Engineering – Graduate Admission Requirements.

A. International students should consult the section on admissions.

B. Students who hold a bachelor’s degree in a field other than their proposed major may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree.

MASTER OF SCIENCE

A. Requirements for the M.S. degree are listed in this Bulletin under Engineering and under Master’s Degree General.

B. A total of 6 credits of transfer and/or exchange coursework not counted towards the student’s bachelor's degree may be taken at another institution and used to satisfy requirements for the M.S. degree.

C. Both a thesis option and a non-thesis option are available.
D. There is also a 5-year B.S./M.S. option available for qualified undergraduate students enrolled within the Department. For this combined degree program only, students are allowed to transfer up to 9 credits of graduate coursework from a semester spent abroad. The coursework resulting in the 9-credit transfer is to be approved by the student's M.S. advisor prior to initiating the study abroad program.

E. Of 30 required credits, up to 6 may be thesis research. At least 12 credits must be at the 600 level, of which up to 6 credits can be thesis research, independent study, or, for 5-year BS-MS candidates, Capstone Design.

F. The student and an advisory committee plan the student's overall program.
   1. The advisory committee consists of a minimum of 3 members.
   2. The chair of the committee shall be a full-time faculty member from the CAE Department, one member must be from outside the Department and hold a Ph.D., and one member other than the chair must be either a full-time or part-time member of the Department.
   3. One of the committee members must be a member of the Graduate Faculty.

DOCTOR OF PHILOSOPHY

A. Regulations concerning admission, course requirements, residence requirements, qualifying and final examinations, and dissertation are listed in this Bulletin under Engineering and Doctor of Philosophy.

B. A total of 6 credits of transfer and/or exchange coursework beyond those counted towards the student's bachelor's and master's degrees may be taken at another institution and used to satisfy requirements for the Ph.D. degree. Students entering without a previous master's degree may use a total of 12 such credits to satisfy requirements for the Ph.D.

C. For students with a previous master's degree, 18 credits of coursework are required, six of which must be at the 600 level in courses other than independent study. For students entering without a previous master's degree, 42 credits of coursework are required, 12 of which must be at the 600 level in courses other than independent study.

D. The student and a supervisory committee plan the student's overall program.

E. A separate dissertation committee may be formed to oversee the progress of the dissertation, but, in most instances, the student's supervisory committee also serves as the dissertation committee.

F. The supervisory/dissertation committee shall be composed of a minimum of 4 members.
   1. Three members, including the chair, shall be members of the Graduate Faculty, and one member shall be from outside the Department and hold a Ph.D.
   2. A minimum of two members, including the chair of the committee, must be full-time members from the CAE Department.
RESEARCH OPPORTUNITIES - CIVIL/ARCHITECTURAL ENGINEERING

- Current research activities in the Department include properties of concrete materials, composite structural systems, fiber-reinforced concrete, modeling and simulation of engineering materials, multi-scale modeling of materials, fracture mechanics, structural steel behavior, structural health monitoring, structural repair and rehabilitation, energy, indoor air quality, heating, ventilating and air conditioning (HVAC), environmentally compatible construction materials and systems, life-cycle building systems integration, and sustainable affordable housing.

RESEARCH OPPORTUNITIES - ENVIRONMENTAL ENGINEERING

- Current research activities in the Department include development of new physicochemical water and wastewater treatment processes, potable wastewater reuse, solid and hazardous waste management, health and environmental risk analysis, environmental/economic planning for sustainable development, hazardous waste remediation, environmental health studies, water quality studies, ground-water, surface-water, and contaminant-transport processes, hydrologic processes, water resources planning and management, and water policy.

Civil, Architectural and Environmental Engineering Course Listing
ELECTRICAL AND COMPUTER ENGINEERING - Dept. Code: EEN

Current research interests of the faculty include

<table>
<thead>
<tr>
<th>Machine Learning and Artificial Intelligence</th>
<th>Decision Modeling</th>
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<tbody>
<tr>
<td>Biometrics</td>
<td>Image Processing and Computer Vision</td>
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<tr>
<td>Bioinformatics and Computational Biology</td>
<td>Underwater imaging and vision</td>
</tr>
<tr>
<td>Networks and Information Security</td>
<td>Grid Computing</td>
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<tr>
<td>Network Congestion Control</td>
<td>Communications</td>
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<tr>
<td>Wireless Network</td>
<td>Multimedia Systems and Networks</td>
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<tr>
<td>Network Science</td>
<td>Systems Engineering</td>
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<tr>
<td>Databases</td>
<td>Photonics and Integrated Optics</td>
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<tr>
<td>Data Mining</td>
<td>Optoelectronic Devices</td>
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<tr>
<td>Evidence and Data Fusion</td>
<td>Micro-Electro-Mechanical Systems (MEMS)</td>
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<tr>
<td>Signal Processing and Filtering</td>
<td>Optical Imaging and Sensing</td>
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<tr>
<td>Acoustics, Speech, and Audio Processing</td>
<td>Bio-Nanotechnology</td>
</tr>
<tr>
<td>Big Data Storage Systems</td>
<td>Very Large Scale Integration (VLSI)</td>
</tr>
<tr>
<td>Learning from Data</td>
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</tbody>
</table>

DEGREE PROGRAMS

I. MASTER OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING
   A. The Electrical and Computer Engineering Department offers the Degree of Master of Science in Electrical and Computer Engineering with 24 course credits and 6 thesis credits or 30 course credits and no thesis.

II. THE FIVE-YEAR B.S.E.E. - M.S.E.C.E DUAL DEGREE PROGRAM
    The first three years are the same as in the undergraduate B.S.E.E. program with 97 credits. The remaining 55 credits should include at least ten graduate courses of which, at least four are at the 600 level. Please consult your academic advisor for selection of appropriate graduate courses.

III. THE FIVE-YEAR B.S.CP.E. - M.S.E.C.E DUAL DEGREE PROGRAM
    The first three years are the same as in the undergraduate B.S.Cp.E. program with 98 credits. The remaining 56 credits should include at least ten graduate courses of which, at least four are at the 600 level. Please consult your academic advisor for selection of appropriate graduate courses.
IV. DOCTOR OF PHILOSOPHY
   A. The program leading to the degree of Doctor of Philosophy complies in full with the requirements of the Graduate School concerning admission, residence requirements, qualifying examinations and the dissertation.
   B. Course requirements for the Ph.D. are described under the College of Engineering section.
   C. There is no foreign language requirement.
   D. The Ph.D. program in the Department will concentrate on a variety of emphasis areas for study and research.

500-level courses are open to advanced undergraduates and to graduate students; 600 level courses are open only to graduate students.

[Electrical and Computer Engineering Course Listing]
INDUSTRIAL ENGINEERING - Dept. Code: IEN

DEGREE PROGRAMS

I. Department Mission Statement
The Department of Industrial Engineering mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

II. MASTER OF SCIENCE
A. The Master of Science degree in Industrial Engineering includes the following areas of concentration:
   1. Engineering Management
   2. Ergonomics and Human Factors
   3. Health Care Systems
   4. Management of Technology
   5. Manufacturing Engineering
   6. Occupational Health and Safety
   7. Operations Research
   8. Productivity Engineering
   9. Quality
B. Students (other than University of Miami graduates) applying for graduate admission to the College should submit three letters of recommendation from individuals familiar with the applicant’s abilities and background. Students who hold a bachelor’s degree in a field other than Industrial Engineering may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree. A student’s overall program is planned by the student and the Graduate Advisor.
C. Requirements for the Master of Science Degree (both thesis and non-thesis option):
   1. An approved integrated program with a minimum of 30 semester credits with a 3.0 average or better on all credits attempted and no single grade below “C” at the University of Miami while a graduate student.
   2. At least twelve (12) course credits must be at the 600 level.

THESIS OPTION (30 Credits)

<table>
<thead>
<tr>
<th>Course Category</th>
<th>Credits</th>
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<tbody>
<tr>
<td>5 Common Core Courses</td>
<td>15 Credits</td>
</tr>
<tr>
<td>3 Elective Courses</td>
<td>9 Credits</td>
</tr>
<tr>
<td>Master's Thesis (IEN 710)</td>
<td>6 Credits</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30 Credits</strong></td>
</tr>
</tbody>
</table>

650
NON-THESIS OPTION (30 Credits)

5 Common Core Courses  15 Credits
4 Elective Courses  12 Credits
Master's Project (IEN 694)  3 Credits

**TOTAL**  30 Credits

(Note: All courses are 3 credit hours unless otherwise indicated)

**COMMON CORE COURSES**

IEN 612 - Design of Experiments
IEN 642 – Linear Programming and Extensions (or advanced level Operations Research course)
IEN 657 - Ergonomics and Occupational Biomechanics (or advanced level Human Factors course)
IEN 664 - Supply Chain Management or IEN 572 Management of Technological Innovation (or advanced level Management Course)
IEN 665 - Advanced Production Systems

**Notes:**

i. In addition to the above required courses, the student will have to take other graduate level elective courses to fulfill the degree requirements. A list of approved electives is maintained by the Graduate Advisor in the Department of Industrial Engineering. Substitution of courses is allowed, but must be approved by the Graduate Advisor and the Department Chairman.

ii. 500-level courses are open to advanced undergraduates and to graduate students; 600-level courses are open only to graduate students.

iii. 500-level and 600-level courses are also open to qualified graduate students majoring in other disciplines.

D. The Department of Industrial Engineering offers a Five-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering Program (BSIE/MSIE Program).

1. This program is specifically designed for those students who want to pursue their graduate study as soon as they complete their undergraduate study in Industrial Engineering.

2. The special conditions for this Five-Year BSIE/MSIE Program are as follows:
   a) The student must declare his/her intent to participate before the end of their Junior year by submitting an official application to the department graduate committee for admission into the MSIE portion of the program. Exceptions to this rule must be approved by the department faculty.
b) A student wishing to withdraw from the Five-Year Program without the MSIE degree must complete all the requirements for the BSIE program, including the IEN 494 Senior Project in order to get his/her BSIE degree.

c) To qualify for the MSIE degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA.

d) The student is awarded both the BSIE and MSIE degrees at the end of the fifth year when all requirements are satisfied.

E. An interdisciplinary M.S. degree program in Environmental Health and Safety and an M.S. degree program in Occupational Ergonomics and Safety are offered through the Department of Industrial Engineering in collaboration with the School of Medicine. These programs of study are individually structured to fit the student’s interests and career objectives.

F. The Department of Industrial Engineering, in cooperation with the School of Business Administration, offers three programs:
   1. a dual MSIE/MBA weekend executive program,
   2. an M.S. in Management of Technology,
   3. an M.S. in Quality Management.

For more details on these programs, contact the Department of Industrial Engineering.

III. DOCTOR OF PHILOSOPHY

A. The Department offers a Ph.D. in Industrial Engineering for students with a background in engineering and a Ph.D. in Ergonomics and Human Factors for students with a background in engineering and/or related sciences.

B. General requirements for award of the Doctor of Philosophy degree include:
   1. Sixty credits beyond the baccalaureate degree are the minimum requirement for the Ph.D.
   2. At least 24 must have been taken in residence at the University of Miami. A minimum of 12 dissertation credits must be taken.

C. Course work requirements depend on the student’s background, and are established by the Graduate Advisor and the Department Chairman.

D. To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.

E. Once a student has completed all course and required research credits, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.

F. A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the
Department Chairman that the student has passed or failed the examination. A student who fails the examination may be permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credits attempted with no single grade below "C" at the University of Miami while a graduate student.

G. Each student in the Ph.D. program in Industrial Engineering has to take and pass 5 qualifying exams in the following areas: Management of Technology, Ergonomics & Biomechanics, Operations Research, Manufacturing Engineering, and Statistics & Regression analysis.

H. Each student in Ph.D. program in Ergonomics and Human Factors has to take and pass 5 qualifying exams in the following areas: Ergonomics and Human Factors, Industrial Hygiene, Safety Engineering, Biomechanics, and Statistics & Regression analysis

I. Upon completing the course requirements, passing the qualifying exams, and successfully defending the Ph.D. proposal, the student is eligible for admission to the Ph.D. candidacy.

J. Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. Dissertation committee chair will decide on the dissertation committee members. The Dissertation committee will consist of not less than four members, three from the Department’s graduate faculty, one from outside the Department. The chairman has to be a member of the graduate faculty. The duties of the Dissertation Committee are:

1. To consult with and to advise students on their research.
2. To meet, at intervals, to review progress and expected results.
3. To read and comment upon the draft dissertation.
4. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.
5. The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.

K. There are no foreign language requirements for the Ph.D. degree.
MECHANICAL AND AEROSPACE ENGINEERING - Dept. Code: MAE

DEGREE PROGRAMS

I. The Department of Mechanical and Aerospace Engineering offers courses and provides facilities for two programs of graduate study and research in Mechanical Engineering, leading to the degrees of

- Master of Science
- Doctor of Philosophy

A. The program of study must reflect the importance of underlying principles of the physical sciences and mathematical analysis to all phases of modern mechanical engineering.

B. Within the department, specializations are available in

<table>
<thead>
<tr>
<th>Fluid Mechanics</th>
<th>Heat Transfer</th>
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<tr>
<td>Energy Conversion</td>
<td>Hydrogen Energy</td>
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<tr>
<td>Environmental Engineering</td>
<td>Materials Science,</td>
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<tr>
<td>Solid Mechanics</td>
<td>Internal Combustion Engines</td>
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<tr>
<td>Robotics</td>
<td>Controls and Design</td>
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<tr>
<td>Composite Materials</td>
<td>Aerodynamics and CFD</td>
</tr>
<tr>
<td>Optimization and Reliability</td>
<td>Nano-Bio-Systems</td>
</tr>
<tr>
<td>Nano Mechanics</td>
<td>Fuel Cells</td>
</tr>
</tbody>
</table>

C. It is expected that each graduate student will indicate early in his/her graduate work (within the first year), the particular area in which he/she intends to concentrate his/her efforts as well as the faculty advisor for dissertation.

II. MASTER OF SCIENCE

A. One academic year, or equivalent, spent in full time graduate study will be the minimum time necessary for a student to fulfill the requirements for the degree of Master of Science in Mechanical Engineering.

B. General requirements for the M.S. degree are listed under the Engineering heading of this section and in the general information of this Bulletin.

C. Students applying for acceptance to degree status must comply with the general requirements of the Graduate School.

D. Both a 30 credit hour thesis option and a 30 credit hour non-thesis option are available.

1. The student taking the Thesis Option must take an oral examination in defense of the thesis.

2. The student taking the Non-Thesis Option must complete a 3-credit Graduation Project at the end of the course program.

3. The Master of Science Degree in Mechanical Engineering (Management Option) can only be taken under the Non-Thesis Option.
   a) This degree specialization combines 15 credits selected from graduate business courses with 15 credits in a graduate engineering area of concentration.
   b) An undergraduate degree in engineering is required.
III. DOCTOR OF PHILOSOPHY

A. The program in the Department of Mechanical and Aerospace Engineering leading to the degree of Doctor of Philosophy complies in full with the regulations of the Graduate School concerning admission, residence requirements, qualifying and final examinations and the dissertation.

B. There is no foreign language requirement.

C. All candidates for the Ph.D. degree are expected to complete an integrated program of studies in mechanical engineering, mathematics, physics and/or chemistry in preparation for the Qualifying Examination.

D. A qualifying examination is to be taken by each doctoral degree student within the first year. In the qualifying examination, the student is expected to demonstrate his/her competence in certain basic courses appropriate to modern mechanical engineering to the satisfaction of the department. A Ph.D. student will be admitted to candidacy after passing the qualifying examination as well as the defense of dissertation proposal.

E. One or two years beyond admittance to candidacy will usually be found necessary for the completion of an acceptable dissertation, whereupon the student will be required to pass the Final Oral Defense of the Dissertation.

F. The candidate may, if he/she so desires, pursue for his/her dissertation an investigation in connection with any of the research projects in progress in the Mechanical and Aerospace Engineering Department or, in the case of interdisciplinary programs, in other Colleges/Schools such as the School of Marine and Atmospheric Science or the Medical School.

500 level courses are open to advanced undergraduates and to graduate students; 600 level courses are open only to graduate students.

IV. CLEAN ENERGY RESEARCH INSTITUTE

A. The Clean Energy Research Institute in the Department of Mechanical and Aerospace Engineering acts as the focal point of energy and environment related activities in the College of Engineering.

B. Its goals are: to conduct research and to generate research proposals to investigate energy and environmental problems; to organize seminars, workshops and conferences using researchers within and without the University; to assemble, compile, publish and disseminate information on every aspect of energy and environmental problems; and to cooperate with other organs of the University, other academic institutions, government and private organizations in connection with the above listed activities.

C. The current activities of the Institute include research into hydrogen as a clean, inexhaustible synthetic fuel, environmental damage caused by fossil fuels, global warming and its remediation, instabilities in boiling systems, solar cooling and heating, hybrid solar collectors, remote sensing applied to energy related problems and solar energy, system optimization and reliability of solar and wind energy systems, and organization of national and international conferences and symposia on energy and environmental problems.

V. Research Laboratories

Aerospace Materials Simulation Laboratory
Aerodynamics and Computational Fluid Dynamics Laboratory
Design and Manufacturing Laboratory
Fuel Cells Laboratory
Thermo-Fluid Mechanics Laboratory
Integrated Nano-Bio-Systems Laboratory
Internal Combustion Laboratory
Materials Laboratory
Materials Modeling Laboratory
Measurements Laboratory
Optimization and Reliability Laboratory
Robotics and Intelligent Systems Engineering Laboratory
Stress Analysis Laboratory
Tissue Biomechanics Laboratory
Wind Tunnel Laboratory

Mechanical and Aerospace Engineering Course Listing
INTRODUCTION

The Rosenstiel School of Marine and Atmospheric Science was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation’s leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School’s present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired, and additional buildings were constructed to accommodate new wide-ranging projects. In 1969 the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution made through the Rosenstiel Foundation to encourage progress in the marine and atmospheric sciences at the University of Miami. In 1977, the School and College of Arts and Sciences joined together to establish an undergraduate Marine and Atmospheric Science program based on the Coral Gables campus. The degree granting authority for this program was formally transferred to the Rosenstiel School in 2008.

Today the Rosenstiel School has a faculty of 80 scientists who conduct sponsored research while offering graduate studies leading to the Master of Professional Science, Master of Science and Doctor of Philosophy degrees. The School offers curricula in applied marine physics, marine and atmospheric chemistry, marine affairs and policy, marine biology and fisheries, marine geology and geophysics, and meteorology and physical oceanography. The School also offers undergraduate programs leading to the Bachelor of Science in Marine and Atmospheric Science degree.

Government agencies and private organizations support basic and applied research at the Rosenstiel School. Graduate students are an integral part of the research effort, and research programs, many multidisciplinary in nature, provide the environment within which professors and students interact.

The Rosenstiel School has modern laboratory facilities and a state-of-the art catamaran, unrivaled worldwide for both shallow and deep water research. The vessel, named the F. G. WALTON SMITH, in honor of the founder of the Rosenstiel School, signals a new era in scientific research. The Smith was built in 1999 and placed in service in February, 2000.

The 96-foot-long catamaran is capable of reaching speeds of over 12 knots and has a draft of only 5 feet, which enables it to explore heretofore inaccessible areas such as reefs, mangroves, grassbeds, and other shallow environments. The vessel accommodates 20 people in its ten two-person staterooms and encompasses 800 square feet of laboratory space, as well as an additional 800 square feet of multi-use space astern. Constructed by Eastern Shipbuilding Group in Panama City, Florida, the catamaran boasts twin Cummins engines at 760 hp each, Servogear variable pitch propellers, a 3,000-gallon tank of fresh water plus a reverse osmosis water maker, and 10,000 gallons of fuel storage.
DEPARTMENTS

The Rosenstiel School is made up of six academic divisions through which graduate degree programs are offered. These are:

- Applied Marine Physics
- Marine and Atmospheric Chemistry
- Marine Affairs and Policy
- Marine Biology and Fisheries
- Marine Geology and Geophysics
- Meteorology and Physical Oceanography

DEGREE PROGRAMS

The Rosenstiel School of Marine and Atmospheric Science offers graduate degree programs leading to the Master of Professional Science (M.P.S.), Master of Science, and Doctor of Philosophy degrees in applied marine physics, marine and atmospheric chemistry, marine biology and fisheries, marine geology and geophysics, and meteorology and physical oceanography. The division of Marine Affairs and Policy offers interdisciplinary Master of Professional Science and Master of Science degrees only.

In conjunction with the University of Miami School of Law, the Division of Marine Affairs and Policy at the Rosenstiel School also offers a joint degree program in Law and Marine Affairs. Upon completion of this program, a student earns a Juris Doctor degree from the School of Law and a Master of Professional Science in Marine Affairs and Policy from Rosenstiel.

The Rosenstiel School admits graduate students in the following categories. Regular admission is for students who wish to pursue a graduate degree. Non-degree admission provides an opportunity for graduate study to qualified applicants who do not wish to work toward an advanced degree but who have special objectives for professional study, or who already hold an advanced degree and desire additional coursework in the field. No more than twelve (12) credit hours may be taken while in non-degree status. A Certificate Program is available in all areas of study. This program provides professional training for any student who requires training in a specific research area but does not require an advanced degree. This program consists of one year full-time study with a minimum of eighteen (18) credit hours. Transient status is a type of non-degree admission available to students enrolled in a graduate program elsewhere but desiring to earn credit at the University of Miami for the purpose of transferring it to the home institution. All graduate students are required to demonstrate the ability to prepare and teach scientific material.

ADMISSION REQUIREMENTS

An application for admission to the Rosenstiel School of Marine and Atmospheric Science consists of the application form, application fee, transcripts, results of the Graduate Record Examination, results of the TOEFL or IELTS exam (for international students), and three letters of recommendation from persons knowing the applicant’s academic abilities. The application is encouraged to be filed by Dec 1st and must be filed by January 1st to have the highest probability for acceptance the following Fall semester. The application submission period for the M.P.S. program is from February 1st to June 1st. Students are normally
admitted only in the Fall semester; however, applicants who have received a Master’s degree may be considered for Spring admission to the Ph.D. program.

Because of resource limitations, only a small percentage of those applying for graduate study in marine and atmospheric science can be accepted. Undergraduate scholastic performance, the reputation of the school involved, Graduate Record Examination scores, and the letters of recommendation are all considered in evaluating an application.

A complete description of the Rosenstiel School, its faculty, educational and research facilities, curriculum and degree requirements is contained in the Bulletin of the Rosenstiel School of Marine and Atmospheric Science. The current Bulletin and additional information can be found on the Rosenstiel School website located at www.rsmas.miami.edu/grad-studies/.

UNDERGRADUATE PREPARATION

Students interested in pursuing marine or atmospheric science on the graduate level should elect an undergraduate major in one of the basic scientific disciplines. The undergraduate college should be selected on the basis of curriculum, staff strength, and research interests in that major. The student should be careful to satisfy the graduation requirements of his/her own college or university and should consult undergraduate departmental advisors for assistance on individual programs.

The undergraduate course requirements for students applying for graduate study at the Rosenstiel School are detailed below. The courses that are required or strongly recommended are printed in roman type. The courses which should be taken if the student’s program can include them are printed in italic type.
### Applied Marine Physics/Ocean Engineering

<table>
<thead>
<tr>
<th>Physics</th>
<th>Chemistry</th>
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<tbody>
<tr>
<td>General physics</td>
<td>General chemistry</td>
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<tr>
<td>Mechanics</td>
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<td>Thermodynamics</td>
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<td><em>Electromagnetism</em></td>
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<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Engineering</th>
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<tbody>
<tr>
<td>Calculus</td>
<td>Fluid mechanics</td>
</tr>
<tr>
<td>Differential equations</td>
<td>Solid mechanics</td>
</tr>
<tr>
<td>Advanced calculus</td>
<td>Electronics</td>
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<tr>
<td><em>Complex variables</em></td>
<td>Signal processing</td>
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<tr>
<td>Linear algebra</td>
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<tr>
<td>Numerical methods</td>
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<tr>
<td>Probability and statistics</td>
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</table>

### Marine and Atmospheric Chemistry

<table>
<thead>
<tr>
<th>Chemistry</th>
<th>Mathematics</th>
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<tbody>
<tr>
<td>General chemistry</td>
<td>Linear algebra</td>
</tr>
<tr>
<td>Inorganic chemistry</td>
<td>Calculus</td>
</tr>
<tr>
<td>Physical chemistry</td>
<td>Differential equations</td>
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<tr>
<td>Organic chemistry</td>
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<td><em>Qualitative analysis</em></td>
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<tr>
<td>Quantitative analysis</td>
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<td>Biochemistry</td>
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<td>Geochemistry</td>
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<table>
<thead>
<tr>
<th>Physics</th>
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<tbody>
<tr>
<td>General physics</td>
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### Marine Biology and Fisheries

<table>
<thead>
<tr>
<th>General Requirements</th>
<th>Biological Sciences (all courses recommended only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biology (one year)</td>
<td>Genetics/Molecular biology</td>
</tr>
<tr>
<td>General Chemistry (one year)</td>
<td>General Physiology/Cell Biology</td>
</tr>
<tr>
<td>Organic Chemistry OR Biochemistry</td>
<td>Ecology/Population Biology</td>
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<tr>
<td>(one semester)</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>Physics (one year)</td>
<td>Organismal Biology (vertebrate or invertebrate)</td>
</tr>
<tr>
<td>Calculus (one year)</td>
<td></td>
</tr>
<tr>
<td>Language (none)</td>
<td></td>
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</tbody>
</table>

*Deficiencies in one of the required courses may be considered on a case-by-case basis for otherwise highly qualified students.*

### Marine Affairs and Policy

There are no specific requirements for the Division of Marine Affairs and Policy. Please contact the Department for information on academic requirements.

### Marine Geology and Geophysics

<table>
<thead>
<tr>
<th>Geology</th>
<th>Mathematics</th>
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</thead>
<tbody>
<tr>
<td>Physical geology</td>
<td>Calculus</td>
</tr>
<tr>
<td>Mineralogy</td>
<td>Differential equations</td>
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<tr>
<td>Petrology</td>
<td>Linear algebra</td>
</tr>
<tr>
<td>Paleontology</td>
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<tr>
<td>Structural geology</td>
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<tr>
<td>Field geology</td>
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<tr>
<td>Stratigraphy</td>
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<tr>
<td>Sedimentation</td>
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</tbody>
</table>
DEGREE REQUIREMENTS

THE MASTERS OF PROFESSIONAL SCIENCES (MPS) PROGRAMS

The M.P.S. Degree

The Master of Professional Science degree is offered in the disciplines of Marine Affairs and Policy (Aquaculture Management, Coastal Zone Management, Coastal Sustainability, Marine Conservation, and Underwater Archaeology), Marine Biology and Fisheries (Fisheries Management and Conservation, Marine Mammal Science, Tropical Marine Ecosystem Management, and Oceans and Human Health), and Meteorology and Physical Oceanography (Broadcast Meteorology, Computational Meteorology and Oceanography, Weather, Climate and Society, and Weather Forecasting). It is expected that the normal time for completion of degree requirements for the Master of Professional Science degree will be 12 – 15 months of full-time study.

Credit Requirements

Students in the Masters of Professional Science Program are required to complete 24 course credits and 6 internship credits. Within each track, there are compulsory classes and electives. Coursework is multidisciplinary and thus will be accepted from multiple departments. As the terminal part of the degree, students must complete an internship with an approved agency, institution, or business, culminating in a final report.

Comprehensive Examination

A comprehensive examination is required of all M.P.S. students after completing at least 18 course credits and prior to beginning an internship. In most cases, the exam will be written and will be based on M.P.S. coursework. However, each division determines the content and
form of the examination and establishes the test date for its students in a given year-class according to general school guidelines. In the event of a failure, a student may be re-examined once, upon the advice of the student's advisor and at the discretion of the faculty of the division. If granted, the re-examination must be given before the end of the following semester. The Graduate Studies Office should receive written notification of the examination results. Students who fail the re-examination are subject to dismissal from the school.

Internship
Each student will be required to complete an internship with an organization engaged in some activity associated with marine and atmospheric science and identify an Internship Supervisor. Internships can be either paid or unpaid by the organization, or students can complete the internship by formal participation in a University sponsored program. An internship proposal, including contact information for the Internship Supervisor, must be submitted to the academic advisor and mentor for approval before the internship can begin.

Internship Report
The final grade will be based on a written report and an oral presentation. The internship report is not a summary of involvement but rather a contributory assessment of the experience, including developmental insight and a summary of any research performed. Internship report guidelines will be provided.

Conference Attendance
Though not mandatory, M.P.S. students are strongly encouraged to attend a scientific conference during their academic residency at RSMAS.

THE M.S. PROGRAM
The Master of Science degree is offered in the disciplines of applied marine physics, marine affairs and policy, marine biology and fisheries, marine and atmospheric chemistry, marine geology and geophysics, or meteorology and physical oceanography. It is expected that the normal time for completion of degree requirements for the Masters of Science degree will be two years of full-time study.

Credit Requirements
Twenty-four graduate course credits are required for the Master of Science degree. In addition, the student must enroll for a total of six credit hours of thesis research (710). All students are required to take at least one course outside the division of residence.

Comprehensive Examination
A comprehensive examination is required of all students. Each division determines the content and form of the examination and establishes a test date for its students according to general School guidelines. In the event of a failure, a student may be reexamined once, upon the advice of the student’s committee and at the discretion of the faculty of the Division. If granted, the reexamination must be given before the end of the following semester. Students who fail the re-examination are subject to dismissal from the School.

Thesis
A thesis is normally required for the Master of Science degree in marine and atmospheric science. Under certain conditions, the requirement of a thesis may be waived. A paper accepted for publication can be substituted for the thesis (only where the student is the sole author), or the M.S. degree can be bypassed. Both of these exceptions must be approved by the student’s committee, the faculty of the pertinent division, and the School Graduate Academic Committee. If a thesis is required, a public oral defense of the thesis must take
place. The thesis committee must consist of at least three members, one of whom is a regular member of the Graduate Faculty of the University; one member must be from outside the division.

THE M.S. PROGRAM IN MARINE AFFAIRS

The Rosenstiel School of Marine and Atmospheric Science offers a Master of Science Program in Marine Affairs and Policy. There are two tracks that are currently offered in the program. The MS Policy track offers an advanced training program in marine science applicable to topics such as the integrated coastal zone management and spatial planning. Applicants must have a baccalaureate degree from an accredited college or University. This program is for students with interests in the areas of administration, management and the conservation of marine resources.

The MS Science/Policy track is an integrated track in marine science and policy and gives students with a strong science background opportunities to build careers in marine resource management. The track offers an academic curriculum for students interested in the application of science and technology to management issues.

Both M.S. tracks may be completed in an intensive program of five semesters.

Credit Requirements
The Master of Science requires the completion of 24 course credits and six master’s thesis credits. A committee of three is required – one advisor from Marine Affairs and Policy, a member from outside of Marine Affairs and Policy and one other faculty member from Marine Affairs and Policy. A thesis is required for the M.S. degree and a public oral defense of the thesis must take place. A grade point average of 3.0 or better must be maintained. All students are required to take at least one course outside the division.

Comprehensive Examination
An oral and written comprehensive examination is required of all students in Marine Affairs and Policy. In the event of a failure, a student may be reexamined once, upon the advice of the students committee and at the discretion of the faculty of the Division. If granted, the reexamination must be given before the end of the following semester. Students who fail the re-examination are subject to dismissal from the School.

THE PH.D. PROGRAM

The Doctor of Philosophy degree is offered in applied marine physics, marine biology and fisheries, marine and atmospheric chemistry, marine geology and geophysics, and meteorology and physical oceanography. It is expected that the total time to complete the requirements for the Ph.D. degree will normally be four years of full-time study from the date of receipt of the M.S. degree or, if the M.S. is bypassed, five years of full-time study from the date of admission with a bachelor’s degree.

Credit Requirements
A total of sixty credits are required for the Ph.D. and not less than half of the total credits must be in work open only to graduate students (i.e. 600 level or above). At least twenty-four of the sixty credits must be course credits taken in residence at the University of Miami, and may include those course credits taken as part of the Master of Science degree. A minimum of 12 dissertation research credits must be taken; however, the course credit and
research credit requirements needed are determined by the individual division. Students transferring into the school with a Master’s of Science degree are normally given credit for twenty-four course credits. However, individual divisions may require additional course credits to remove deficiencies. All students entering the Ph.D. program without a master’s degree are required to take at least one course outside the division of residence.

**Dissertation Committee**
The dissertation committee must consist of at least four members; this includes the committee chair, who shall be a member of the division or share the chair duties with a co-chair from the committee and be a regular member of the Graduate Faculty. Of the remaining members, two shall be from the Graduate Faculty, and one member of each Ph.D. committee must have their primary affiliation outside of RSMAS and that member must also have a Ph.D. degree. (Adjunct and secondary appointments are considered outside if their primary affiliation is not RSMAS).

**Comprehensive Examination**
A comprehensive examination, oral, written or both, is required of all RSMAS students. In the event of a failure, a student may be re-examined once, upon the advice of the student's committee and at the discretion of the faculty of the division. Students who fail the re-examination are subject to dismissal from the School.

**Qualifying Examination**
A written qualifying examination is required of all students admitted to the doctoral program. The student's committee will normally prepare and administer the examination within the guidelines established by the faculty of the School and of each division. In the event of a failure, a student may be reexamined once, upon the recommendation of the student’s committee and at the discretion of the faculty of the division. If granted, the reexamination must be given before the end of the following semester. Language and other research tools requirements, if applicable, must be completed prior to taking the qualifying examination. Students who fail the re-examination are subject to dismissal from the School.

**Dissertation Proposal**
An outline of the dissertation containing the following must be approved by the student's committee and submitted to the RSMAS Graduate Studies Office with a copy to the division academic committee:

(a) tentative title
(b) statement of the problem and objectives
(c) methods of attacking the problem, including equipment and facilities required
(d) timetable
A “Proposal Approval” form must accompany the proposal and be signed by the members of the student’s committee.

**Admission to Candidacy**
Upon completion of the following requirements, the student is admitted to candidacy:

(a) have an approved committee on file in Graduate Studies
(b) successfully pass the comprehensive examination
(c) successfully pass the qualifying examination
(d) complete the language requirement, if any
(e) submit the dissertation proposal
(f) have a 3.0 average in all credits earned (≥ 12 credits)
(g) remove all “I” or deficiencies

An application for Admission to Candidacy must be completed. All doctoral students must be admitted to candidacy at least one semester prior to the one they intend to graduate.

**Dissertation**

A dissertation is required of all doctoral students at the Rosenstiel School. A public oral defense of the dissertation is required. A student must be admitted to candidacy prior to the defense and registered in the semester that he/she defends. Each dissertation must be accompanied by three originals of the Certificate of Approval. This form must be signed by all members of the student's committee and the RSMAS Associate Dean of Graduate Studies.

No student gains the right to be recommended for the degree simply by fulfilling requirements. The right to recommend to the degree is reserved for the student's Committee. Any student who fails to meet the cumulative grade point average requirement and other academic progress standards established by the University and the School is subject to dismissal from the graduate program.
APPLIED MARINE PHYSICS
Dept. Code: AMP

DEGREE PROGRAMS
Master of Science and Doctor of Philosophy degrees in applied marine physics are offered by the Applied Marine Physics Division of the Rosenstiel School of Marine and Atmospheric Science. An approved interdisciplinary program is required for the M.S. degree in applied marine physics which consists of a minimum of 30 semester credits at the graduate level with an average grade of “B” or better and no grade below “C.” The 30 credits are divided among 24 credits in courses and six credits for thesis research. At least six of the required course credits must be at the 600 level. For the Ph.D. degree, 60 graduate semester credits are required. These are divided among a minimum of 27 credits in courses (9 of which must be at the 600 level) and a minimum of 12 credits in dissertation research. Students may include up to 24 credits for course taken as part of a Master of Science degree (validation of previous credit courses is necessary).

Applied Marine Physics Course Listing
MARINE AFFAIRS AND POLICY - Dept. Code: MAF

DEGREE PROGRAMS

The Division of Marine Affairs and Policy accepts highly qualified students who wish to pursue an academic degree program (M.P.S. or M.S.) that combines a basic curriculum in marine science with a complementary program in a non-marine science discipline. Student programs are individually designed, and the M.S. curriculum requires a thesis. The program is intended to provide the student with a broadened perspective of marine issues and problem-solving abilities. MAF offers specializations in Aquaculture Management, Coastal Zone Management, Coastal Sustainability, Marine Conservation, and Underwater Archaeology.

Current division research and teaching focus on integrated coastal zone management, marine resource economics, political and environmental ecology, coastal and ocean law and policy, fisheries and aquaculture management, environmental planning and environmental impact assessment, underwater marine cultural resource management and marine geographic information systems.

The M.S. in Marine Affairs and Policy program is geared to students who are interested in the application of science and technology in issues of marine resource management and are willing to carry out independent investigation and to present the results in a thesis. The MS has two tracks, the Science/Policy track and the Policy track. Students who apply to the Science/Policy track are required to have a B.S. degree in one of the pure sciences. The MS curriculum will include courses and training, which will address current marine policy issues and policy analysis techniques. The M.P.S. program is geared to students with diverse academic backgrounds who are interested in careers related to marine resource management and policy and who seek advanced training in marine and atmospheric science.

Marine Affairs and Policy, in cooperation with the Undergraduate Marine and Atmospheric Science Program, also offers a five-year BA/M.P.S. Program in Marine Affairs. This program enables qualified students to earn a B.A. in Marine Affairs in four years with the opportunity to earn an M.P.S. with only one additional year. Conditional acceptance to the MPS program is based on the student’s GPA at the end of their sophomore year. Students must then take GRE exams and apply for acceptance to the graduate program at Rosenstiel during their junior year.

The Division of Marine Affairs and Policy at the Rosenstiel School and the University of Miami School of Law offer a Joint degree program in Law and Marine Affairs. Upon completion of this program, a student earns a Juris Doctor degree from the School of Law and a M.P.S. in Marine Affairs from Rosenstiel. A student may complete requirements for both degrees within three and one-half years in an intensive program of six semesters and two full summers. This program is geared toward students who want a career in the field of law with a specialization in marine and environmental issues.

Marine Affairs and Policy course listing.
MARINE AND ATMOSPHERIC CHEMISTRY - Dept. Code: MAC

DEGREE PROGRAMS

The program covers the chemistry of the atmosphere and oceans, including geochemical, photochemical and biochemical processes. Undergraduate training should be in chemistry, physics, biology and mathematics; also useful may be courses in geology, biochemistry, oceanography and meteorology.

New students are evaluated for their knowledge of chemistry; deficiencies are corrected by directed study and/or course work and must be remedied within one year. New students can be admitted to the M.A. or the M.S. program, or directly into the PhD program, even without a prior M.S. degree.

Students are assigned a faculty advisor when they are accepted into MAC, and before the end of the second year they form a supervisory committee. The advisor and committee discuss with the student a course of study and research for the student. Students without an MS degree take a written comprehensive examination after course work is complete. The comprehensive exam tests the basic knowledge of marine and atmospheric science, and is based on course material taken by the student. After passing the comprehensive exam, the student prepares a dissertation research proposal which usually includes an abstract, background material, hypothesis and/or list of objectives, methods, preliminary data, and bibliography. The dissertation research proposal needs to be approved by the advisor and supervisory committee. Ph.D. students also take a written qualifying exam. The qualifying examination is set by the advisor and supervisory committee and is taken after their approval of the dissertation proposal. The qualifying exam tests the student's knowledge of the chosen research topic. An oral examination may be required after the written examination. Students who twice fail the qualifying examination will receive an MS if they present and successfully defend a written thesis. For all students, the seminar (MAC 670) is taken twice for credit. However, each student must give one seminar per year and they must attend seminars regularly.

Marine and Atmospheric Chemistry Course Listing
MARINE BIOLOGY AND FISHERIES - Dept. Code: MBF

DEGREE PROGRAMS

Students admitted to the program in the Division of Marine Biology and Fisheries are required to have a strong undergraduate preparation in the life sciences, with additional coursework in mathematics (calculus), physics, and chemistry (through organic). The program offers a series of study-options leading to the M.P.S., M.S. or Ph.D. degrees. These are intended to guide the student in a comprehensive study of marine organisms and the marine environment, and to develop areas of specialization within the marine biological sciences. Students are strongly encouraged to contact the faculty member whose area of research is of interest to them.

Areas of faculty interest include biological oceanography, biochemistry and molecular biology, ecology, fisheries, microbiology, physiology, toxicology, systematics, behavior and ecosystem and fisheries management. Students are not restricted to studies in any one study-option, and may (in consultation with their faculty advisor and/or committee) tailor their academic programs to suit individual interests in more than one area of faculty expertise. Within the Division of Marine Biology and Fisheries there are four major academic tracks for the M.S and Ph.D. degrees, each of which has one or more sub-specializations. These are (1) Biological Oceanography, which has an emphasis on near shore and pelagic marine life; (2) Fisheries Sciences, which focuses on fisheries stock assessment, population modeling, and fisheries management; (3) Marine Biomedical Sciences, which has subspecialties in Marine Molecular Biology and Genetics, Marine Diseases, and Marine Physiology and Biochemistry/Toxicology; and (4) Ecological Sciences and Coastal Marine Biology. This latter academic track offers specialization in Marine Biology, Coral Reef and Coastal-Marine Ecology, and Ecological Systems and Environmental Management. Individual curricula may blend coursework from one or more tracks depending on the specific interests of the student.

Marine Biology and Fisheries Course Listing
MARINE GEOLOGY AND GEOPHYSICS - Dept. Code: MGG

DEGREE PROGRAMS

The undergraduate student wishing to prepare for graduate work in marine geology and geophysics must be well trained in the basic sciences. According to the special interests of the individual, the undergraduate major and minor should be in geology, physics, chemistry, and/or mathematics.

The Division of Marine Geology and Geophysics offers M.S. and Ph.D. programs in the following broad areas:

- Environmental Geology and Geochemistry
- Sedimentary Systems and Marine Geology
- Paleoclimatology and Global Change
- Igneous Petrology and Geochemistry
- Geophysics
- Geodesy

Within each discipline, students have considerable flexibility in choice of courses, and “cross-track” courses are possible for students with special interests. Interactions with other divisions are particularly encouraged.

Marine Geology and Geophysics Course Listing
METEOROLOGY AND PHYSICAL OCEANOGRAPHY - Dept. Code: MPO

DEGREE PROGRAMS

The Division of Meteorology and Physical Oceanography (MPO) of the Rosenstiel School of Marine and Atmospheric Science (RSMAS) is engaged in research and graduate instruction in the physical processes governing the motion and composition of the ocean and atmosphere. The program ranges from direct observation to theoretical and numerical modeling of the earth-atmosphere system.

Three types of degrees are awarded by the Division: Master of Science, which requires 30 credits, including 24 credits in courses and 6 research credits; Doctor of Philosophy, which requires 60 credits, including a minimum of 36 course credits and a minimum of 12 research credits; and the Master of Professional Science degree, which requires 30 credits, including 24 course credits and 6 internship credits.

Students applying for admission to graduate study in the Division of Meteorology and Physical Oceanography should have a solid background in mathematics and physics or engineering. Once admitted, students in this Division will take courses in both Meteorology and Physical Oceanography in order to develop an understanding of the ocean and the atmosphere as closely related dynamical systems.

In the first year, students will take 5-6 courses, followed by a comprehensive exam at the end of the spring semester. Based on the results of this exam, students may be given the option to enter the Ph.D. program directly, to enter the M.S. program (leading to subsequent entrance into the Ph.D. program), or they may be required to re-take the comprehensive exam. Typical times for completion are 2-3 years for M.S. degrees and 4-6 years for Ph.D. degrees.

Meteorology and Physical Oceanography Course Listing
ADMISSION REQUIREMENTS

The Program in Biomedical Sciences (PIBS) provides an entry point for first-year doctoral students interested in obtaining a Ph.D. from the Leonard M. Miller School of Medicine. PIBS students experience a common first-year curriculum to build a solid foundation in biomedical science.

In the fall, students enroll in PIBS 601, which is a 9-credit course covering fundamentals of molecular and cellular biology, important model organ systems, and technical approaches in modern biomedical science. The course meets 4 days/week, 2 hours/day. The first hour is a lecture/discussion, and the second hour varies from professional development activities (reading papers, writing papers, choosing a lab and a project, time management, etc.) to discussions of particular relevant techniques to critical reading of relevant literature.

In the spring semester, students elect from a menu of individual modular courses offered by the 8 graduate programs. Each modular course covers 6-7 weeks, and students will elect 1-2 of these per half semester. These courses will cover topics of more specific relevance to graduate programs or research themes.

Students will perform at least 3 laboratory rotations of 9 weeks each during the first year, and will generally choose a dissertation laboratory (and graduate program) during the latter half of the spring semester. If necessary, a fourth rotation is possible, and, in this case, laboratory choice may be deferred until June.

In addition, students will meet several times per semester in small groups (6-7/ group) with a mentor. Mentors are chosen for their experience and commitment to student training. In these group sessions, students will discuss a variety of issues relevant to challenges and opportunities in biomedical research, preparing for success in graduate school and building a successful research career.

Ph.D. Program Choices:

Biochemistry & Molecular Biology
Cancer Biology
Human Genetics & Genomics
Microbiology & Immunology
Molecular Cell & Developmental Biology
Molecular & Cellular Pharmacology
Neuroscience
Physiology & Biophysics
ADMISSION REQUIREMENTS

Applicants should have a Bachelor’s degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged.

Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

• Students should apply online at: www.biomed.miami.edu

Inquiries should be directed to:

Program in Biomedical Sciences
University of Miami
Miller School of Medicine
Office of Graduate Studies
POB 016189
Miami, Florida 33101-6189
Office: 305.243.5867
Email: biomedgrad@miami.edu
Website: www.biomed.miami.edu

PIBS Course Listing

M.D./Ph.D. PROGRAM

ADMISSION REQUIREMENTS

Admission to the MD/PhD Program is highly competitive, and interested applicants are advised to apply early in the fall. AMCAS applications must be received by the Medical Admissions Office no later than December 15. Competitive applicants usually have a cumulative undergraduate science G.P.A. of at least 3.4 and a composite score of at least 32 on the MCAT exam. Preference will be given to candidates who can provide tangible evidence of a commitment to biomedical research, substantial laboratory or other relevant research experience, and scientific talent. Applications from under-represented groups, including minorities and women, are encouraged.

The completed application should contain a research narrative and two letters of recommendation from scientists who specifically address their potential as a physician scientist. One of these must come from a scientist with whom the student performed research. Composite evaluations from a premedical advisory committee cannot be
substituted for either of these letters. The Graduate Record Examination (GRE) is not required for matriculation into the MD/PhD Program.

All MD/PhD applicants are reviewed by both the MD Program Admissions Committee and the MD/Ph.D Program Admissions Committee. These evaluations proceed independently, and a student will still be considered for the MD program even after an unfavorable review by the MD/PhD Program. A successful applicant is granted admission to both the MD Program and the MD/PhD Program.

DEGREE PROGRAMS

The Basic Science Graduate Programs

The following doctoral programs, described elsewhere in this bulletin, participate in the MD/PhD Program. The MD/PhD Program office can provide you with further information about these programs and the research interests of their faculty.

- Biochemistry and Molecular Biology
- Sheila and David Fuente Cancer Biology Program
- Epidemiology and Public Health
- Human Genetics & Genomics
- Microbiology and Immunology
- Molecular Cell and Developmental Biology
- Molecular and Cellular Pharmacology
- Neuroscience
- Physiology and Biophysics

Program Sequence

Students complete the first two years of medical school, which is followed by their PhD training and then the final two years of clinical clerkships. Students are advised to begin the program in June to enable an early start on their research rotations as the MD program courses begin in mid-August. Some students choose to continue their research during the first two years of medical school. It is recommended that students select and apply to a graduate program by February of their second year in the program and identify a research mentor no later than the beginning of the third year. The summers before the second and third year are usually spent in research rotations. The third year is spent both in class to fulfill the final graduate course requirements and in the mentor's laboratory. Students should plan to take their Ph.D. qualifying exam by the end of the third year. The following two or more years are spent carrying out original research for their dissertation. All Ph.D. requirements must be completed before entry into the third year of medical school.

Combined degree programs are long and challenging. To relieve pressure produced by the demands of the medical and graduate curricula, the University of Miami Miller School of Medicine provides a stimulating and supportive environment in which all combined degree students have frequent opportunities to exchange their ideas, energy, and concerns.

The ongoing program activities provide opportunities for integration of clinical problems with basic science advances and enhancement of the the clinical curriculum with in-depth case reviews. The program fosters discussion of the students’ own research results in an interdisciplinary and rigorous but informal setting.
Also, special events are scheduled to bring the program’s students together for in-depth discussion with international leaders in research.

Inquiries should be directed to:

MD/PhD Program Office
University of Miami Miller School of Medicine
POB 016189
Miami, Florida 33101-6189
Office: 305.243.6278
Email: mdphd@miami.edu
Website: www.biomed.miami.edu/mdphd
BIOCHEMISTRY AND MOLECULAR BIOLOGY  
Dept. Code: BMB

http://biomed.miami.edu/default.asp?p=230&s=84

The aim of graduate education in this department is to prepare students for careers in Biochemistry and Molecular Biology. This training provides the student with a broad knowledge in the various aspects of modern Biochemistry and Molecular Biology. Independent laboratory research is emphasized at all stages of the student’s career.

Some of the Biochemistry faculty are affiliated with other departments in the University, the VA hospital, the Sylvester Comprehensive Cancer Research Center, and/or the Brahman Breast Cancer Institute. Thus, research facilities for a large variety of specialties are available to our students. Some of the graduate students participate in the combined M.D.-Ph.D. Program.

ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular & Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a Bachelor’s degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged.

Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

In the first year, all students take a common curriculum to build a solid foundation in biomedical science. The core coursework in the fall ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of faculty development. Specific coursework relating to the individual graduate programs is done largely in the second and third semesters of study.

The first year is also focused on choosing a program and a dissertation mentor. All students are initially mentored by a senior student and a faculty member to facilitate this process. In the 1st year, students rotate through at least 3 laboratories chosen from any of the biomedical sciences graduate faculty. At the end of the 1st year, students choose mentors and formally enter individual graduate programs.
• Students should apply online at: www.biomed.miami.edu

DEGREE PROGRAMS

All incoming students will be advised by the Operating Committee. This committee will assist and mentor students prior to their selection of a thesis advisor. In addition, students will be provided guidance concerning choices of courses and research programs. The student should choose a thesis mentor from the program faculty by the beginning of the second year of graduate study. The program operating Committee, in consultation with the mentor, will appoint a thesis committee and set up a tentative schedule for the remainder of the student’s graduate studies.

DEGREE REQUIREMENTS

Completion of the Ph.D. degree requires the successful completion of 36 credits of coursework at the graduate level (including specific required courses), 24 credits of thesis research, a qualifying exam, and successfully written/oral dissertation defense showing results obtained on a research problem. The degree earned will be Doctor of Philosophy in Biochemistry and Molecular Biology.

Inquiries should be directed to:

Dr. Zafar Nawaz
Graduate Program in Biochemistry and Molecular Biology
University of Miami, Miller School of Medicine
Department of Biochemistry and Molecular Biology
P. O. Box 016129
Miami, FL 33101
Tel. 305/243-6261

COMBINED M.D.-PH.D. DEGREE.

The Department participates in the School of Medicine’s M.D./Ph.D. Program in which students may obtain both degrees.

The curriculum will be tailored to the needs of the individual student.

Biochemistry and Molecular Biology Course Listing
SHEILA AND DAVID FUENTE GRADUATE PROGRAM IN CANCER BIOLOGY
DEPT CODE: CAB

www.biomed.miami.edu/cab

THE PROGRAM

The Sheila and David Fuente Graduate Program in Cancer Biology is a University-wide interdisciplinary training program that involves faculty from the basic science and clinical departments of the University of Miami. The objective of this program is to provide a unique multidisciplinary training environment for highly qualified individuals that will prepare them for independent research and teaching careers. The overall philosophy of the program is to integrate basic and clinical research. The scientific focus is on the biology of cancer and the development of novel diagnostic and therapeutic approaches.

The program emphasizes a multidisciplinary approach which incorporates concepts and state-of-the-art techniques from molecular biology, biochemistry, cell biology, biostatistics, genetics, genomics, immunology, proteomics, structural biology, clinical oncology, and translational research programs at the Sylvester Comprehensive Cancer Center. An important goal of the program is to provide students with a strong background in basic biomedical research coupled with an understanding of clinical aspects of cancer including diagnostic, prognostic, and therapeutic intervention. To achieve this goal, the program utilizes a unique program of study that includes lectures from both basic and clinical researchers. In addition, the program has a two-tier mentoring system in which students receive guidance from both a research mentor and a physician mentor. The research mentor is the dissertation advisor, while the physician mentor will provide the student with a clinical perspective in oncology. Through this dual mentorship, students conduct their doctoral research and obtain clinical knowledge in their area of study. The program aims to instill in students the ability to design multidisciplinary research programs in which scientific research is driven by unmet clinical challenges.

The curriculum includes core courses in Cancer Biochemistry and Molecular Biology (prerequisite for all CAB courses except CAB620), Tumor Biology, Student Seminars, Tumor Boards, Special Topics in Cancer Research, Dialogues with Cancer Clinicians, and Logic and Reasoning in Translational Cancer Research. Students can also choose electives in cancer epidemiology, cellular and molecular biology, immunology, pharmacology, and microbiology with permission of the CAB Director. After joining the program and choosing a research mentor, students formulate a proposal and take a qualifying exam. Their subsequent research is guided by an individually tailored dissertation committee, including the research advisor and physician mentor.

ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular & Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a Bachelor’s degree in a biological or related discipline (e.g.,
psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged.

Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

In the first year, all students take a common curriculum to build a solid foundation in biomedical science. The core coursework in the fall ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of faculty development. Specific coursework relating to the individual graduate programs is done largely in the second and third semesters of study.

• Students should apply online at: www.biomed.miami.edu

CONTACT INFORMATION

Sheila and David Fuente Graduate Program in Cancer Biology
Sylvester Comprehensive Cancer Center
Miller School of Medicine
P.O Box 019132 (M-877)
Miami, Florida 33101
Phone: 305-243-2287
Fax: 305-243-1855
Director: Kerry L. Burnstein, Ph.D.

Cancer Biology Course Listing
CLINICAL and TRANSLATIONAL INVESTIGATION
DEPT CODE: CTI

This Master's of Science in Clinical and Translational Investigation (MSCTI) at the University of Miami has been established to create a structured educational program that offers trainees of diverse cultural and educational backgrounds formal graduate training in the principles and practice of translational science and clinical research. Our highly integrated, cross-disciplinary program has been designed to further the new discipline of translational science by providing a foundation for the development of future practitioners and leaders of translational science who are prepared to deal with the perceived bottlenecks that inhibit translational research: institutional culture and practice, scientific complexity of translational research design and methodology, and regulatory and ethical processes. The overall goal of this curriculum development award is to engage promising new and Early Stage Investigators in the discipline of translational science so that they make the pursuit of academic translational science their own professional goal.

The Masters in Clinical and Translational Investigation program is a one- to three-year (time-dependent on goals and responsibilities of accepted students), 30-credit program that includes completion of structured content courses, participation in small group interactive seminars, and completion of a K-award, R21, or R01-type interdisciplinary clinical/translational research proposal that will serve as a thesis or a formal master thesis, to be evaluated by a thesis committee consisting of one member of the Steering Committee, two faculty members, each representing one component of the translational focus (T1, T2, T3) of the student, and another investigator not affiliated with the K30 program.

Successful completion of the MSCTI will require a GPA of 3.0 or greater with no grades below C in any courses (these can be retaken and improved grades substituted) and successful completion of the thesis project.

ADMISSIONS REQUIREMENTS

All individuals with strong research backgrounds are eligible to submit an application. Applications will be reviewed in batches, and admittance will be based on those most qualified for the program. We strongly encourage the following to apply:

- Individuals who have completed terminal healthcare degrees (e.g., MD, PhD, DO, RN) who are interested in pursuing additional formal didactic training to become independent investigators in clinical and/or translational science;

- Individuals who have completed terminal scientific degrees (e.g., Ph.D., DSci) who are interested in pursuing additional formal didactic training to improve knowledge and skills related to translation of basic to clinical applications; and

- Individuals who are currently enrolled in a terminal degree program (e.g., MD, PhD) who are interested in adding a year to their program to obtain a MCTSI concurrent with their terminal degree.

Completed application package consist of the following:

- Completed online application form
• Application fee (US dollars, non-refundable)
• Official transcripts from each college or university attended
• Resume or Curriculum Vitae
• Three letters of recommendation
• Personal statement of career goals and interest in degree program.
• Members of the Admissions Committees examine each application for acceptance into the program. Materials submitted in support of an application are confidential and cannot be released for other purposes nor returned to the applicant.

A GRE is not required

CONTACT INFORMATION

For any questions regarding the Master’s in Clinical and Translational Investigation (MSCTI), Translational Research Bootcamp, or the Clinical and Translational Science Seminar Series, contact:

Carlos Sandoval
Program Manager
MS Clinical and Translational Investigation
c.sandoval1@med.miami.edu
Office: 305-243-6398
Website: http://mscti.med.miami.edu/
The Graduate Programs in the Department of Epidemiology and Public Health at the University of Miami Miller School of Medicine are at the forefront of public health science with emphases on research, education, and evidence-based, public health service. The Graduate Programs promote an environment of learning and inquiry, stressing the scientific method as a way of generating knowledge about common pathways in health and illness. The mission of the Graduate Programs in Epidemiology and Public Health is to develop leaders who can expand and translate knowledge into policy and practice to promote health and prevent disease in human populations.

MASTER OF PUBLIC HEALTH (MPH)

The Master of Public Health (MPH) degree is a professional degree for students who require a broad general academic experience in public health. Students will acquire competency in the fundamental public health disciplines. This includes research design and conduct, data analysis and policy analysis, communications, program planning and administration, public health systems and the organization of health services in the United States and Latin America, recognition and analysis of ethical issues in public health and professional practice, the needs of special populations, and the integration of these core disciplines in public health decision-making. The MPH degree is a 45 semester-hour program that is accredited by the Council on Education for Public Health. The 45-credit degree program consists of 27 credits of core coursework, 12 credits of electives and 6 credits for the capstone/culminating experience.

MASTER OF SCIENCE IN PUBLIC HEALTH (MSPH)

The MSPH is an academic research degree designed for students who wish to prepare for further study at the doctoral level, or to prepare for research or technical positions in government, industry, academia, or private institutions. Studies will include many of the core disciplines included in the MPH degree with an additional emphasis on advanced research methods and quantitative analysis skills. The 45-credit degree consists of 24 credits of core coursework, 15 credits of electives, and 6 credits for the capstone/culminating experience. The MSPH program is accredited by the Council on Education for Public Health.

Full-time students can expect to complete the MPH or MSPH degree requirements within 2 years. A nine-credit waiver may be available for students who enter the MPH or MSPH degree programs with an earned advanced degree (e.g., MD, DDS, DVM).

DOCTOR OF PHILOSOPHY IN EPIDEMIOLOGY (PhD)
The Doctor of Philosophy (PhD) in Epidemiology is an intensive research training program for students with prior training in Epidemiology or related disciplines. It provides advanced education and training for students seeking a professional career in medical and health-related research, as well as for physicians and other persons who have attained professional degrees and are seeking to integrate epidemiological research and methods into their ongoing careers. The program is primarily designed for persons who have an MPH degree, as well as for physicians and others who have a master's or doctoral degree in a related discipline.

All Ph.D. students are required to complete sixty-six (66) credit hours. There are 9 core courses in epidemiology and biostatistics (30 credit hours), 8 courses (24 credit hours) in electives, and the dissertation (12 credit hours).

**JOINT DEGREE PROGRAMS**

Joint degree programs are also offered in conjunction with the School of Medicine (MD/MPH, MD/PhD), School of Law (JD/MPH), School of Business (MPA/MPH), and the College of Arts and Sciences (MAIA/MPH).

[http://publichealth.med.miami.edu/academic-programs/dual-degree-programs](http://publichealth.med.miami.edu/academic-programs/dual-degree-programs)

**ADMISSION REQUIREMENTS**

[http://publichealth.med.miami.edu/future-students/admissions](http://publichealth.med.miami.edu/future-students/admissions)

- **Online Application** and non-refundable application fee of 65 USD.

- **Official transcripts** from all previously attended colleges and universities. All foreign transcripts must be official and submitted in the original language. If the original language is not English, an official translation must be submitted along with the transcript. We do not accept evaluations from foreign credentialing service organizations.

- **Official GRE test scores** (code 5815). Alternatively we accept the MCAT, LSAT, GMAT and DAT for the MPH/MSPH degree programs only. Applicants to the MPH/MSPH program who hold advanced degrees (MD, PhD, JD) are encouraged but not required to submit test scores.

- **Resume/Curriculum Vitae** including employment, activities, community service, education, academic or professional honors.

- **Statement of purpose** detailing your academic interest in our program as well as your future career goals. This statement should discuss any experience you have in public health including field experience, training, education, or other related qualifications. Discuss how earning this degree will contribute to your future and the future of public health.

- **Three letters of recommendation** from people who are best able to assess your ability to be successful in a public health degree program. Ideally, your recommenders are recent professors, researchers, or employers in a related field. You will be asked for your recommenders’ contact information on the online application. They will be sent an online form to complete via email.
To obtain detailed program curricula on the MPH/MSPH, PhD in Epidemiology, and joint degree programs, please contact our offices at the address below or visit our website at http://publichealth.med.miami.edu/

For further information, please contact:

Graduate Programs Office
Department of Epidemiology and Public Health
University of Miami Miller School of Medicine
(R-669)
P. O. Box 016069
Miami, Florida 33101
Tel: (305) 243-0291
E-mail: GradProgramsEPH@med.miami.edu
Website: http://publichealth.med.miami.edu/

Epidemiology and Public Health Course Listing

EPIDEMIOLOGY AND PUBLIC HEALTH

BIOSTATISTICS
Dept. Code: BST

http://www.biostat.med.miami.edu/

DEGREE PROGRAMS

- Master of Science in Biostatistics (MS)
- Doctor of Philosophy in Biostatistics (PhD)

MASTER OF SCIENCE IN BIOSTATISTICS (MS)

Prerequisites and requirements for these degrees are described below.

The essential background an ideal entering student would have is (1) a minimum of three semesters of calculus including partial derivatives and techniques for solving multiple integrals, (2) one semester of linear algebra, (3) one semester of probability theory, and (4) four undergraduate courses in statistics or biostatistics. These four courses are to include a general introduction, linear regression, introductory mathematical statistics, and at least one further course, typically drawn from multivariate analysis, nonparametrics, survey sampling, and time series. Students who do not satisfy these pre-requisites may be required to make up their deficiencies during their first year of study.

Admitted MS students are expected to take a full suite of courses totaling 45 credits, including four iterations of the seminar course, a consulting practicum, as well as basic theory courses. In addition, students are expected to write a Major Paper and pass a written examination between their first two years of study. The standard course sequence can be found at:
Variations on this basic plan are permitted and decided on a case-by-case basis. Candidates may earn the MS as part-time or full-time students.

**DOCTOR OF PHILOSOPHY IN BIOSTATISTICS (PhD)**

Formally, the essential background an ideal entering student would have is the same as for the MS program apart from item (4), where a minimum of six undergraduate courses would be expected. In practice, the ideal student will have further evidence of a commitment to the field of biostatistics usually through more extensive course work, undergraduate theses, or already having earned an MS in biostatistics or statistics. Degrees in allied fields such as mathematics, computer science, and engineering are also evidence of commitment to biostatistics if the degree clearly emphasized biostatistics-related content.

Admitted PhD students are expected to take a full suite of courses including several iterations of the seminar course, a consulting practicum (or advanced computing course), and a series of four to six courses that ensure the candidate has studied a subject matter discipline within biomedical research. PhD students are also expected to take high-level courses in statistical theory, survival analysis, and high-dimensional and complex data not generally taken by MS students. A sample program can be found at [http://www.biostat.med.miami.edu/academics/phd-in-biostatistics/phd-courses](http://www.biostat.med.miami.edu/academics/phd-in-biostatistics/phd-courses)

Variations on this basic plan are permitted and decided on a case-by-case basis. Candidates may earn the MS as part-time or full-time students.

PhD students are expected to pass a first-year exam between their first two years of study and to be examined on a thesis proposal normally at the end of their third year of study.

To obtain detailed program curricula on the Master of Science and PhD in Biostatistics, please contact our offices at the address below or visit our website at [http://www.biostat.med.miami.edu/](http://www.biostat.med.miami.edu/)

For further information, please contact:

Division of Biostatistics  
Department of Epidemiology and Public Health (R669)  
University of Miami Miller School of Medicine  
1120 NW 14 Street, Room 1064  
Miami, Florida 33136  
Tel: (305) 243-6312  
Fax: (305) 243-5544  
E-mail: mgomez6@biostat.med.miami.edu  
Website: [http://www.biostat.med.miami.edu/](http://www.biostat.med.miami.edu/)

**Biostatistics Course Listing**
HUMAN GENETICS AND GENOMICS
Dept. Code: HGG

http://biomed.miami.edu/default.asp?p=149

THE PROGRAM

The graduate program in Human Genetics and Genomics is part of the University-wide interdisciplinary training program that involves faculty from the basic science and clinical departments of the University of Miami. This program aims to train scientists broadly in areas of human genetics and genomics relevant to human health and disease. Modern medicine is increasingly dependent on "genomic literacy" among practitioners and patients, and training the scientists who will work in genomics is an important mission of our program. Individuals earning PhD degrees in human genetics will have various career options, including clinical laboratory (after fellowship training and board certification, for which existing programs are available at the University of Miami), research laboratory, or computational research in academia, healthcare, and the biotechnology industry.

During the first year PIBS curriculum, students will have the opportunity to take two introductory short courses: Variation & Disease and Family Studies & Genetic Analysis. Rotations through faculty laboratories provide students with hands-on experience in various research areas. The rotations also provide the student the background necessary to select their dissertation advisor and area research.

During the second year, the curriculum focuses on core coursework in molecular and computational genetics, biostatistics, and seminars and journal clubs. Also, during the second year, students choose to pursue one of two tracks within the program: molecular genetics or computational genetics. Course requirements differ slightly between these two paths: students in the molecular genetics track will take Advanced Topics in Molecular Genetics while the Computational Genetics track students take Fundamentals of Genetic Epidemiology and Medical Biostatistics II. During the second and third years of study, students formulate and defend a dissertation proposal. All students participate in a one-credit clinical rotation and complete a teaching practicum during their fourth or fifth years.

APPLYING TO THE PROGRAM

ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular & Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a Bachelor’s degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores,
excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

In the first year, all students take a common curriculum to build a solid foundation in biomedical science. The core coursework in the fall ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of faculty development. Specific coursework relating to the individual graduate programs is done largely in the second and third semesters of study.

• Students should apply online at: www.biomed.miami.edu

CONTACT INFORMATION

Interdepartmental PhD Program in Human Genetics and Genomics
Miller School of Medicine

William K. Scott, Ph.D.
Program Director
Professor and Vice Chair for Education and Training
The Dr. John. T. Macdonald Foundation Department of Human Genetics
University of Miami Miller School of Medicine
1501 N.W. 10th Avenue, BRB 414 (M860)
Miami, FL 33136
Tel: 305-243-8779
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Email: bscott@med.miami.edu

Dori McLean
HGG Graduate Program Coordinator
The Dr. John. T. Macdonald Foundation Department of Human Genetics
University of Miami Miller School of Medicine
1501 N.W. 10th Avenue, BRB 405 (M860)
Miami, FL 33136
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Human Genetics & Genomics Course Listing
MICROBIOLOGY AND IMMUNOLOGY
Dept. Code: MIC

www.biomed.miami.edu/micro

Objective

The objective of the Microbiology and Immunology (MIC) Graduate Program is to provide multi-faceted training opportunities that lead to competitive postgraduate careers. The program trains students to rigorously investigate central topics in Microbiology or Immunology and their biomedical applications based on a broad comprehension of interdisciplinary science provided by the Program in Interdisciplinary Biomedical Sciences (PIBS) in the first year. Thereafter, the MIC Graduate Program offers students a specialty curriculum that is interactive and discussion based. Furthermore, students are in charge of a research project in either viral or bacterial pathogenesis or in molecular immunology, autoimmunity, tumor immunity or transplantation.

Goals

The goals of the MIC Graduate Program include training and acquisition of:

1. A broad scientific reasoning ability and knowledge base in Microbiology and Immunology
2. Technical skills required for experiments in the area of specialization
3. Presentation skills required for teaching, scientific talks, manuscripts, and grants
4. A preparation for a scientific career in academia, industry, or teaching within 5 ½ years

ADMISSION REQUIREMENTS

All students interested in Microbiology and Immunology Ph.D. Graduate Programs are admitted through the Program in Interdisciplinary Biomedical Sciences (PIBS). Applicants should have a Bachelor's degree in a biological or related discipline (e.g., chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, physics, chemistry, or biochemistry are encouraged.

Strong candidates will have research experience in a laboratory setting, an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue cutting edge biomedical research. The PIBS Admissions Committee will begin to review on complete applications after December 15th. Applicants should apply online at: www.biomed.miami.edu

First year of Graduate Study

In the first semester, students of all graduate programs participate in the common PIBS curriculum for the biological and biomedical sciences. The core curriculum also offers learning opportunities in biostatistics, ethics, graduate development, and databases. Introductions to Microbiology and Immunology are offered in the second semester.

The first year includes learning more about different programs, performing laboratory rotations with potential dissertation mentors and ultimately selecting both a program and mentor. To facilitate this experience, students are mentored by a senior student and faculty
member. The students rotate through at least three laboratories before they chose mentors and formally enter the MIC Graduate Program. For a listing of our faculty research interest, please visit our website: [www.biomed.miami.edu/micro](http://www.biomed.miami.edu/micro).

### The Microbiology and Immunology Program

The Microbiology and Immunology Graduate Program accepts only students who wish to pursue the Doctor of Philosophy (Ph.D.) degree. It specifically is not pursuing students interested in obtaining a MS degree. The program only accepts individuals who have obtained the approval of a mentor to join his or her research laboratory. Mentors must be “associate members” of the Microbiology and Immunology Graduate Program.

Students are encouraged to begin the dialogue with the program coordinator and director, Mrs. T. Suarez and Dr. M. Lichtenheld, as early as possible to smoothly transition from PIBS into MIC. The MIC Graduate Program and its coordinator and director remain available for support and assistance until graduation. After selection of a mentor, coordinator and director take on an advising role for the student with regard to research and voluntary course work. Students are encouraged to follow the additional advice of their Progress Committee.

### MICROBIOLOGY AND IMMUNOLOGY COURSE LISTING

- **MIC 523** Mechanisms of Microbial Virulence
- **MIC 628** Principles of Immunology
- **MIC 651** Advanced Topics in Immunology
- **MIC 655** Infectious Agents and the Immune System
- **MIC 675** Advanced Microbiology and Immunology
- **MIC 730** Doctoral Dissertation
- **MIC 740** Post-Candidacy
- **MIC 750** Research in Residence

### COMBINED M.D./PH.D. DEGREE

The Microbiology and Immunology Graduate Program participates in the School of Medicine’s MD/PhD Program. Medical students interested in advance research in Microbiology and Immunology should consult the Director of the MIC Graduate Program (Mathias Lichtenheld, M.D., [mlichten@med.miami.edu](mailto:mlichten@med.miami.edu)).

### Degree Requirements

Course requirements for the Ph.D. are established by the graduate program. To fulfill the course credit hour requirements for the Ph.D. degree, students will need a minimum of 60 credit hours, of which at least 24 credits must have been taken in residency at the University of Miami with a minimum of 12 dissertation credits. Students must obtain at least 4 credits for course(s) offered by programs other than MIC.

Generally, students enrolled in the M & I Graduate Program must have at least one peer-reviewed, first-author manuscript with primary experimental data (no review).
accepted or in press before the time of their defense. Submission of a manuscript alone is not adequate. This requirement does not imply that a single first-author paper publication is sufficient for graduation.

Financial Support

All students accepted are awarded a stipend of $27,500 per annum (as of June 1, 2013) and receive a full tuition scholarship. In addition, if students choose the University of Miami graduate student health insurance program, 80% of the individual insurance premium will be covered.

Inquires

Please direct your questions to:
Graduate Program in Microbiology and Immunology
University of Miami
Miller School of Medicine
P.O. Box 016960 (R138)
Miami, Florida 33101
Telephone: 305-243-6655

Visit www.biomed.miami.edu/micro
Scientists in the Molecular and Cellular Pharmacology Program make use of the knowledge and techniques of biology, chemistry and physics to study the action of drugs, hormones and neurotransmitters on living systems and, more generally, the mechanisms through which signals are recognized and transduced by cells. The goals of the research in this department are: 1) to identify new targets and pathways for development of pharmaceuticals; 2) to use drugs as tools in the study of basic biological processes; and 3) to develop and study agents that may be beneficial in the treatment of disease.

A variety of technical approaches is used, including genetics, molecular biology, protein biochemistry and biophysics, fluorescence microscopy, immunology, computer modeling, cell culture, imaging, gene expression profiling, proteomics and whole animal studies including transgenic and genetically engineered mouse models. The faculty are a mixture of senior scientists who are recognized leaders in their respective fields and more junior faculty with recent training in state-of-the-art approaches to important biomedical problems.

The Department’s more than 40 graduate students and postdoctoral fellows contribute to the creative and stimulating scientific atmosphere.

Research interests of the faculty include:

**Cardiovascular Pharmacology/Signaling/Muscle Contraction:**

Investigators in this area study transcriptional regulation of gene expression and intracellular signals associated with the growth and function of the heart. They study ion channels, membrane events, blood vessels, etc. Studies of cardiac muscle contraction and the effect of disease causing mutations in the contractile apparatus of the heart on heart performance and morphology are also being pursued.

Current research areas include structure/function relationships in the proteins of the thin (troponin complex) and thick (myosin) filaments in health and disease, the role of specific ion channels in ventricular hypertrophy and its alleviation, excitation-contraction coupling in skeletal and cardiac muscle, proto-oncogene regulation of cardiac-specific genes, signaling in cardiac myocytes including the characterization of multimolecular enzyme complexes, apoptosis during myocardial ischemia, the role of microRNAs in cholesterol biosynthesis and smooth muscle cell plasticity, and the potential of stem cell based therapy for cardiac disease. A new study has been launched to investigate the effect of bone marrow stem cells in cardiac repair.

**Neuropharmacology/Neuroscience:**

Investigators in this area study the development, function, pharmacology, and diseases of the nervous system.
Current research interests include neuronal signaling through G-proteins, Ca$^{2+}$, and cyclic nucleotides, growth and guidance of axons during development and regeneration after injury, molecular control of dendrite development, control of physiological functions by the nervous system; molecular mechanisms and cell biology of olfaction and phototransduction; the genetic and cellular basis of neural development and degeneration using the fruit fly *Drosophila melanogaster* as a model system.

**Cell Biology/Cancer:**

Investigators in this area study cell cycle control and cancer, gene expression, mechanisms of hormone action, signal transduction, cytoskeleton, membrane transport, stem cells, and novel therapeutics.

Current research interests include steroid hormone regulation of gene expression and cell proliferation; cell cycle checkpoints during DNA replication; protein trafficking including endocytosis and exocytosis; control of cell polarity and morphogenesis; cilia in pulmonary function; molecular basis of human lymphoma; endocrine-related cancers including prostate and breast; stem cell maintenance and therapy; stem cell differentiation in hematopoiesis and physiochemical and metabolic aspects of drug design.

**Model Systems:**

Many investigators are using model organisms for their studies. These include transgenic and knock-out/knock-in mouse models Xenopus, Drosophila and yeast models. Yeast and Drosophila are important models because of the powerful molecular and genetic approaches and tools available. Xenopus provides a unique system for studying development and for protein expression and analysis. These systems are being used to study fundamental processes such as apoptosis, cell cycle, signal transduction, membrane dynamics, cytoskeleton, cell polarity, olfaction, development of the cardiovascular system, neurogenesis and neuronal degeneration. All of these processes are conserved in humans, so these systems serve as important models of human diseases. Investigators are also using these systems to screen for therapeutic agents and to identify targets of toxins and other natural, synthetic or pharmacologically relevant compounds.

**Training Program:**

In the first year, students receive a solid foundation in biomedical science. The core coursework ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of student development. In subsequent semesters, students take core courses encompassing mechanisms of drug action, neuropharmacology, cardiovascular pharmacology and intracellular signal transduction. A variety of elective courses are offered by this department and others.

Students begin their dissertation research at the end of the first year and complete their course requirements in the second year. In subsequent years, students devote their efforts to original thesis research. The department sponsors the visits of internationally-known scientists, who discuss their research in formal seminars and meet with students and faculty. Weekly intradepartmental seminars keep students abreast of new developments within the School of Medicine.
ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular & Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a bachelor’s degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged.

Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

The first year is also focused on choosing a program and a dissertation mentor. All students are initially mentored by a senior student and a faculty member to facilitate this process. In the 1st year, students rotate through at least 3 laboratories chosen from any of the biomedical sciences graduate faculty. At the end of the 1st year students choose mentors and formally enter individual graduate programs.

• Students should apply online at: www.biomed.miami.edu

For information concerning the Pharmacology Program, contact

Director of Graduate Studies
Molecular and Cellular Pharmacology Program
University of Miami School of Medicine
P.O. Box 016960 (M-857)
Miami, Florida 33101
Phone: (305) 243-1094
Fax: (305) 243-3593
E-mail: ogs@med.miami.edu
www.biomed.miami.edu/pharm

THE REQUIREMENTS FOR THE PH.D. DEGREE IN MOLECULAR AND CELLULAR PHARMACOLOGY

These consist of 36 credit hours of graduate courses and seminars and 24 credits of Thesis Research. Students are required to pass a qualifying examination at the completion of their second year before undertaking Thesis Research at an intensive level.

The recruitment and training of applicants from underrepresented minority groups is an important goal of the Program.
Other sources of support may be available on a limited basis for foreign applicants.

Molecular and Cellular Pharmacology Course Listing
MOLECULAR CELL AND DEVELOPMENTAL BIOLOGY
Dept. Code: MDB

www.biomed.miami.edu/cellbio

The graduate program in Molecular Cell and Developmental Biology is an interdepartmental program, providing a wide range of research opportunities, comprised of faculty members from the Departments of Cell Biology, Ophthalmology, Surgery, Medicine, Neurology, Neurosurgery, Molecular and Cellular Pharmacology, Urology, Microbiology and Immunology.

Students have the opportunity to do research in the many areas of modern cell, molecular and developmental biology. Research topics including the cytoskeleton, cell surface molecular biology, stem cells, lens, corneal and retinal biology, protein processing and sorting, signal transduction, airway biology, regulation of gene expression in development, podocyte biology, cancer biology, neuromuscular development, malignant transformation, growth factors, epithelial cell biology, organogenesis and tissue repair, pattern formation in early development, RNA localization, mitochondrial molecular biology and cancer therapeutics.

The primary objective of this interdisciplinary graduate program is to prepare students for careers as independent, Ph.D. level researchers and educators, in both academic institutions and in the biotechnology industry and other venues.

Applicants are accepted only for the Ph.D. or combined M.D./Ph.D. degrees.

DEGREE REQUIREMENTS

Minimum credit requirements for the Ph.D. degree are set by the University at 36 course credits (including specific required courses) and 24 credits hours of research. The course credits must be earned in graduate level (500 and above) courses. Elective courses may be taken from the graduate courses offered by this program, or from a large variety of advanced courses offered by other departments at the University of Miami.

Typical coursework includes: Interdisciplinary Biomedical Studies, Seminar, Journal Club, Biological Macromolecules, Professional Skills and Ethics, Tumor Biology, Molecular Genetics, Developmental Biology, Advanced Molecular Cell Biology, Biostatistics Workshop and Histology. The interdisciplinary biomedical studies course covers fundamental topics of cellular and molecular biology, biochemistry, cellular physiology, neurobiology, and immunology.

Other requirements include participation in a departmental seminar series, a journal club, and three semesters of advanced topics courses.

ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular
& Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a bachelor's degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Previous research experience and publications are considered a plus.

Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

In the first year all students take a common curriculum to build a solid foundation in modern biomedical science. The core coursework in the fall includes topics ranging from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of scientific and career development. Specific topic coursework relating to the individual graduate student research programs is done largely in the second and third semesters of study.

The first year is also focused on choosing a dissertation mentor and a program. All students are initially mentored by a senior student and a faculty member to facilitate this process. In the 1st year, students do research rotations in at least 3 laboratories chosen by the student from any of the biomedical sciences graduate faculty. At the end of the 1st year students choose mentors and formally enter individual graduate programs.

Students should apply online at: www.biomed.miami.edu

**Molecular Cell and Developmental Biology Program Core Curriculum:**

MDB601 Seminar/Journal Club/Student presentations  
MDB651 Advanced Molecular Cell Biology  
MDB652 Current Topics in Mammalian Development  
MDB653 Histology  
MDB665 Tumor Biology or equivalent courses in Neuronal Cell Biology / Cell Biology aspects of human disease.  
MDB680 Research Ethics  
IBS683 Professional Skills and Ethics I  
IBS620 Scientific Writing I  
EPH501 Biostatistics  
MDB730 Doctoral Dissertation (pre-candidacy)  
MDB740 Doctoral Dissertation (post-candidacy)  
MDB750 Research in Residence

The program strongly encourages attendance to scientific meetings and travel awards for this purpose are made available to the students whenever possible.

Inquiries should be directed to:
COMBINED M.D.-PH.D. DEGREE

The Department participates in the Miller School of Medicine’s combined M.D.-Ph.D. Program.

The curriculum will be tailored to the needs of the individual student.

Molecular Cell and Developmental Biology Course Listing
NEUROSCIENCE PROGRAM
Dept. Code: NEU

www.biomed.miami.edu/neuro

The Neuroscience Program is an interdisciplinary program established in 1988 leading to the Ph.D. in Neuroscience.

The program aims to train highly-qualified individuals for independent research and teaching careers in the Neurosciences.

More than 80 participating faculty are located in several departments and schools, including Cell Biology and Anatomy, Molecular and Cellular Pharmacology, Physiology and Biophysics, Biology, Bioengineering, Psychology, The John P. Hussman Institute for Human Genomics, and the Rosenstiel School of Marine and Atmospheric Sciences, as well as several clinical departments such as Neurological Surgery, Neurology, Ophthalmology, Pathology, Physical Therapy, and Psychiatry.

Neuroscience Program faculty pursue a wide variety of research interests, including cellular and molecular mechanisms involved in signal transduction, gene expression in electrically excitable cells, synapse formation, neuronal growth and survival, integrative neuroscience, neuroimmunology, stroke, neuronal regeneration, autonomic control, brain metabolism and cerebral blood flow, degenerative changes within specific neural pathways in Parkinson’s and Alzheimer’s diseases, and genetic analysis of neurological disorders.

ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular & Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a Bachelor’s degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged.

Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), excellent academic records and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

In the first year, all students take a common curriculum to build a solid foundation in biomedical science. The core coursework in the fall ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of faculty development.
Specific coursework relating to the individual graduate programs is done largely in the second and third semesters of study. The first year is also focused on choosing a program and a dissertation mentor. All students are initially mentored by a senior student and a faculty member to facilitate this process. In the 1st year, students rotate through at least 3 laboratories chosen from any of the biomedical sciences graduate faculty. At the end of the 1st year, students choose mentors and formally enter individual graduate programs.

• Students should apply online at: www.biomed.miami.edu

THE NEUROSCIENCE PROGRAM

Graduate training is the major goal of the program, with emphasis on cellular, molecular, and genetic approaches to Neuroscience.

A single core curriculum provides the didactic scaffold of the program. This curriculum consists of courses in Developmental Neuroscience Membrane Biophysics, Introductory Neuroscience, Neural Systems, and Neuroanatomy. The core courses are supplemented with a variety of Special Topics Short Courses. Students also attend research seminars and a scientific journal club.

The Neuroscience Steering Committee guides the students, overseeing their coursework, until they have passed their qualifying exams. From then on, their progress is supervised by individually tailored dissertation committees. The Neuroscience Program also participates in the School of Medicine’s MD/PhD combined degree program www.biomed.miami.edu/mdphd.

REQUIREMENTS FOR A PH.D. DEGREE IN NEUROSCIENCE

Students are required to complete 42 credit hours of graduate courses and seminars, including at least 18 credit hours in Neuroscience and 24 credits of dissertation research.

Students are required to pass a qualifying examination during their second year before undertaking dissertation research at an intensive level.

Inquiries should be directed to:

University of Miami Miller School of Medicine
Locator R-50
PO BOX 011351
Miami, Florida 33101
Tel: 305-243-3368
FAX (305) 243-3593
E-mail: neuroscience@miami.edu
Web: www.biomed.miami.edu/neuro
RESEARCH AREAS:

1. BEHAVIORAL NEUROBIOLOGY
2. DEVELOPMENTAL NEUROBIOLOGY
3. CELL/MOLECULAR NEUROBIOLOGY
4. CNS INJURY AND REPAIR
5. GENETIC ANALYSIS OF NEUROLOGICAL DISORDERS
6. NEUROLOGICAL DISORDERS
7. PSYCHIATRIC DISORDERS
8. SENSORY NEUROBIOLOGY
9. SYNAPSES
10. TRANSMITTERS AND RECEPTORS

Neuroscience Course Listing
PHYSICAL THERAPY  
Dept. Code: PTS

www.pt.med.miami.edu

The Department of Physical Therapy is committed to providing quality educational experiences that enable its graduates to effectively carry out the expanding responsibilities of physical therapists as autonomous health care providers practicing in preventive, evaluative, maintenance, acute care and rehabilitation settings, and in educational and research environments.

The individual and collective efforts of the members of the Physical Therapy faculty are directed toward attaining specific goals and objectives as expressed in the philosophic statement of the American Physical Therapy Association.

The Mission of the Department of Physical Therapy (revised in December, 2000; re-affirmed in 2012) in accordance with the Mission of the Miller School of Medicine is to provide excellence in physical therapist education, to expand evidence-based practice of physical therapy through research, to provide high quality care to all who need it, and to be a community partner.

ADMISSION REQUIREMENTS

DOCTOR OF PHYSICAL THERAPY (entry level D.P.T.)

Applicants should have a baccalaureate degree in a related field and 3.0, or “B” average or better in the following courses:

- English Composition/ Writing intensive course (3 semester or 5 quarter hours);
- Introduction to Statistics (3 semester or 5 quarter hours);
- Psychology (3 semester or 5 quarter hours);
- General Biology (3 semester or 5 quarter hours);
- General Chemistry I and II each with Lab (8 semester or 12 quarter hours);
- General Physics I and II each with Lab (8 semester or 12 quarter hours);
- Human Anatomy (3 semester or 5 quarter hours);
- Human Physiology (3 semester or 5 quarter hours) or Combined Anatomy and Physiology I &II (6 semester or 9 quarter hours).

I. APPLICATION PROCEDURE

We are now accepting applications only thru Physical Therapist Centralized Application Service (PTCAS), go to www.ptcas.org to apply.

A. Application deadline is October 15; We encourage you to apply early. Classes begin in May of each year. Application requirements consist of the following:

1. Submission of all application materials to PTCAS. Completion of prerequisites or plan to complete by time of matriculation, with a minimum GPA of 3.0 on a 4.0 scale.

2. Demonstration of knowledge concerning the physical therapy profession by submitting:

- a minimum of 100 hours of first-hand observation and/or work experience related to the practice of physical therapy.
This experience must be substantiated in writing by a registered/licensed physical therapist. The name and email of the physical therapist(s) is required for verification.

3. Submission of three to four (3-4) letters of recommendation from people who can address both the applicant’s moral character and potential as a physical therapist.
   At least one letter must be written by a registered/licensed physical therapist, and one or more from faculty.

4. An on-site interview is required and will be offered to those applicants who have met the admission criteria.

5. Graduate Record Exam (GRE). Applicants who took the GRE before July 31, 2011 must score a minimum of 1000 on the verbal and quantitative sections combined. As of August 2011 the GRE exam and its scoring scale have changed significantly. Please visit the ETS website at: www.ets.org/s/gre/pdf/concordance_information.pdf for the official ETS Concordance Table. Applicants must score a minimum of 147 on the quantitative section and 149 on the verbal section. A minimum score of 3.0 on the analytical section is also required.

6. International students are to complete the PTCAS application and submit official transcripts to the DPT program instead of PTCAS. Transcripts that are not in English must include an official translation. International applicants must have all transcripts evaluated by the University of Miami’s Office of International Admissions before they can be considered for graduate study. Any transcript not in English must be submitted with an official translation. International applicants must meet ALL the necessary requirements to qualify for a student visa.

For more information contact:
Admissions Office
Department of Physical Therapy
5915 Ponce de Leon Blvd., 5th Floor
Coral Gables, FL 33146
phone 305-284-4535
e-mail: physicaltherapy@miami.edu
website: www.pt.med.miami.edu

DOCTOR OF PHILOSOPHY IN PHYSICAL THERAPY (Ph.D.)

Application requirements: Applicants to the Physical Therapy PhD Studies Program must have a clinical degree in physical therapy from an accredited physical therapy program and be eligible for licensure to practice physical therapy in the United States. Students enrolled in the PhD in Physical Therapy program at the University of Miami work closely with a faculty mentor from their first days in the program. As a first step in the application process, the applicant must identify a track of interest and contact a faculty mentor in the selected track. Students are admitted to the program upon endorsement of a faculty mentor and completion of all admission requirements, with final selection made by the PhD Studies Committee. Stipend and tuition support is potentially available for qualified applicants.
• **Motor Control:** Contact Edelle Field-Fote PhD, PT [edee@miami.edu](mailto:edee@miami.edu)
• **Musculoskeletal Prosthetics and Amputee Rehabilitation:** Contact Robert Gailey, PhD, PT [rgailey@miami.edu](mailto:rgailey@miami.edu)
• **Outcomes Research:** Contact Kathryn Roach PhD, PT [keroach@miami.edu](mailto:keroach@miami.edu) OR Neva Kirk-Sanchez, PhD, PT [nkirksanchez@miami.edu](mailto:nkirksanchez@miami.edu)

The applicant must meet all the general admissions requirements of the University of Miami Graduate School. Additionally, stipulations include:

- Direct entry into the PhD program is dependent upon having any of the degrees below:
  - An entry-level Master’s Degree in Physical Therapy
  - An advanced Master’s Degree with a Bachelor’s Degree in Physical Therapy
  - A Bachelor’s Degree in Physical Therapy.
- An applicant with a Bachelor’s Degree in Physical Therapy, though able to commence course work in the PhD Program, will be required to complete the credits to equal that of Advanced Master’s Degree in Physical Therapy before final admission to the PhD Program.
- Official Transcripts of all college work.
- Three completed recommendation forms with at least one form completed by a physical therapist.
- A letter indicating career goals and objectives.
- Licensure or eligibility for licensure, as a physical therapist in the State of Florida (must be licensed within 1 year of admission).
- GRE scores current within the past 5 years (see minimum requirements below)

Applicants who took the GRE before July 31, 2011 must score a minimum of 1000 on the verbal and quantitative sections combined. As of August 2011 the GRE exam and its scoring scale have changed significantly. Please visit the ETS website at: [www.ets.org/s/gre/pdf/concordance_information.pdf](http://www.ets.org/s/gre/pdf/concordance_information.pdf) for the official ETS Concordance Table.

Graduate Admissions will be using this concordance table when reviewing exam scores. Applicants must score a minimum of 147 on the quantitative section and 149 on the verbal section. A minimum score of 4.0 on the analytical section is also required. International applicants must submit a complete application and have all transcripts evaluated by the University of Miami’s Office of International Admissions before they can be considered for graduate study. Any transcript not in English must be submitted with an official translation.

The research areas of the faculty are diverse, reflecting the clinical and scientific emphases areas of the faculty. Please refer to the Faculty Section for specifics.

For more information contact:
Dr. Edelle Field-Fote, Vice Chair for PhD Studies
Department of Physical Therapy
5915 Ponce de Leon Blvd., 5th Floor
Coral Gables, FL 33146
phone 305-284-4535
email: [edee@miami.edu](mailto:edee@miami.edu)

**DEGREE PROGRAMS**

**DOCTOR OF PHYSICAL THERAPY (entry level D.P.T.)**

The Department offers the clinical Doctor of Physical Therapy (DPT). The DPT program recognizes the importance of in-depth basic and applied science knowledge and the humanities. As such, the curriculum is carefully sequenced to allow students to develop skills in both classroom and clinical settings.
Faculty also understand the importance of presenting problem-solving skills in conjunction with fundamental physical therapy concepts so that students will develop the professional attitudes and insights required for sustained and continued growth throughout their careers.

The entry-level doctoral program (DPT) is offered under the auspices of the Department of Physical Therapy, University of Miami Miller School of Medicine.

**DOCTOR OF PHILOSOPHY IN PHYSICAL THERAPY (Ph.D.)**

The University of Miami Doctor of Philosophy in Physical Therapy program develops physical therapist students for leadership positions in academic and research settings. Along with guiding students in the development of requisite knowledge and skills, the program promotes professional socialization into the role of academic faculty. We believe preparation to teach and undertake research in a physical therapy curriculum at the university level requires excellence in three dimensions: 1) Expertise in a specified content area; 2) Advanced knowledge and skill in research methods, design, and implementation of analysis and communication of results; and 3) Proficiency in instructional design, teaching methods, and evaluation. The successful integration of these three dimensions, each complex in its own right, provides the means for the student to develop expertise in testing, analyzing, researching, and teaching about disorders that interfere with function. Unifying these three core areas is the process of socialization to the role of a faculty member, including an awareness of academic responsibilities and sensitivity to the needs of the adult learner.

In keeping with this philosophy, students develop breadth of knowledge through completion of coursework from three basic core areas: Concentration Core, Research Core, and Education Core. They develop depth by completing elective courses with the intent to build expertise in their respective areas of concentration. The successful graduate of this program will have the requisite knowledge and skills to integrate research findings and scientific theory with clinical observations. On this basis, the graduate will be prepared to perform original research aimed at developing new knowledge to enhance the scientific basis of clinical practice and theoretical principles that will advance the profession of physical therapy. The program offers opportunities for the student to gain skill in communicating theories, concepts and research findings and to experience the roles and responsibilities of an academic faculty member. Students complete a dissertation project in which they develop and conduct a unique and significant research investigation with the guidance of a Physical Therapy faculty member as research advisor.

**DEGREE REQUIREMENTS**

**DOCTOR OF PHYSICAL THERAPY (D.P.T.)**

To receive the Doctor of Physical Therapy degree, the candidate must:

1. Complete all coursework (106 credits) as required with an overall GPA of 3.0 or better.
2. Complete at least 3 credits of Elective coursework, in addition to the 105 credits.
3. Successfully complete the clinical internships (I-IV) required.
The University of Miami, Department of Physical Therapy has affiliations with 350 clinical sites locally and throughout the country.

Distant internships may incur additional expenses for the student.

**DOCTOR OF PHILOSOPHY IN PHYSICAL THERAPY (Ph.D.)**

The curriculum, for all three core content areas (Musculoskeletal, Motor Control, and Outcomes Research) consist of:

- 19 - 21 credits in a core concentration area (i.e., Motor Control, Outcomes Research, or Musculoskeletal Prosthetics and Amputee Rehabilitation) 12 credits in core education courses,
- 12 credits in core research courses,
- 6 - 21 credits in electives in area of concentration and
- 12 credits of Doctoral dissertation for a total of 60-75 credits.

Credits may vary depending on educational background of applicants.

[Physical Therapy Course Listing](#)
PHYSIOLOGY AND BIOPHYSICS
Dept. Code:  PHS

www.biomed.miami.edu/physiol

The Department offers training leading to the Ph.D. degree in Physiology and Biophysics.

Inquiries are also invited from those wishing to pursue a dual, M.D./Ph.D., degree program.

The M.S. degree is normally bypassed in the Department.

Physiology and Biophysics studies the molecular basis for fundamental processes related to life such as:

How does the brain work?
How do we remember?
How does the heart beat?
How do we breathe?
How do we see?
How do we move?

Research facilities and guidance for graduate and postdoctoral work are available in development of neurobiology, sensory receptor mechanisms, axonal electrophysiology, ionic mechanism of the nerve impulse, electrophysiological and molecular aspects of synaptic and neuromuscular transmission, ion channels in nerve and muscle cell membranes, metabolic aspects of nervous function, molecular neuroscience, neuroimmunology, protein structure-function studies, molecular recognition, ligand-receptor interactions, neuropeptides, axonal growth, neurotrophic factors, cytokines, gene targeting, transgenic mice, neuronal apoptosis, nerve regeneration, molecular adhesion, and regulation of muscle contraction.

As described below, entrance into all graduate programs at the Miller School of Medicine is now through the Program in Biomedical Sciences (PIBS).

After entry into the Physiology and Biophysics program students take courses PHS 510, 511, 512, 641, and 642 unless they have mastered the equivalent of these. In planning their programs, students should take advantage not only of courses given by this Department but also of pertinent course offerings of other departments. Once the student has a sponsor, who, in consultation with a supervisory committee appointed when the dissertation project is chosen, provides guidance.

Since the Department aims to prepare its graduates for careers in research and teaching, all students in the Department are expected to participate in some teaching. Fellowships are general awarded to accepted students. Traineeships are also available under an NIH supported Training Grant.
ADMISSION REQUIREMENTS

All students are admitted through the Program in Biomedical Sciences (PIBS) for the PhD programs in Biochemistry & Molecular Biology, Cancer Biology, Human Genetics & Genomics, Microbiology & Immunology, Molecular Cell & Developmental Biology, Molecular & Cellular Pharmacology, Neuroscience, and Physiology & Biophysics. The PIBS Admissions Committee will review and make decisions on applications after December 15th.

Applicants should have a bachelor’s degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no absolute prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Strong candidates will have research experience in a laboratory setting (including publications of abstracts and/or papers), an excellent academic record and GRE scores, excellent letters of recommendation from scientists who know the candidate well, and the motivation to pursue state-of-the-art biomedical research.

In the first year all students take a common curriculum to build a solid foundation in biomedical science. The core coursework in the fall ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of faculty development. Specific coursework relating to the individual graduate programs is done largely in the second and third semesters of study.

- Students should apply online at: www.biomed.miami.edu

The first year is also focused on choosing a program and a dissertation mentor. All students are initially mentored by a senior student and a faculty member to facilitate this process. In the 1st year, students rotate through at least 3 laboratories chosen from any of the biomedical sciences graduate faculty. At the end of the 1st year students choose mentors and formally enter individual graduate programs.

REQUIREMENTS FOR THE PH.D. DEGREE INCLUDE:

36 graduate credits in courses and seminars and an additional 24 credits in dissertation research.

Satisfactory performance on both written and oral parts of a qualifying examination that will require demonstrating mastery of relevant physiological principles and methods. The examination must be passed not later than 24 months after enrollment in the Department. Up to 12 transfer credits earned elsewhere may be acceptable toward Ph.D. requirements.

The Ph.D. dissertation research must be original work of a quality acceptable for publication in a first-rate scientific journal.

For further details on requirements, the general information sections of this Bulletin should be consulted. Prospective applicants are urged to write early to the Department for further information on the Department’s activities, training resources, requirements, and financial aids.
Address inquiries to:

Dr Peter Larsson, Chair
Graduate Studies Committee
Department of Physiology and Biophysics
P. O. Box 016430
Miami, FL 33101
305/243-6821
305/243-5931 (fax)
email to physiology@miami.edu or visit
http://biomed.miami.edu/physiol

M.D./PH.D. PROGRAMS

Students interested in pursuing careers in academic medicine or, more generally, in medically-related research may wish to enter a dual (M.D./Ph.D.) degree program. Details about this program and application procedures are obtainable from the Graduate Studies Committee Chairman at the address given above.

Physiology and Biophysics Course Listing
PHILLIP AND PATRICIA FROST SCHOOL OF MUSIC – GRADUATE
www.music.miami.edu/gradstudies/

DEPARTMENTS
DEPARTMENT OF INSTRUMENTAL PERFORMANCE - Dept. Code: MIP
DEPARTMENT OF KEYBOARD PERFORMANCE - Dept. Code: MKP
DEPARTMENT OF MUSIC EDUCATION AND MUSIC THERAPY - Dept. Code: MED
DEPARTMENT OF MUSIC MEDIA AND INDUSTRY - Dept. Code: MMI
DEPARTMENT OF MUSIC THEORY-COMPOSITION - Dept. Code: MTC
DEPARTMENT OF MUSICOLOGY - Dept. Code: MCY
DEPARTMENT OF STUDIO MUSIC AND JAZZ - Dept. Code: MSJ
DEPARTMENT OF VOCAL PERFORMANCE - Dept. Code: MVP

ADMISSION REQUIREMENTS
I. Students wishing to enroll for graduate credit in the Frost School of Music, whether or not they plan to become candidates for a degree, must fulfill the requirements for admission to the Graduate School listed elsewhere in the Bulletin.
II. In addition to these general requirements, the student must meet the following requirements of the Frost School of Music:
   A. The Graduate-Record Examination. (G.R.E. not required for Master of Music in Performance, Jazz Performance, and Studio Jazz Writing).
   B. An on-campus audition is required of all D.M.A. applicants in Performance; M.M. applicants in Performance may audition in person or by recording. Prospective students for any major are encouraged to seek an interview with members of the University of Miami staff when they are serving as guest conductors and clinicians in various parts of the country.
   C. An interview either on or off campus is required of all prospective Ph.D. students, D.M.A. students in composition and jazz composition, and M.M. students in Musicology.
   D. Prospective Composition majors, Media Writing and Production majors, and Studio Jazz Writing majors are required to submit a portfolio of original compositions.
   E. A writing sample of a major paper or thesis is required of applicants in Choral Conducting, Music Therapy, Musicology, Vocal Pedagogy, and Vocal Performance.
   F. Prospective Ph.D. students in Music Education and Music Therapy are required to submit a video of their teaching or clinical work and provide a writing sample of a major paper or thesis.
   G. Placement Examination: During the orientation prior to registration, new master’s and doctoral students are required to take placement tests for entrance to graduate courses. Placement auditions are also required in performance before assignment to ensembles. Courses to remedy deficiencies indicated by these examinations must be taken at the earliest opportunity. (A student is presumed deficient in any area in which he/she does not take the entrance examinations.)
DEGREE PROGRAMS

Doctor of Philosophy – Deg. Code: PHD
  Music Education – Conc. Code: MED

Doctor of Musical Arts – Deg. Code: DMA
  Collaborative Piano – Conc. Code: MKPA
  Choral Conducting – Conc. Code: MCDC
  Composition – Conc. Code: MTC
  Instrumental Conducting – Conc. Code: MCDI
  Instrumental Performance – Conc. Code: MIP
  Jazz Composition – Conc. Code: MSJC
  Jazz Performance (Instrumental – Conc. Code: MSJI or Vocal – Conc. Code: MSJV)
  Multiple Woodwinds – Conc. Code: MIPW
  Piano Performance – Conc. Code: MKP
  Vocal Pedagogy and Performance – Conc. Code: VPED
  Vocal Performance – Conc. Code: MVP

Master of Arts – Deg. Code: MA
  Arts Presenting – Conc. Code: MPR

Master of Music – Deg. Code: MM
  Collaborative Piano – Conc. Code: MKPA
  Choral Conducting – Conc. Code: MCDC
  Composition – Conc. Code: MTC
  Digital Arts and Sound Design – Conc. Code: MTCD
  Instrumental Conducting – Conc. Code: MCDI
  Instrumental Performance – Conc. Code: MIP
  Jazz Pedagogy – Conc. Code: JPED
  Jazz Performance (Instrumental – Conc. Code: MSJI or Vocal – Conc. Code: MSJV)
  Media Writing and Production – Conc. Code: MWP
  Multiple Woodwinds – Conc. Code: MIPW
  Music Business and Entertainment Industries – Conc. Code: MBEI
  Music Education – Conc. Code: MED
  Music Education with Certification – Conc. Code: MEDC
  Music Therapy – Conc. Code: MTY
  Music Therapy with Undergraduate Equivalency – Conc. Code: MTYE
Musicology – Conc. Code: MCY  
Piano Performance – Conc. Code: MKP  
Studio Jazz Writing – Conc. Code: SJW  
Vocal Performance – Conc. Code: MVP

Master of Science – Deg. Code: MSMET  
Music Engineering – Conc. Code: MUE

Artist Diploma in Performance – Deg. Code: AD  
Instrumental Conducting – Conc. Code: MCDI  
Instrumental Performance – Conc. Code: MIP  
Piano Performance – Conc. Code: MKP  
Vocal Performance – Conc. Code: MVP

DEGREE REQUIREMENTS

DOCTOR OF MUSICAL ARTS (DMA)

The purpose of the Doctor of Musical Arts is to train the most promising musicians at the highest musical and intellectual level for prominent careers in their field. The degree stresses excellence in performance, composition, scholarship, and teaching. By its nature, the Doctor of Musical Arts provides opportunities for students with proven accomplishment to prepare themselves for the professorship.

For the Doctor of Musical Arts in Performance, Keyboard Performance and Pedagogy, Composition, Jazz Composition, Jazz Performance, Vocal Pedagogy and Performance, and Conducting, the candidate must meet all the general requirements for the Ph.D. degree with respect to residence, research tool requirements, total minimum hours, and written and oral examinations. The major differences between the D.M.A. and the Ph.D. are the creative efforts and performance that replace the dissertation requirements in the D.M.A. degree program. There will also be some variation in the research tool requirements in order that they apply in a more practical way to the needs of students.

ENTRANCE REQUIREMENTS

Selection of student based on:

1. Graduate Record Examination (Aptitude portion)
2. Academic record
3. Recommendations
4. Personal audition (Performance Majors); preliminary video tape required for instrumental conducting
5. Samples of musical composition (Composition Majors)
6. Writing Sample (major paper or thesis; Choral Conducting and Vocal Performance Majors)

**PLACEMENT EXAMINATIONS**

During the three days before registration, all new doctoral students are required to take examinations in music history and literature that will serve as placement tests or prerequisites for entrance to graduate courses. Courses to remedy deficiencies indicated by these examinations must be taken at the earliest opportunity.

**DOCTORAL COMMITTEE**

The committee is appointed when the student is formally admitted to a doctoral program. It will consist of a minimum of four members, three from the area of concentration and a minimum of one from the areas of Music Theory, Musicology, or Music Education (an approved member from a department outside of the Frost School of Music is possible). A committee may be expanded beyond the minimum number of members based on the needs of the student to a maximum of six. Of these, three (including the committee chairman) shall be regular members of the Graduate Faculty.

Responsibilities of the committee shall include the following:

1. Overseeing all of the student’s work prior to admission to candidacy, including academic program planning and advising as to recital repertoire.

2. Advising the student regarding relevant research competencies (tools) and ensuring that the student demonstrates these competencies prior to admission to candidacy.

3. Adjudging the quality of the student’s recitals, pedagogy presentations or compositions.

4. Overseeing the doctoral essay or lecture recital, including approval of the topic and proposal, supervision of the writing of the essay or lecture recital, assessment of the quality of the final essay or lecture recital, and the quality of the final essay defense. (In cases where special faculty expertise is needed for a particular essay topic, changes in membership of the doctoral committee may be made. Membership of the essay committee is recommended by the department or program concerned, and approved and appointed by the Dean of the Graduate School.)

**RESEARCH TOOL REQUIREMENTS**

The candidate will be required to show competency in the research tools recommended by the student’s doctoral committee, which is responsible for ensuring that the tools are relevant to the student and that procedures for demonstration of the competencies are appropriate. Research tools must be demonstrated and documented prior to admission to candidacy. This requirement does not apply to the area of Instrumental Performance.
COGNATES

Doctor of Musical Arts students may select an additional formal area of study through the cognate option. The Departments in which the cognate resides administers the cognate. Students must apply to the cognate Department for admission. The admission process may include an audition, interview, portfolio, or testing as determined by the cognate Department. Students must complete all requirements specified for a cognate to be recognized as having completed the cognate. Otherwise, the credits will be considered electives. No credits required in the DMA program can apply to the cognate. Any overlap will require approved course substitutions within either the DMA program or the cognate as determined to be most appropriate by the Dean of Graduate Studies.

Procedures for Entering a Cognate
1. Review the cognates offered on the Graduate Studies web site.
2. Select the cognate you would like to pursue.
3. Contact the Department in which the cognate resides and obtain written approval of your entrance. A simple e-mail by the faculty member in charge of the cognate to the Graduate Studies Office would suffice.
4. Visit the Graduate Studies Office to formally sign-up for the cognate and to obtain a copy of the Academic Program Record (APR) for the cognate.

ACCOMPANYING/CHAMBER MUSIC  (12 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Studio/Ensemble Accompanying (MKP691)</td>
<td>5</td>
</tr>
<tr>
<td>String/Keyboard Ensemble (MIP645)</td>
<td>1</td>
</tr>
<tr>
<td>Accompanying/Chamber Music Seminar</td>
<td>2</td>
</tr>
<tr>
<td>Any one of the following courses:</td>
<td>1</td>
</tr>
<tr>
<td>String/Keyboard Ensemble (MIP645, 1 cr.)</td>
<td></td>
</tr>
<tr>
<td>Accompanying/Chamber Music Seminar (1 cr.)</td>
<td></td>
</tr>
<tr>
<td>Harpsichord, Organ, or Jazz Piano (1 cr.)</td>
<td></td>
</tr>
<tr>
<td>Any one of the following courses:</td>
<td>3</td>
</tr>
<tr>
<td>History of Chamber Music (MCY532, 3 cr.)</td>
<td></td>
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<tr>
<td>Art Song Literature (MVP525, 3 cr.)</td>
<td></td>
</tr>
<tr>
<td>Operatic Literature (MVP522, 3 cr.)</td>
<td></td>
</tr>
<tr>
<td>American Musical Theater (MCY583, 3 cr.)</td>
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CONDUCTING: Choral  (12 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Applied Conducting Instruction</td>
<td>1</td>
</tr>
<tr>
<td>Choral Conducting Workshop (MVP67X)</td>
<td>3</td>
</tr>
<tr>
<td>Choral Score Study (MVP508)</td>
<td>2</td>
</tr>
<tr>
<td>Choral Literature I (MCY535)</td>
<td>2</td>
</tr>
<tr>
<td>Choral Literature II (MCY536)</td>
<td>2</td>
</tr>
<tr>
<td>Choral Methods (MED632)</td>
<td>2</td>
</tr>
</tbody>
</table>

CONDUCTING: Instrumental  (12 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIP610 Conducting Seminar</td>
<td>4</td>
</tr>
<tr>
<td>Approved electives in conducting and/or ensembles</td>
<td>3</td>
</tr>
<tr>
<td>Approved electives related to the art of conducting</td>
<td>5</td>
</tr>
</tbody>
</table>
HIGHER EDUCATION  
Music Assessment (MED664)  3 credits  
Any combination of the following three required course types  
Special Projects: Higher Ed. in Music (MED693, 1-2 cr.)  
Pedagogy course(s) in music or music ed. (2-4 cr.)  
Doctoral Seminar(s) (MED680, 1-2 cr.)  
Electives selected from the following courses  3 credits  
Organiz. & Admin. in Higher Ed. (EPS533, 3 cr.)  
Higher Ed. in the U. S. (EPS603, 3 cr.)  
International Music Ed. (MED620, 3 cr.)  
History & Philosophy of Music Ed (MED660, 3 cr.)  
Music Learning & Curriculum (MED662, 3 cr.)  
Music Research Methods (MED663, 3 cr.)  

INSTRUMENTAL PERFORMANCE  
Applied Performance Instruction  6 credits  
Approved Performance Ensembles  6 credits  

JAZZ PERFORMANCE  
Applied Performance Instruction  6 credits  
Select one course from below:  3 credits  
Jazz Pedagogy (MSJ544, 3 cr.)  
Analysis of Jazz Styles (MSJ620, 3cr.)  
Electives in Jazz Theory / Improv. / Ensembles  3 credits  

KEYBOARD PEDAGOGY  
Keyboard Pedagogy (MKP547)  3 credits  
Seminar in Keyboard Pedagogy (MKP647)  3 credits  
Keyboard Pedagogy Research Seminar (MKP650)  1 credit  
Keyboard Pedagogy Internship (MKP680)  2 credits (1x2)  
One from the following:  3 credits  
A. MKP 548 Intermediate to Advanced Repertoire  
B. MKP 549 Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics  
C. MKP 650 Keyboard Pedagogy Research Seminar (2 credits) and  
MKP 680 Keyboard Pedagogy Internship (1 credit)  

MUSIC BUSINESS  
Enterprise for Musicians (MMI530)  3 credits  
Music Copyright Law (MMI674)  3 credits  
Approved MMI Course Electives  6 credits  

MUSIC EDUCATION  
Psychology of Music (MED562)  3 credits  
Approved electives in music education or other pedagogy  9 credits
MUSIC TECHNOLOGY  
(12 credits)
Select courses from those below:  
Electronic Music Studio (MTC505, 2 cr.)  
MIDI and Control Processing (MTC506, 2 cr.)  
Digital Sound Synthesis and Processing (MTC507, 2 cr.)  
Multimedia for Musicians (MTC521, 3 cr.)  
Film Scoring I (MTC511, 3 cr.)  
Film Scoring II (MTC512, 3 cr.)  
Electronic and Computer Music Seminar (MTC667)  
Intro To MIDI Seq. & Digital Workstations (MSJ522, 2 cr.)  
Audio Technology for Musicians (MMI520, 2 cr.)  
Electronic Audio I (MMI502, 3 cr.)  
Technology in Music Education (MED570, 3 cr.)  
Computer Applications in Music Education (MED571, 2 cr.)

MUSIC THEORY  
(12 credits)
Enrollment in this cognate waives any other MTC requirements for the degree.
Select courses from those below:  
The Aesthetics of Music (MTC501, 3 cr.)  
Sixteenth-Century Counterpoint (MTC513, 3 cr.)  
Advanced Counterpoint (MTC518, 3 cr.)  
Theory Pedagogy (MTC611, 3 cr.)  
Advanced Comprehensive Theory (MTC612, 3 cr.)  
Twentieth Century Idioms (MTC613, 3 cr.)  
Analytical Techniques (MTC617, 3 cr.)

MUSICOLOGY  
(12 credits)
Music Bibliography (MCY528)  
Approved Musicology Courses  

VOCAL PEDAGOGY  
(12 credits)
Approved courses in pedagogy, vocal diction, or related courses.

VOCAL PERFORMANCE  
(12 credits)
Private Voice MVP VOM-P  
Vocal Pedagogy (MVP538)  
Vocal Pedagogy (MVP638)  
Language Diction for Singers (MVP65X)  

VOCAL ACCOMPANYING  
(12 credits)
Private Voice Lessons  
Language Diction for Singers (MVP65X)  
Vocal Accompanying (MKP687)  
Vocal Literature (Select one from below):  
Art Song Literature (MCY525, 3 cr.)  
Operatic Literature (MCY522, 3 cr.)  
Select courses from any below:  
American Musical Theater (MCY583, 3 cr.)  
Graduate Courses in Vocal Performance
QUALIFYING EXAMINATION

To be taken upon completion of approximately 9 credit hours of work. Exams in the areas of

1. Musicology;

2. Music Theory-Composition; and

3. Music Education (If required by the program).

Performance and jazz performance majors must present a qualifying recital during the first semester in residence.

COMPREHENSIVE EXAMINATION

To be taken in major area (except performance) after completion of approximately 36 credit hours. Examination may be oral or written.

ADMISSION TO CANDIDACY

Doctoral students are admitted to candidacy after completing research tool requirements (not required if in Instrumental Performance), and qualifying examinations. No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy.

PERFORMANCE AND CREATIVE REQUIREMENTS

D.M.A. students in performance, jazz performance, or keyboard performance and pedagogy may present one recital before the qualifying written examination (provided they have passed their qualifying recital). Before the second or third, depending upon program, recital they must have passed the Qualifying Examinations and removed all reservations for the written examinations in music theory, musicology, and music education, as well as having presented a proposal for the doctoral essay to their committee. Before the final recital the student must be admitted to candidacy (this requirement includes the completion of both the qualifying examination and research tool subjects). All recitals are to be presented during either Fall or Spring semesters.

**Performance Majors**

Students accepted in the program must present three full-length solo recitals. Vocalists are expected to execute one or more substantial roles in a large scale work, e.g., opera or oratorio in addition to the solo recitals. Students majoring in accompanying and chamber music will present one solo recital, one chamber music recital, and three accompanying recitals. For Keyboard Performance and Pedagogy, an approved combination of recitals and pedagogy presentations is required.

**Jazz Performance Majors**

Students must present three full-length recitals

**Conducting Majors (Choral)**

No less than two approved full recitals shall be presented by each candidate.
Conducting Majors (Instrumental)
Three approved public recitals (or the equivalent) with suitable performing groups must be given during the period of residency and prior to the oral examination.

Composition Majors
1. The candidate will be required to compose a piece of major proportions for large ensemble. In addition, no less than three works for any instrumental or vocal group combination will be required during the period of residency.

2. A formal written analysis of the major work will be required. This will serve as the Doctoral Essay for composition majors.

3. Some form of a recital or public performance of the candidate’s compositions will be required. This requirement could be fulfilled with a recital that would include representative works composed during the student’s residence.

By means of a written doctoral essay or a lecture recital all D.M.A. candidates will be expected to give evidence of their ability to make an original scholarly investigation and present its results in an articulate manner.

Final Oral Examination (administered during Fall and Spring semesters only): defense of the creative or recreative work, and the written essay or lecture recital.

LECTURE RECITAL
The lecture recital is a major presentation whose content must pertain to musical performance, musical analysis, performance practice, comparative editions, interpretation, musical style, or other issues that directly relate to a central theme of music performance. A written document of the lecture recital must be submitted to the Graduate School following procedures similar to those of the Doctoral Essay.

MASTER’S DEGREES
I. Programs. The Master of Music Degree is offered with majors in the areas shown above.

II. Ensemble Requirements. The curricula for Master of Music degrees in performance and conducting include participation in one ensemble during each semester that a student is registered for seven credits or more.

III. General Admission Requirements. Those seeking admission in Performance should have an undergraduate major or its equivalent in the performance field chosen. Those applying for admission in Music Education should have an undergraduate background substantially equivalent to certification requirements and teaching experience. Students entering all graduate degree programs must take placement tests at the beginning of the first Fall or Spring Semester in residence. Those seeking admission in Composition, Studio Jazz Writing, or Media Writing and Production must submit with the application a portfolio of compositions as evidence of creative ability.

IV. Credits. A minimum of thirty credits of graduate level courses with an average of B and no grade below C. All students must complete the required courses of their major.
V. **Oral Examinations.** An oral examination in defense of the thesis, project, or recital is required. Final oral exams are administered during Fall and Spring semesters only.

**Conducting Recital Guidelines**

**Master’s Recital (1 Credit)**
A compilation on DVD of conducting single or multiple works of live performances of major ensembles spread across the Masters’ experience. These performances are arranged in consultation with the major professor who assists in the preparation of the performances.

**Master’s Advanced Recital (2 Credits)**
A full-length conducting recital is prepared and presented. The ensemble(s) and repertoire will be selected in close consultation with the major professor who will assist in the preparation process. All aspects of performance preparation including scheduling, venue arrangements, program notes, and the like will be carried out by the student under the guidance of the major professor.

**Performance Recital Guidelines**

**Master’s Recital (1 Credit)**
A full-length recital performed publicly by the student that may include chamber music in which the student’s instrument plays a prominent role. Selection of repertoire is determined in consultation with the major professor who assists in the preparation of the performances.

**Master’s Advanced Recital (2 Credits)**
A full-length recital in which all music performed features the recitalist as a soloist. The recitalist will prepare extended program notes on the repertoire performed. Portions of the extended program notes are to be included with the recital program distributed to the audience. The performance is to be recorded in both audio and video so that the recitalist presents a DVD as evidence of the recital to the Dean of Graduate Studies prior to the end of the semester in which the recital was given. Repertoire will be selected in consultation with the major professor, who will assist in the preparation process. The student under the guidance of the major professor will carry out all aspects of performance preparation including scheduling, venue arrangements, program notes, and the like.
Department of Instrumental Performance (MIP)

DEGREE PROGRAMS

DMA-INSTRUMENTAL CONDUCTING (MCDI)

Performance Courses (35% of total, 21 credits)
  12 credits  Applied Conducting
  6 credits  Ensembles (6 large ensemble)
  3 credits  MCY 520 History of Wind Band Literature (wind conductors) or
    approved elective (string conductors)

Creative Activities (20% of total, 12 credits)
  1 credit  MED602 DMA-Essay/Lecture Recital Proposal
  5 credits  DMA-Essay/Lecture Recital
  6 credits  DMA-Recitals
    (2 credits for each of 3 recitals)

Allied Music Courses (25% of total, 15 credits)
  3 credits  Musicology
  3 credits  MTC617 Analytical Techniques or other MTC course
  3 credits  Performance Seminars
  5 credits  Approved Electives
  1 credit  MED690 Teaching Music in College

Cognate/Electives (20% of total, 12 credits)

DMA-INSTRUMENTAL PERFORMANCE (MIP)

Performance Courses (40% of total, 24 credits)
  12 credits  Applied Lessons
  12 credits  Ensembles
    (6 large ensemble, 6 small ensemble)

Creative Activities (20% of total, 12 credits)
  1 credit  MED602 DMA-Essay or Lecture Recital Proposal
  5 credits  DMA-Essay or Lecture Recital
  6 credits  DMA-Recitals
    (2 credits for each of 3 recitals)

Allied Music Courses (20% of total, 12 credits)
  3 credits  Musicology
  3 credits  MTC617 Analytical Techniques or other MTC course
  3 credits  Performance Seminars
  2 credits  Electives
  1 credit  MED690 Teaching Music in College

Cognate/Electives (20% of total, 12 credits)
DMA-MULTIPLE WOODWINDS (MIPW)

Performance Courses (40% of total, 24 credits)
- 12 credits Applied Lessons in Flute, Oboe, Clarinet, Bassoon, and Saxophone
- 12 credits Ensembles (6 large ensemble, 6 small ensemble)

Creative Activities (20% of total, 12 credits)
- 1 credit MED602 DMA-Essay/Lecture Recital Proposal
- 5 credits DMA-Essay/Lecture Recital
- 6 credits DMA-Recitals (2 credits for each of 3 recitals)

Allied Music Courses (20% of total, 12 credits)
- 3 credits Musicology
- 3 credits MTC617 Analytical Techniques or other MTC course
- 3 credits Performance Seminars
- 2 credits Electives
- 1 credit MED690 Teaching Music in College

Cognate/Electives (20% of total, 12 credits)

MM–Instrumental Conducting (MCDI)
Candidates must possess and demonstrate an unquestioned gift of musical leadership based upon broad experience with instrumental ensembles. Advanced orchestration must be included in the program. Admission requirements include a baccalaureate degree in conducting or performance, accumulated practical experience with instrumental ensembles, and experience equivalent to an undergraduate requirement in orchestration. Enrollment in this major is only by special permission.

Major Area
- 8 credits MIPCDI-L Private Lessons
- 7 credits MIP6XX Instrumental Ensembles
- 1 credit Any one of the three options listed here to match the culminating project
  - MIP601 Program Notes Preparation
  - MIP602 Lecture Recital Preparation
  - MED601 Recital Paper Preparation
- 1 credit MIP712 Master’s Recital
- 2 credits Any one of the three options listed here as a culminating project
  - MIP711 Master’s Recital Paper
  - MIP714 Master’s Lecture Recital
  - MIP713 Master’s Advanced Recital

Other Studies in Music
- 3 credits MCY528 Music Bibliography
- 3 credits MTC617 Analytical Techniques

Electives
- 3 credits XXXXXX Musicology or Approved Elective
- 3 credits XXXXXX Music Education /Pedagogy or Approved Elective
- 3 credits XXXXXX Approved Electives
**MM–Instrumental Performance (MIP)**

**Violin:** The candidate must show an adequate technical grounding in scales, arpeggios, bowing and phrasing, demonstrate adequate ability in sight reading on the instrument, and be able to read at sight simple piano accompaniments.

**Harp:** The candidate must have a mastery of scales and arpeggios in all octaves in both slow and rapid tempo, and in various rhythms, should have had orchestral and other ensemble experience, should be able to read orchestral parts at sight, and should have developed the ability to transcribe music written for keyboard (or other) instruments for use in orchestra or ensemble or accompanying.

**Multiple Woodwinds:** The applicant must demonstrate, by audition, proficiency in at least three of the following families of instruments: clarinet, saxophone, flute, and double reed. Applied instruction will include a minimum of eight credits from the above groups as determined by the supervisory committee. The recital (whose content and evaluation are the responsibility of the student’s committee) will consist of performance on the candidate's major instrument, and on instruments from at least two other woodwinds. The student is expected to supply his/her own professional quality instruments.

Candidate must demonstrate a high level of accomplishment on his/her instrument in the areas of tone, technique, and musicality.

**Major Area**

- 8 credits MIPXXI-L Private Lessons
- 7 credits MIP6XX Instrumental Ensembles
- 1 credit Any one of the two options listed here to match the culminating project
  - MIP601 Program Notes Preparation
  - MED601 Recital Paper Preparation
- 1 credit MIP712 Master's Recital
- 2 credits Any one of the two options listed here as a culminating project
  - MIP711 Master's Recital Paper
  - MIP713 Master's Advanced Recital

**Other Studies in Music**

- 3 credits MCY528 Music Bibliography
- 3 credits MTC617 Analytical Techniques

**Electives**

- 3 credits MXXXXX Musicology or Approved Elective
- 3 credits MXXXXX Music Education /Pedagogy or Approved Elective

**MM–Multiple Woodwinds (MIPW)**

**Major Area**

- 8 credits MIPXXI-L Private Lesson
- 4 credits MIP6XX Instrumental Ensembles
- 1 credit Any one of the two options listed here to match the culminating project
  - MIP601 Program Notes Preparation
MED601  Recital Paper Preparation
1 credit  MIP712  Master’s Recital
2 credits  Any one of the two options listed here as a culminating project
          MIP711  Master’s Recital Paper
          MIP713  Master’s Advanced Recital

Other Studies in Music
3 credits  MCY528  Music Bibliography
3 credits  MTC617  Analytical Techniques

Electives
3 credits  MXXXXX  Musicology or Approved Elective
3 credits  MXXXXX  Music Education /Pedagogy or Approved Elective

ARTIST DIPLOMA IN PERFORMANCE
The Artist Diploma in Performance is a program of advanced study designed for
the outstanding performance career-oriented performer. The curriculum will focus
on preparation for major competitions, auditions, apprenticeships, and the
development of a performance career. Entrance to the program is limited to
those individuals who have demonstrated exceptional performance skills by
audition. A fully enrolled student can complete the eighteen-hour program in one
year.

Requirements
8 credits  Applied Lessons
2 credits  Performance Ensembles
2 credits  Two Recitals
6 credits  Approved Studies in Music

Instrumental Performance Course Listing
Department of Keyboard Performance (MKP)

DMA-COLLABORATIVE PIANO (MKPA)

Accompanying Courses - (30% of total, 18 credits)
6 credits  Accompanying
4 credits  Collaborative Piano Seminar
8 credits  Applied Piano

Creative Activities (20% of total, 12 credits)
6 credits  DMA-Accompanied/Chamber Recitals
(2 credits for each of 3 recitals)
2 credits  DMA-Recital
1 credit  MED602 DMA-Essay/Lecture Recital Proposal
3 credits  DMA-Essay/Lecture Recital

Allied Music Courses (30% of total, 18 credits)
3 credits  Music Theory (MTC617, 611, 613, or 671)
3 credits  Music Bibliography or (MCY532 or MCY525)
4 credits  String-Keyboard Chamber Music
1 credit  MED690 Music Teaching in College
7 credits  Electives
(Up to 4 credits of foreign language electives may be taken by those
students who select the Vocal Accompanying cognate or foreign
language as a tool subject.)

Cognate (20% of total, 12 credits)

DMA-KEYBOARD PERFORMANCE AND PEDAGOGY (KPED)

Keyboard Pedagogy and Performance (40% of total, 12 credits)
24 credits  Graduate Keyboard Performance and Pedagogy courses chosen in
consultation with the Doctoral Advisor and approved by the student’s
committee during the first semester of course work.

Creative Activities (20% of total, 12 credits)
1 credit  MED602 DMA-Essay Proposal
11 credits  700 level credits in recitals or essay

Other Studies in Music (20% of total, 12 credits)
12 credits  Selected from the following 3-credit courses:
MCY 527 Keyboard Literature
MCY 528 Music Bibliography
MED 562 Psychology of Music
MED 662 Music Learning and Curriculum
MED 663 Music Research Methods
MED 664 Music Assessment
MTC 617 Analytical Techniques

Cognate/Electives (20% of total, 12 credits)
DMA-PIANO PERFORMANCE (MKP)

Performance Courses (32% of total, 19 credits)
- 12 credits Applied Piano
- 4 credits Performance Seminars
- 3 credits Accompanying

Creative Activities (20% of total, 12 credits)
- 6 credits DMA-Recitals (2 credits for each of 3 recitals)
- 2 credits DMA-Concerto or Chamber Music Recital
- 1 credit MED602 DMA-Essay/Lecture Recital Proposal
- 3 credits DMA-Essay/Lecture Recital

Allied Music Courses (28% of total, 17 credits)
- 6 credits Music Theory
- 6 credits MCY 526 & MCY 527 Keyboard Literature I + II
- 1 credit String-Keyboard Chamber Music
- 3 credits Music Bibliography or Elective
- 1 credit MED690 Music Teaching in College

Cognate (20% of total, 12 credits)

MM-Collaborative Piano (MKPA)

The candidate must have had an undergraduate background in accompanying, either as an accompanying major or as a piano major with extensive experience as an accompanist. Candidates for this program should at the time of entrance manifest a pronounced ability in reading at sight. The ability to transpose and improvise is also desirable, as is a pronunciation knowledge of French, German, and Italian.

Major Area
- 6 credits MKPPII-L Private Lessons
- 2 credits MIP645 String-Keyboard Chamber Music
- 3 credits MKP688 Collaborative Piano Seminar
- 4 credits MKP691 Accompanying
- 2 credits MKP711 Recital Paper
- 1 credit MKP712 Recital

Other Studies in Music
- 3 credits MCY5XX Musicology
- 2 credits MKP547 Keyboard Pedagogy
- 1 credit MED601 Recital Paper Preparation
- 3 credits MTC617 Analytical Techniques

Electives
- 3 credits MXXXXX Electives
MM-Keyboard Performance and Pedagogy (KPED)

The candidate must complete prescribed courses in keyboard pedagogy and a lecture recital with a supporting paper.

**Major Area**
- 3 credits MKP 547 Keyboard Pedagogy
- 8 credits MKPPII-L Private Lessons
- 1 credit MKP 712 Recital
- 2 credits MKP 650 Keyboard Pedagogy Research Seminar
- 2 credits MKP 680 Keyboard Pedagogy Internship
- 1 credit MKP 713 Master's Pedagogy Project

Choose one of the following:
- 3 credits MKP 647 Seminar in Keyboard Pedagogy
- 3 credits MKP 548 Intermediate to Advanced Repertoire
- 3 credits MKP 550 Keyboard Pedagogy III: Practice Strategies
- 3 credits MKP 549 Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics

**Other Studies in Music**
- 3 credits MTC 617 Analytical Techniques
- 3 credits MCY 528 Music Bibliography

**Music Electives**
- 4 credits MXX XXX Approved Music Electives

MM-Piano Performance (MKP)

The candidate must have acquired the principles of tone production and velocity and their application to scales, arpeggios, chords, octaves, and double notes, and must have a balanced repertoire comprising the principal baroque, classic, romantic, and modern compositions which should include compositions by representative American and foreign composers. Candidates must have had experience in ensemble playing and should be capable sight-readers.

**Major Area**
- 8 credits MKPPII-L Private Lessons
- 3 credits MKP6XX Accompanying
- 2 credits MKP711 Recital Paper
- 1 credit MKP712 Recital

**Other Studies in Music**
- 3 credits MCY526 Keyboard Literature I
- 3 credits MCY527 Keyboard Literature II
- 2 credits MEDXXX Music Education/Pedagogy Elective
- 1 credit MED601 Recital Paper Preparation
- 3 credits MTC617 Analytical Techniques

**Electives**
- 4 credits MXXXXX Electives
ARTIST DIPLOMA IN PERFORMANCE

The Artist Diploma in Performance is a program of advanced study designed for the outstanding performance career-oriented performer. The curriculum will focus on preparation for major competitions, auditions, apprenticeships, and the development of a performance career. Entrance to the program is limited to those individuals who have demonstrated exceptional performance skills by audition. A fully enrolled student can complete the eighteen-hour program in one year.

Requirements

8 credits  Applied Lessons
2 credits  Performance Ensembles
2 credits  Recital
6 credits  Approved Studies in Music

Keyboard Performance Course Listing
Department of Music Education and Music Therapy (MED)

DEGREE PROGRAMS

DOCTOR OF PHILOSOPHY (PHD)

The Doctor of Philosophy program is offered in Music Education. Requirements for the degree will conform to those for the general Doctor of Philosophy degree, listed elsewhere in this Bulletin. The Ph.D. is a research degree requiring 60 credit hours beyond the Master’s degree or 90 credit hours beyond a Bachelor’s degree. Enrollment for the Ph.D. degree is limited. Acceptance into the program will be based on academic record, Graduate Record Examination Scores, personal suitability, recommendations, experience, and demonstrated teaching competency.

Students are admitted to candidacy after successful completion of course work, qualifying examinations in musicology, music theory, and music education, and research tool requirements. Research tools are selected in consultation with the student’s advisor, and are related to the student’s proposed dissertation research. Comprehensive examinations are given after all academic work is completed to meet the candidacy requirement. The student’s dissertation research topic must be presented to and approved by the student’s committee. No student gains the right to be recommended for the degree simply by completing course requirements. Final oral examinations are administered during Fall & Spring Semesters only.

Requirements

Major Area (27 credits)

A. Major Field Core

3 credits MED 663 Music Research Methods
2 credits MED 680 Doctoral Seminar
2 credits MED 681/682 Seminar in Music Research (Qualitative/Quantitative
1 credit MED 695 Doctoral Research Project
12 credits MED 730 Dissertation in Music Education

B. Music Education/Music Therapy Emphasis (choose one emphasis)

Music Education Emphasis

3 credits MED 660 History & Philosophy of Music Education
3 credits MED Course(s) by advisement (see electives)
1 credit MED 690 Teaching Music in College

Music Therapy Emphasis

3 credits MED 629 Advanced Music Therapy Practice I
3 credits MED 630 Advanced Music Therapy Practice II
1 credit MED 684 Music Therapy Seminar

Other Studies in Music (9 credits)

9 credits (MTC, MCY, MMI, MSJ, MIP, MVP, MKP)

Ph.D. Research Tools/Cognate (12 credits)

Advisor Approved Electives (12 credits) (choose from the following)
3 credits MED 562 Psychology of Music
2 credits MED 600 Psychoacoustical Foundations of Music
3 credits MED 620 International Music Education
3 credits MED 625 Cultural Diversity in Music Education
2 credits MED 632 Vocal Methods & Materials in Music Education
3 credits MED 635 Social Issues in Music Learning
3 credits MED 640 Community Music Programs
2 credits MED 647 Seminar in Instrumental Music Education
3 credits MED 662 Music Learning & Curriculum
3 credits MED 664 Music Assessment
2 credits MED 665 Seminar in Music Education
1 credit MED 670 Seminar in Music Teacher Education
2 credits MED 673 Music in Childhood
2 credits MED 681 Qualitative Music Research Seminar
2 credits MED 682 Quantitative Music Research Seminar
1 credit MED 696 Doctoral Research Project II

MM-Music Education (MED)

Major Area (15 credits)
3 credits MED 660 History & Philosophy of Music Education
3 credits MED 662 Music Learning & Curriculum
3 credits MED 663 Research Methods in Music
3 credits MED 664 Music Assessment
3 credits MED 710/715 Thesis/Project

Other Studies in Music (9 credits)
9 credits Courses in MTC, MCY, MMI, MSJ, MIP, MVP, MKP

Electives (9 credits)
9 credits Approved Electives

MM-Music Education with Teaching Certification

A student holding a B.M. degree in music may work toward certification in Music Education concurrently with the M.M. degree in Music Education. The B.M. degree must have included at least 14 hours of music performance, 12 of music theory, 3 of conducting, 6 of music history, and credit in performance ensembles. This is a Florida Department of Education-approved program leading to initial certification as a music teacher, K-12.

Major Area (30 credits)
3 credits MED 548 Music for Special Learners or TAL 504 Inclusion in Secondary Classroom
1 credit MED 633 Student Teaching Seminar in Music Education
3 credits MED 660 History and Philosophy of Music Education
3 credits MED 662 Music Learning & Curriculum
3 credits MED 664 Music Assessment
7 credits MED 675 Student Teaching in Music
3 credits TAL 506 Issues & Strategies in ESOL
3 credits TAL 554 Literacy & Learning Strategies in the Content Area
1 credit  TAL 580  Seminar on Teaching
3 credits  TAL 632  Classroom and Behavior Management

**Other Studies in Music (9 credits)**

9 credits  MXXXXX  Non-MED Music Electives (MTC, MCY, MIP, MVP, MKP, MMI, MSJ)

**Music Education Electives (6 credits)**

(One elementary and one secondary methods course required for certification)

- **Elementary Methods Courses (3 credits required)**
  - 3 credits  MED 542  Teaching Elementary General Music
  - 3 credits  MED 543  Teaching Elementary & Secondary Instrumental Music

- **Secondary Methods Courses (3 credits required)**
  - 3 credits  MED 543  Teaching Elementary & Secondary Instrumental Music
  - 3 credits  MED 544  Teaching Secondary General Music
  - 3 credits  MED 549  Teaching Secondary Choral Music

**MM-Music Therapy (MTY)**

**Major Area**

- 3 credits  MED663  Music Research Methods
- 0 credits  MED610  Music Therapy Forum
- 3 credits  MED629  Advanced Music Therapy Practice I
- 3 credits  MED630  Advanced Music Therapy Practice II
- 2 credits  MED659  Graduate Practicum
- 3 credits  MED710  Master’s Thesis

**Other Studies in Music**

- 10 credits  MXXXXX  Approved Graduate Level Courses in Music

**Electives**

One course in research design and statistics from:

- 3 credits  EPS553  Introductory Statistics
- 3 credits  PSY630  Advanced Psychological Methods
- 3 credits  PSY631  Advanced Psychological Statistics I

One course in an area of clinical or research interest from:

- 3 credits  EPS506  Foundations of Mental Health Counseling
- 3 credits  EPS612  Counseling Theories and Practice
- 3 credits  MED600  Psychoacoustical Foundations of Music
- 3 credits  PSY605  Psychobiology
- 3 credits  PSY620  Developmental Psychology

**MM-Music Therapy with Undergraduate Equivalency**

**Major Area**

- 3 credits  MED663  Music Research Methods
- 0 credits  MED610  Music Therapy Forum
- 3 credits  MED629  Advanced Music Therapy Practice I
- 3 credits  MED630  Advanced Music Therapy Practice II
### Other Studies in Music
10 credits MXXXXX Approved Graduate Level Courses in Music

### Electives
3 credits One course in research design and statistics from:
- EPS553 Introductory Statistics (3 credits)
- PSY630 Advanced Psychological Methods (3 credits)
- PSY631 Advanced Psychological Statistics I (3 credits)

3 credits One course in an area of clinical or research interest from:
- EPS506 Foundations of Mental Health Counseling (3 credits)
- EPS612 Counseling Theories and Practice (3 credits)
- MED600 Psychoacoustical Foundations of Music (3 credits)
- PSY605 Cognitive Neuroscience (3 credits)
- PSY620 Developmental Psychology (3 credits)

### Undergraduate Equivalency Courses
0 credits MED010 Music Therapy Forum
1 credit MED149 Functional Techniques MTY I
1 credit MED242 Percussion Techniques
1 credit MED244 Voice Techniques
1 credit MED249 Functional Techniques MTY II
2 credits MED259 Introduction to Music Therapy
1 credit MED359 Clinical Orientation in MTY
3 credits MED545 Music in Rehabilitation
3 credits MED546 Music Psychotherapy
3 credits MED562 Psychology of Music
3 credits MED576 Music & Development
3 credits PSY220 Psychobiology
4 credits PSY292 Introduction to Biobehavioral Statistics for non-majors
3 credits Either
- PSY230 Child & Adolescent Development (3 credits)
- EPS270 Human Development (3 credits)
3 credits PSY240 Abnormal Psychology
3 credits PSY345 Abnormal Child Psychology
3 credits BIL109 Human Biology

[Music Education and Music Therapy Course Listing](#)
Department of Music Media and Industry (MMI)

DEGREE PROGRAMS

MA Arts Presenting (MPR)

**Major Area**
- 3 credits MMI541 Tour Management and Production
- 3 credits MMI 543 Marketing and Promotion in the Entertainment Industry
- 3 credits MMI626 Performing Arts Centers and Venue Management
- 3 credits MMI634 Sponsorship and Development in the Live Entertainment Industry
- 3 credits MMI636 Financial and Risk Management in the Live Entertainment Industry
- 3 credits MMI638 Legal Aspects of the Live Entertainment Industry
- 3 credits MMI640 Arts Presenting Project or Approved Graduate Course Elective
- 3 credits MMI725 Arts Presenting Internship
- 6 credits Six credits of approved Graduate Course Electives

MM-Music Business and Entertainment Industries (MBEI)

**Major Area**
- 3 credits MMI537 Recorded Music Operations
- 2 credits MMI573 International Music Publishing
- 3 credits MMI638 Legal Aspects of the Live Entertainment Industry
- 3 credits MMI652 International Music Licensing
- 3 credits MMI656 Entertainment Industry Practices
- 3 credits MMI674 Music Copyright Law
- 1 credit MMI678 Publishing and Record Industry Royalties
- 3 credits MM1702 Internship in Music Industry
- 9 credits Nine credits of approved Graduate Course electives
- 0 credits MMI614 Graduate Music Business and Entertainment Industries Forum

Cumulative Exit Exam

MS-Music Engineering Technology (MUE)

**Major Area**
- 3 credits MMI601 Advanced Digital Audio Electronics
- 3 credits MMI606 Windows Audio Plug-In Programming
- 3 credits MED562 Psychology of Music I
- 2 credits MED600 Psychoacoustical Foundations of Music
- 3 credits MTC667 Advanced Projects in Electronic Music
- 4 credits MMI6XX Audio Workshop (MMI653, 670, 671, 672)
- 3 credits MMI713 Research Project

**Electives**
- 12 credits Select one of the following emphases
  
  **Hardware Emphasis:**
  - EEN536 Digital Signal Processing (3 credits)
  - EEN538 Introduction to Digital Image Processing (3 credits)
  - EEN542 Digital Integrated Circuits (3 credits)
EEN636  Advanced Digital Filter Design (3 credits)

**Software Emphasis:**
CSC529  Introduction to Computer Graphics (3 credits)
CSC555  Multimedia Systems (3 credits)
CSC609  Cryptography and Data Security (3 credits)
CSC655  Advanced Multimedia Systems (3 credits)

[Music Media and Industry Course Listing](#)
Department of Music Theory-Composition (MTC)

DEGREE PROGRAMS

DMA-COMPOSITION (MTC)

Composition Courses (20% of total, 12 credits)
- 8 credits MTC615, MTC616 Composition Seminar
- 4 credits MTC682 Composition Workshop

Creative Activities (20% of total, 12 credits)
- 12 credits MTC731 DMA-Essay Research

Theory/Composition Courses (25% of total, 15 credits)
- 3 credits MTC611 Theory Pedagogy
- 12 credits Music Theory courses

Musicology Courses (15% of total, 9 credits)
- 9 credits Musicology courses

Cognate/Electives (20% of total, 12 credits)

MM-Music Composition (MTC)

Major Area
- 2 credits MTC615 Composition Seminar I
- 2 credits MTC616 Composition Seminar II
- 6 credits MTC710 Thesis Composition
- 6 credits Two courses selected from the following
  - MTC611 Theory Pedagogy (3 credits)
  - MTC613 Twentieth Century Idioms (3 credits)
  - MTC617 Analytical Techniques (3 credits)

Other Studies in Music
- 3 credits MCY524 Contemporary Music
- 3 credits MCYXXX Music History Electives
- 2 credits MXXXXX Private Lessons
- 2 credits MXXXXX Approved Ensembles

Electives
- 3 credits MTCXXX Approved Elective in MTC
- 3 credits MXXXXX Graduate Level Electives

MM-Digital Arts and Sound Design (MTCD)

Major Area
- 2 credits MTC 605 Digital Art and Sound Design
- 6 credits In Digital Arts courses (MTC 505 Analysis and History of Electroacoustic Music, MTC 506 Sequencing and Digital Editing, MTC 593 Special Topics, MTC 521 Multimedia for Musicians, or other approved courses in MTC and MUE)
- 2 credits MTC 507 Licensing
### 6 credits
MTC 667 Advanced Electronic and Computer Music Seminar

### 6 credits
MTC 710 Thesis Project

### Other Studies in Music

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>4 credits</td>
<td>Ensemble appropriate for Music Technology (based on approval of Department Chair)</td>
</tr>
<tr>
<td>2 credits</td>
<td>MED 600 Psychoacoustic Foundations of Music (2)</td>
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### Electives

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<tr>
<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>3 credits</td>
<td>MTCXXX Approved Elective in MTC</td>
</tr>
<tr>
<td>3 credits</td>
<td>MXXXXX Graduate Level Electives at the 600 level</td>
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### MM-Media Writing and Production (MWP)

### Major Area

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<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>3 credits</td>
<td>MMI520 Audio Technology for Musicians</td>
</tr>
<tr>
<td>2 credits</td>
<td>MTC511 Film Scoring I</td>
</tr>
<tr>
<td>2 credits</td>
<td>MTC512 Film Scoring II</td>
</tr>
<tr>
<td>1 credit</td>
<td>MTC553 Film Scoring III (new course)</td>
</tr>
<tr>
<td>3 credits</td>
<td>MTC646 Studio Production Seminar</td>
</tr>
<tr>
<td>3 credits</td>
<td>MTC696 Studio Production Ensemble</td>
</tr>
<tr>
<td>3 credits</td>
<td>MTC713 Masters Media Writing Project</td>
</tr>
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### Other Studies in Music

<table>
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<tr>
<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>3 credits</td>
<td>MMI530 Entrepreneurship for Musicians</td>
</tr>
<tr>
<td>3 credits</td>
<td>MSJ614 Advanced Orchestration</td>
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<tr>
<td>1 credit</td>
<td>MSJ615 Jazz Composition Seminar I</td>
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### Electives

<table>
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<tr>
<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>6 credits</td>
<td>MXXXXX Electives (3 credits must be 600 level or above)</td>
</tr>
</tbody>
</table>

[Music Theory and Composition Course Listing](#)
Department of Musicology (MCY)

DEGREE PROGRAMS

MM-Musicology (MCY)

**Major Area**
- 3 credits  MCY528  Music Bibliography
- 12 credits MCYXXX  Musicology Courses
- 6 credits  MCY710  Thesis

**Other Studies in Music**
- 3 credits  MEDXXX  Music Education Elective or MCY 611
- 3 credits  MTC617  Analytical Techniques

**Electives**
- 3 credits  MCYXXX  Electives

Musicology students are expected to demonstrate proficiency in a language other than English, normally German, French, or Spanish. Proficiency examinations will be administered by the Musicology Department and will consist of 1-2 passages from representative scholarly readings. Alternatively, enrolling in GER 625, FRE 625, or an equivalent course at the graduate level may fulfill the requirement. This requirement should be completed by the beginning of the second year to facilitate research on the master's thesis.
Department of Studio Music and Jazz (MSJ)

DEGREE PROGRAMS

DMA-JAZZ COMPOSITION (MSJC)

Performance Courses (20% of total, 12 credits)
- 10 credits Jazz Composition
- 2 credits Ensembles

Creative Activities (20% of total, 12 credits)
- 1 credit MED602 DMA-Essay/Lecture Recital Proposal
- 11 credits DMA-Essay/Lecture Recital

Jazz Courses (20% of total, 12 credits)
- 3 credits MSJ620 Analysis of Jazz Styles
- 3 credits MSJ544 Jazz Pedagogy and Administration/Special Project
- 3 credits Jazz Performance Ensembles
- 1 credit MED690 Teaching Music in College
- 2 credits Electives in Jazz

Allied Music Courses (20% of total, 12 credits)
- 3 credits MCY528 Music Bibliography
- 3 credits MTC617 Analytical Techniques or other MTC course
- 3 credits MED562 Psychology of Music
- 3 credits Musicology/Music Theory Electives

Cognate/Electives (20% of total, 12 credits)

DMA-JAZZ PERFORMANCE (MSJI or MSJV)

Performance Courses (20% of total, 12 credits)
- 6 credits Applied Lessons
- 3 credits Ensembles
- 3 credits Performance Electives (improvisation, ensembles, applied lessons)

* Jazz performance electives may be substituted for applied lesson credit with the permission of advisor.

Creative Activities (20% of total, 12 credits)
- 3 credits MSJ 732 Recital/Lecture recital (2 full length recitals, 1 lecture recital)
- 1 credit MED 602 Essay Proposal
- 8 credits MSJ 731 DMA Essay

Jazz Courses (20% of total, 12 credits)
- 3 credits MSJ620 Analysis of Jazz Styles
- 3 credits MSJ544 Jazz Pedagogy and Administration/Special Project
- 3 credits Jazz Performance Ensembles
- 1 credit MED690 Teaching Music in College
- 2 credits Electives in Jazz
Allied Music Courses (20% of total, 12 credits)
3 credits  MCY528 Music Bibliography
3 credits  MTC617 Analytical Techniques or other MTC course
3 credits  MED520 Psychology of Music
3 credits  Musicology/Music Theory Electives

Cognate/Electives (20% of total, 12 credits)

**MM-Jazz Performance, Instrumental (MSJI)**

**Major Area**
- 4 credits  MSJXXI-L  Private Lessons
- 3 credits  MSJ6XX  Jazz Ensembles
- 6 credits  MSJ66X  Jazz Improvisation
- 2 credits  MSJ509  Jazz Composition I
- 2 credits  MSJ510  Jazz Composition II
- 1 credit  MSJ712  Master’s Recital
- 2 credits  MSJ711  Master’s Recital Paper

**Other Studies in Music**
- 3 credits  MSJ620  Analysis of Jazz Styles
- 3 credits  MSJ544  Jazz Pedagogy and Administration
- 1 credit  MED601  Recital Paper Preparation

**Electives**
- 4 credits  MXXXXX  Approved Electives

**MM-Jazz Performance, Vocal (MSJV)**

**Major Area**
- 4 credits  MSJVOI-L  Private Lessons
- 3 credits  MSJ6XX  Jazz Ensembles
- 6 credits  MSJ56X  Jazz Improvisation
- 2 credits  MSJ509  Jazz Composition I
- 2 credits  MSJ510  Jazz Composition II
- 1 credit  MSJ712  Master’s Recital
- 2 credits  MSJ711  Master’s Recital Paper

**Other Studies in Music**
- 3 credits  MSJ620  Analysis of Jazz Styles
- 3 credits  MSJ544  Jazz Pedagogy and Administration
- 1 credit  MED601  Recital Paper Preparation

**Electives**
- 4 credits  MXXXXX  Approved Electives

**MM-Jazz Pedagogy (JPED)**

**Major Area**
- 4 credits  MSJXXI-L  Private Lessons
- 2 credits  MSJ6XX  Jazz Ensembles
3 credits  MSJ56X  Jazz Improvisation
3 credits  MSJ544  Jazz Pedagogy and Administration
3 credits  MED562  Psychology of Music
2 credits  MED640  Seminar in Music Education
1 credit  MEDXXX  Music Education Elective

Other Studies in Music
2 credits  MSJ509  Jazz Composition I
3 credits  MSJ520  Advanced Modern Arranging II
3 credits  MSJ620  Analysis of Jazz Styles

Electives
6 credits  MXXXXX  Approved Electives

MM-Studio Jazz Writing (SJW)

Major Area
2 credits  MSJ615  Jazz Composition Seminar I
3 credits  MSJ521  Advanced Modern Arranging III
3 credits  MSJ614  Advanced Orchestration
2 credit  MSJ522  Digital Sequencing and Notation
4 credits  MSJ675  Jazz Writing Ensemble
3 credits  MSJ713  Master's Jazz Writing Project

Other Studies in Music
2 credits  MMI520  Audio Production
3 credits  MMI530  Entrepreneurship for Musicians
2 credits  MTC511  Film Scoring I
2 credits  MTC512  Film Scoring II
2 credits  MTC615  Composition Seminar

Electives
2 credits  MXX5XX  Other Elective
Department of Vocal Performance (MVP)

DMA-CHORAL CONDUCTING (MCDC)

Conducting Courses (40% of total, 24 credits)
- 2 credits Choral Conducting Workshop
- 4 credits Private Conducting MVP/CDM-P (@ 1 credit)
- 4 credits Ensembles MVP600 level (@ 1 credit)
- 2 credits MVP508 Choral Score Study
- 2 credits MED632 Choral Methods
- 3 credits MTC515 Choral Arranging
- 2 credits MCY535 Choral Literature I
- 2 credits MCY536 Choral Literature II
- 2 credits Electives
- 1 credit MED690 Teaching Music in College

Creative Activities (20% of total, 12 credits)
- 1 credit MED602 DMA-Essay Proposal
- 8 credits DMA-Essay
- 3 credits DMA-Recitals

Allied Music Courses (20% of total, 12 credits)
- 3 credits MTC617 Analytical Techniques or other MTC course
- 3 credits Graduate Music Seminars
- 2 credits MVP538 Vocal Pedagogy
- 4 credits Applied Voice or Piano Lessons (@ 1 credit each)

Cognate/Electives (20% of total, 12 credits)

DMA-VOCAL PEDAGOGY AND PERFORMANCE (VPED)

Performance Courses (20% of total, 12 credits)
- 8 credits Applied Lessons in voice performance
- 2 credits MVP688 Ensembles
- 2 credits MVP552 Coaching—vocal performance

Creative Activities (20% of total, 12 credits)
- 2 credit MVP732 DMA-Recital
- 1 credit MED602 Doctoral Essay Proposal
- 9 credits MVP731 Doctoral Essay Research
Vocal Pedagogy (30% of total, 18 credits selected from the following)
  Vocal Literature for Teaching:
  3 credits MVP610 English
  3 credits MVP611 Italian
  3 credits MVP612 German
  3 credits MVP613 French
  3 credits MVP614 Musical Theatre
  1 credit MVP630 Studio Teaching Techniques
  3 credits MVP638 Advanced Vocal Pedagogy
  1 credit MVP639 Vocal Pedagogy Internship
  1 credit MED680 Doctoral Seminar
  1 credit MED690 Teaching Music in College
  2 credits MVP636 Voice Disorders

Allied Music Courses (10% of total, 6 credits)
  3 credits MED562 Psychology of Music
  3 credits MTC617 Analytical Techniques

Cognate/Electives (20% of total, 12 credits)

**DMA–VOCAL PERFORMANCE (MVP)**

Performance Courses (35% of total, 21 credits)
  12 credits Applied Voice
  6 credits Vocal Performance Preparation
  3 credits Opera Theatre

Creative Activities (20% of total, 12 credits)
  1 credit MED602 DMA-Essay Proposal
  5 credits DMA-Essay
  6 credits DMA-Recitals (2 credits for each of 3 recitals)

Allied Music Courses (25% of total, 15 credits)
  6 credits Musicology (6 credits Art Song Literature and Opera Literature or other MCY courses)
  3 credits MTC617 Analytical Techniques or other MTC course
  2 credits Performance Seminars
  3 credits Advanced Vocal Pedagogy
  1 credit MED690 Teaching Music in College

Cognate/Electives (20% of total, 12 credits)

**MM–Choral Conducting (MCDC)**

Candidates must possess and demonstrate an unquestioned gift of musical leadership based upon broad experience with choral ensembles. MVP538 (Vocal Pedagogy) and 2-3 credits of private vocal or piano instruction must be included in the program. Admission requirements include a baccalaureate degree in music, practical experience in choral conducting through church, school, or community ensembles. Enrollment in this major is only by special permission. For detailed information, please consult the Graduate Choral Conducting Student Handbook, available from the Choral Office.
Major Area
2 credits MVPCDX Private Conducting Lessons
2 credits MVP508 Score Study
2 credits MVP538 Vocal Pedagogy
3 credits MVP6XX Performance Ensembles
2 credits MVP671, 2, 3 Choral Conducting Workshop
1 credit MVP712 Master’s Recital
2 credits MVP711 Master’s Recital Paper

Other Studies in Music
3 credits MTC617 Analytical Techniques
2 credits MCY535 Choral Literature I
2 credits MCY536 Choral Literature II
1 credit MED601 Recital Paper Preparation
2 credits MED632 Vocal Methods Materials

Electives
4 credits Approved electives in Voice Lessons, Piano Lessons or Diction
3 credits MXXXXX Approved Electives

MM-Vocal Performance (MVP)
The candidate must demonstrate the ability to sing in English, French, German, and Italian; be knowledgeable of the more difficult arias of opera and oratorio and of recitative in both the free and measured forms; have a thorough acquaintance with the general song literature; and be able to present a creditable recital. Each student who enters the Master of Music Degree Program in Voice must show undergraduate credit equivalent, or enroll for the following courses before graduation: MCY522 Operatic Literature; MCY525 Art Song Literature; MVP538 Vocal Pedagogy; MVP638 Advanced Vocal Pedagogy; two semesters of college-level Italian; two semesters of college-level French, two semesters of college-level German (or demonstrate by departmental examination, acceptable proficiency in these languages).

Major Area
4 credits MVPVOI-L Private Lessons
4 credits MVP552 Vocal Performance Preparation
4 credits MVP6XX Performance Ensembles
3 credits MVP638 Advanced Vocal Pedagogy
1 credit MIP712 Master’s Recital
2 credits MIP711 Master’s Recital Paper

Other Studies in Music
3 credits MTC617 Analytical Techniques
3 credits MCYXXXX Approved Musicology Course
1 credit MED601 Recital Paper Preparation

Electives
5 credits MXXXXX Approved Electives
ARTIST DIPLOMA IN PERFORMANCE
The Artist Diploma in Performance is a program of advanced study designed for the outstanding performance career-oriented performer. The curriculum will focus on preparation for major competitions, auditions, apprenticeships, and the development of a performance career. Entrance to the program is limited to those individuals who have demonstrated exceptional performance skills by audition. A fully enrolled student can complete the eighteen-hour program in one year.

Requirements
8 credits Applied Lessons
2 credits Performance Ensembles
2 credits Recital
6 credits Approved Studies in Music

Vocal Performance Course Listing
The School of Nursing and Health Studies offers three graduate degrees: the Master of Science in Nursing (MSN), the Doctor of Nursing Practice (DNP), and the Doctor of Philosophy (PhD) in Nursing.

*If admitted to an MSN, DNP or PhD program, all students must successfully pass a background check which includes fingerprinting and drug screening, and must also provide proof of current immunizations. These requirements must be met prior to registering for courses.*

*Note that courses and policies are subject to change throughout the academic year. Please refer to the 2013-2014 Student Handbook for the applicable curriculum and progression policies.*

**MASTER OF SCIENCE IN NURSING**

The Master of Science in Nursing (MSN) degree program is designed for professional nurses holding a Bachelor of Science degree with a major in nursing (BSN). Registered nurses with baccalaureate degrees in other fields are also eligible to apply for admission. Specialty tracks focus on selected areas of advanced practice nursing and nursing education. The degree requirements may be completed in three to four semesters of full-time study depending on the specialty. Part-time study is also available. MSN tracks are lock-step and students must successfully complete a semester to progress to the next semester. Further information about each program may be obtained from the Office of Student Services, School of Nursing and Health Studies, University of Miami, P.O. Box 248153, Coral Gables, FL 33124-3850; by visiting us on-line at: [http://www.miami.edu/sonhs/index.php/sonhs/academics/master_programs/](http://www.miami.edu/sonhs/index.php/sonhs/academics/master_programs/), e-mail [Nursinggrad@miami.edu](mailto:Nursinggrad@miami.edu) or calling (305) 284-4325.

The MSN Program is accredited by the Commission on Collegiate Nursing Education (CCNE), One DuPont Circle NW, Suite 530, Washington, DC 20036, (202) 887-6791. Additional national accreditations are from the Accreditation Commission for Midwifery Education (ACME) formerly known as American College of Nurse Midwives Division of Accreditation, 8430 Colesville Road, Suite 1550, Silver Spring, MD 20910, (204) 485-1845, and the Council on Accreditation of Nurse Anesthesia Education Programs (COA), 222 South Prospect Avenue, Park Ridge, Illinois, 60068-4001, (847) 692-7050 (ext. 1154).

**GRADUATE STUDENT RESPONSIBILITIES**

Students in the School of Nursing and Health Studies are responsible for meeting the degree requirements. It is the student's responsibility to comply with all the provisions of the *Bulletin* and written changes to the program of study. Students are provided assistance by advisors and faculty members. Requests for deviation from the program of study or school requirements are granted only by written approval from the Dean. Students who are in violation of the provisions of this *Bulletin* may be withdrawn unilaterally by appropriate School officials from classes, deleted as Nursing and Health Studies students or have a stop placed upon their future enrollment. The school reserves the right to change academic requirements to include course offerings to ensure that students are receiving the latest knowledge. Classes may be held on weekdays or weekends, and will be listed as such in the course schedule.
Changes are transmitted by written notice in the current year of the School of Nursing and Health Studies Master’s Handbook located at www.miami.edu/sonhs or by the Dean.

PROGRESSION POLICY

In order for MSN students to progress through their programs to completion, the academic policy is as follows:

1. Any graduate student who receives a “C” or lower in a nursing course will be dismissed from his or her program.

2. A grade of “B-“ or “C+” for a course is below graduate standards, and the student must repeat that course. However, a student may only repeat one course, one time.

3. A passing grade in all clinical experiences is required to pass a course having a clinical component (generally listed as a “lab section” by UM). Students who are not making satisfactory progress may also receive an academic alert at mid-semester or mid-course.

4. All grades are included in the computation of the UM overall grade point average including those that are failed or repeated.

MSN ADMISSION REQUIREMENTS (Advance Practice Specialties)

Admission to graduate programs in the School of Nursing and Health Studies is subject to the rules, regulations, and procedures as determined by each graduate nursing program and the Graduate Bulletin of the University of Miami. Admission to the master’s program requires:

- Submission of a complete University of Miami Graduate School application for admission
- A Baccalaureate degree (BSN preferred) from a regionally-accredited institution
- Official transcripts from all undergraduate and graduate institutions attended, unless the applicant is a graduate of the University of Miami
- Three letters of reference, at least one of which is from an academic source
- Statement of professional goals for graduate study
- Current resume
- One year of Critical Care Experience is required for the Adult-Gerontology Acute Care Nurse Practitioner program.
- Prerequisite: Introductory Statistics Course
- Current (unrestricted) RN license (once admitted to the program, students must provide a Florida RN license)
- Photocopies of the following certifications:
  
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744
Primary Care NP

Adult-Gerontology Acute Care NP

Family NP

Nurse Education

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- Applicants for whom English is not the native language must comply with the Minimum Score Requirement in the University’s policy on Examinations for International Students located at:
  
  http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/

- Interviews are part of the admissions process, and candidates selected for interview will be notified.

**MSN SPECIALTY TRACKS:** Adult-Gerontology ACUTE CARE Nurse Practitioner, ADULT-Gerontology Primary Care NURSE PRACTITIONER, FAMILY NURSE PRACTITIONER, and NURSE EDUCATION

Programs leading to the Master of Science in Nursing (MSN) degree prepare students for Advanced Practice Nursing in Adult-Gerontology Acute Care Nurse Practitioner, Adult-Gerontology Primary Care Nurse Practitioner, Family Nurse Practitioner, and Nurse Education.

**MSN DEGREE REQUIREMENTS**

**ADULT-GERONTOLOGY PRIMARY CARE NURSE PRACTITIONER**

**PLANS OF STUDY**

<table>
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<tr>
<th>ADULT-GERONTOLOGY PRIMARY CARE NURSE PRACTITIONER 1 YEAR PLAN OF STUDY</th>
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<tbody>
<tr>
<td><strong>Fall I</strong></td>
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<tr>
<td>NUR 601 Advanced Pharmacology</td>
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<td>NUR 612 Advanced Pathophysiology</td>
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<td>NUR 613 Advance Health Assessment &amp; Diagnostic Reasoning</td>
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* Lab hours are not included in clinical hours

### ADULT-GERONTOLOGY ACUTE CARE NURSE PRACTITIONER PLANS OF STUDY

#### Fall I

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#### Spring I

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#### Total Program

|                                           | **37**        | **25**        | **12**           | **616**        |

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* Lab hours are not included in clinical hours
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**Lab Hours not included in clinical hours**
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* Lab hours are not included in clinical hours
Nurse Anesthesia – Plan of Study 100 credits (Full-time only)
--NO LONGER ENROLLING IN THIS PROGRAM (See DNP Program)--

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Nurse Midwifery – Plan of Study 40 credits (Full-time only)
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| **Total for Program** | **40** | **27**  | **13**            | **672**        |

*Lab hours not included in clinical hours.*
DOCTOR OF NURSING PRACTICE

The DNP degree is a practice-focused doctorate designed for nurses seeking a terminal degree in nursing practice. The DNP Program is accredited by the Commission on Collegiate Nursing Education (CCNE), One DuPont Circle NW, Suite 530, Washington, DC 20036, (202) 887-6791. The program is offered in two formats: the MSN-DNP and the BSN-DNP Nurse Anesthesia track. The Nurse Anesthesia track is accredited by the Council of Accreditation of Nurse Anesthetic Educational Programs (COA) Park Ridge, Illinois.

The outcome objectives for graduates of the DNP program are to:

- Integrate knowledge, theories, and concepts from the biophysical, psychosocial, analytical, and organization sciences to develop ethical health care systems and new frontiers for nursing practice that addresses health care disparities
- Evaluate research methods and findings to create an evidence-base for nursing practice and health care delivery systems that reflect best practices and alleviate health care disparities
- Synthesize knowledge gained from traditional and innovative learning methods to lead quality, cost-effective health care collaborations addressing health care disparities.
- Demonstrate expert clinical judgment and knowledge of health care systems to design, deliver and evaluate evidence-based care interventions to reduce health care disparities
- Model expert nursing practice and serve as mentors to nursing colleagues in their efforts to improve nursing practice and health care systems
- Employ knowledge of health care policy and economics to develop and evaluate programs to address health care disparities

MSN-DNP ADMISSION REQUIREMENTS

- A baccalaureate degree and a master’s degree, preferably in nursing, from an accredited institution. Individuals without an MSN are evaluated on a case-by-case basis for admission
- Official transcripts from all undergraduate and graduate institutions attended, unless the applicant is a graduate of the University of Miami
- Three (3) letters of recommendation, at least one of which is from an academic source, and preferably from individuals with an earned doctorate in nursing
- Statement of professional goals for graduate study
- Current resume
- National specialty certification in an area of nursing practice
- Current (unrestricted) RN license*
● Current Basic Life Support certification (i.e., CPR or BLS)

● Applicants for whom English is not their native language must comply with the minimum Score Requirement in the University's policy on Examinations for International Students located at http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/

● Interviews will be scheduled as requested by faculty

● Documentation of completion of a minimum of 440 precepted clinical hours or supervised residency hours in master’s level program. An applicant who cannot provide such documentation may submit a portfolio for evaluation of equivalent clinical hours. Contents of the portfolio should include:
  • Descriptions of any supervised internship or residency experiences in their master’s program
  • Descriptions of any supervised internship or residency experiences they may have had after their master’s programs
  • Descriptions of nursing practice-related supervised projects in their master’s programs
  • Descriptions of nursing practice-related supervised projects they accomplished after their master’s programs (community or service sector). Any of the projects must have been accomplished outside of work hours
  • Signed statement from supervisor of project with the number of hours in the project.
  • Names and contact information of the supervisors who can be contacted to describe the experiences listed above

Final assignment of portfolio clinical hours is non-negotiable and is based on the level and nature of the supervision, the type and applicant’s responsibilities in the project.

* International and out-of-state students are welcome in the DNP program. However, some assignments are limited to students holding current Florida RN licenses and BLS certification.

**MSN-DNP DEGREE REQUIREMENTS**

To receive the Doctor of Nursing Practice degree, the candidate must:
1. Complete all coursework as required with an overall GPA of 3.0 or better
2. Complete all required clinical hours
3. Successfully complete the capstone project
4. Successfully pass a comprehensive examination. The exam is an integrative experience to demonstrate students’ mastery of the outcome objectives of the program
# ONE YEAR MSN-DNP PLAN OF STUDY OPTION

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**TOTAL FOR PROGRAM**

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168 - 608
## MSN- DNP 2 Year Plan of Study

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DOCTOR OF NURSING PRACTICE – NURSE ANESTHESIA Track

The BSN-DNP Nurse Anesthesia program is available as an entry into practice degree, meaning it is available to post-baccalaureate nurses, with or without a master’s degree in nursing. The DNP anesthesia track degree is a practice-focused doctorate. The program is a lock-step program; students must successfully complete a semester to progress to the next semester.

BSN-DNP Nurse Anesthesia Track Admission Requirements:

• Bachelor’s degree in nursing from an NLN or CCNE accredited program of nursing is preferred. Registered nurses with a bachelor’s degree in other relevant science fields will be considered.

• Official transcripts from undergraduate and graduate institutions, unless the applicant is a graduate of the University of Miami.

• A current, unrestricted license to practice nursing in the state of Florida, or the state or territory of current practice. (Once admitted to the program, must obtain Florida licensure.)
• Nursing GPA 3.25

• Graduate Record Examination (GRE) score of at least 297 (144 quantitative and 153 verbal). UM school code 5815.

• Statistics course within 5 years.

• Minimum of 2 years critical care experience within the last five years

• Current resume / curriculum vitae

• Written personal goal statement which describes your future role as a DNP within the health care system. (Online submission)

• 3 letters of recommendation (Online submission)
  
  • (1 from a current clinical supervisor, 1 from a former/current academic faculty member, 1 from a community leader or professional colleague)

• Current Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), & Pediatric Advanced Life Support (PALS).

• Applicants for whom English is not their native language must comply with the minimum Score Requirement in the University’s policy on Examinations for International Students located at http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/
• Successful completion of a pre-admission interview (personal interview and simulation scenario)

• Interviews will be scheduled as requested by faculty

**BSN-DNP Completion Requirements:**

To receive the Doctor of Nursing Practice Degree, the student must:

1. Complete all course work as required with an overall GPA of 83% or higher.
2. Complete all required clinical and practice immersion hours.
3. Successfully develop, implement, and disseminate a capstone project and results before graduation.
4. Successfully complete annual benchmark exam, before progressing into next phase of the program.
5. Successfully pass the DNP comprehensive examination. The exam is an integrative experience to demonstrate students’ mastery of the outcome objectives of the program.
6. Pass a comprehensive clinical nurse anesthesia oral board examination.
## BSN-DNP – Nurse Anesthesia Plan of Study

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Revised: 2/18/13
DOCTOR OF PHILOSOPHY

The Ph.D. with a major in Nursing Science requires a minimum of 41 credits of coursework beyond the master’s degree or 62 credits of coursework beyond the bachelor’s degree. The principal goal of the Ph.D. with a major in Nursing Science is to prepare scholars and researchers who will contribute to the growth of science in nursing through recognized methods of scholarly inquiry. Admission to the doctoral program is competitive.

PH.D. ADMISSION REQUIREMENTS

- Baccalaureate or a master's degree in nursing from an accredited college or university (or equivalent for international applicants)
- Official transcripts from all undergraduate and graduate institutions attended, unless the applicant is a graduate of the University of Miami
- Statement of professional goals for graduate study
- Resume
- Three (3) letters of recommendation
- Licensed as a professional nurse (not required for international applicants)**
- Competitive GRE scores
- International applicants for whom English is not their native language must comply with the minimum Score Requirement in the University's policy on Examinations for International Students located at http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/
- Interviews will be scheduled as requested by faculty

DEGREE REQUIREMENTS

To receive the Doctor of Philosophy degree, the candidate must meet all the general requirements for the Ph.D. degree with respect to course work, residency, the qualifying examination, 12 credits of dissertation, and successful defense of the dissertation. Students in the School of Nursing and Health Studies are responsible for meeting the degree requirements. It is the student's responsibility to understand fully, and comply with all the provisions of the Bulletin and written changes to their program of study. Students are provided assistance by advisors and faculty members. Requests for deviation from the program of study or school requirements are granted only by written approval from the Dean. Students who are in violation of the provisions of this Bulletin may be withdrawn unilaterally by appropriate School officials from classes, or have a stop placed upon their future enrollment. The school reserves the right to change academic requirements to include course offerings to ensure that students are receiving the latest knowledge. Changes are transmitted by written notice in the current year of the School of Nursing and Health Studies PhD Handbook located at www.miami.edu/sonhs or by the Dean.
# MSN to Ph.D. Plan of Study 41 credits

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<td>NUR 677</td>
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### BSN to Ph.D. Plan of Study 62 credits

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<td>NUR 677</td>
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<td>Applied Statistics: Multiple Regression</td>
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<td>NUR 681</td>
<td>Measurement of Nursing Phenomena</td>
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<td>NUR 679</td>
<td>Applied Statistics: Structural Equation Modeling and Hierarchical Linear Modeling</td>
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FINANCIAL ASSISTANCE

Full-time Ph.D. students are considered for support which may include:

1. Tuition Scholarships. These awards vary in amount and are intended to assist the recipient in pursuit of study and research as required by the degree. These scholarships are awarded on a competitive basis.

2. Graduate Stipends. These cash awards, paid monthly, are intended as part of an educational assistance program for PhD degree students. The stipends require service in the form of teaching, research assistance, or other appropriate educational activities that may be designated by the supervisor of the recipient.

For further information, contact: Office of Student Services, School of Nursing and Health Studies, University of Miami, P.O. Box 248153, Coral Gables, FL 33124-3850, Ph (305) 284-4325.

Nursing Course Listing

Health Studies Course Listing
The International Education and Exchange Programs (IEEP) office provides opportunities for UM students to acquire an international perspective in their academic career through studying abroad on UM designed programs or at UM exchange partner universities overseas. IEEP offers an extensive array of overseas programs in over 35 countries.

The UM-designed programs are the UM Semesters on Location, delivered in Prague, Rome, Cape Town, Cusco, Shanghai, Manipal in India, and the Galapagos. The IEEP office also facilitates UM courses abroad, directed and taught by UM faculty members in Latin America, Asia, Europe, South Africa, and other locations. The faculty-led courses take place during the January Intersession, Spring Break, and the Summer Sessions. For the UM Semester on Location programs, students receive UM credits and UM grades, and the courses are taught by UM professors and/or professors from overseas universities who are experts in their academic fields.

Students can also receive UM credits and grades for study at any one of UM’s over 80 exchange partner universities overseas. These programs can be undertaken for a semester, year, and/or during the summer. Among a multitude of other options, students can study marine biology on the edge of Australia’s Great Barrier Reef at James Cook University, be at the center of Europe and study business at the Vienna University of Economics and Business Administration, explore Iceland’s unspoiled nature while studying earth sciences at the University of Iceland, immerse themselves in Japanese culture and business practices at Sophia University in Tokyo, or become acquainted with the changing panorama of international relations at Uppsala University in Sweden. Many of these programs are delivered in English so foreign language proficiency is not required for most study abroad opportunities.

The Schools and Colleges at UM encourage study abroad options for their students. With the assistance of the IEEP office and the guidance of academic advisors, students can select a study abroad program to fit almost any major. Additionally, UM financial aid will apply to the costs of the UM programs. Students are advised to plan as early as their freshman year so studying abroad can be incorporated into their academic plan.

Students enrolled in any study abroad program at a partner institution may not earn more than 25 percent of their credits toward any UM degree program (credit requirements may vary by major/level), including courses taught by UM faculty. A student who anticipates earning more than 25 percent of his/her degree credits while participating in a study abroad program must immediately inform his/her advisor or program chair, who will be responsible for notifying the appropriate parties so that advance approval can be obtained from the Southern Association of Colleges and Schools (SACS).

For additional information, contact International Education and Exchange Programs, PO Box 248263, Coral Gables, FL 33124-1610. Tel: 305-284-3434. Email: ieep@miami.edu. Website: www.miami.edu/studyabroad.
The Miami Semester Program provides the opportunity for degree-seeking students attending other colleges to spend a semester in Miami living, studying and doing research at the University of Miami. Domestic and international students can take advantage of these unique specialized programs. Each Miami Semester program is designed to highlight courses unique to the University, taking advantage of UM’s geographical location, distinguished faculty, and highly regarded academic resources.

The Miami Semester Program is limited to degree-seeking undergraduates in good standing attending other universities and colleges. Participating students will be required to take at least one to two core courses in their chosen program. Course offerings are subject to change depending on availability.

American Studies

This program allows students to select one to two courses from among the American Studies (AMS) Program’s core courses, and classes from other departments based on availability and interests. It is an interdisciplinary approach for students to reflect on the interrelated nature of subjects like, but not limited to, Sociology, Geography, History, and Anthropology, and topics that are relevant to today’s society such as cultural diversity, the global economy, regional and geographical norms, and popular culture. The goal of this program is to assist in students’ understanding of the world around them by analyzing events, policies, societal norms and cultures, and historical events. Students may take any combination of courses that equal at least 12 credit hours.

Core Courses:

Students must enroll in at least one (1) of the following:
Introduction to American Studies AMS 101
The U.S., Transnationalism, and Globalism AMS 310
History and Culture of South Florida AMS 350

Additional Courses

Race and Healthcare in America AMS 401

Architecture: New Urbanism

The program allows for students currently majoring in Architecture at other colleges and universities to gain perspective of the field in South Florida. Students enroll in six credits of Architectural Design and six to nine credits of related electives or courses in Urban Studies. Students will also have opportunities to participate in study abroad programs in London, Venice, and/or Spain during intersession and spring breaks as an additional enrollment option (additional tuition and program fees apply). Students are required to maintain a standard full-load of credits for the spring semester of 12-15 UM credits.

Core Courses: (students must submit a design portfolio prior to enrolling in courses)
Students enroll in one (1) of the following:
Architectural Design VII ARC 407
Architectural Design VIII ARC 408
Architectural Design IX ARC 509
Architectural Design X ARC 510

Additional Courses

Site Study of Selected Architecture and Urbanism (Intersession/Study Abroad) ARC 323
Management of Professional Practice ARC 452
Advanced Visual Analysis ARC 512
General Physics for Architectural Majors PHY 103
Cities in Time and Space URB 301
Other Architecture elective course offerings (Interior Design, Landscape, and Historic Preservation)

Audio Engineering

Audio Engineering allows for students currently majoring in Electrical Engineering to study areas such as circuit theory, electronics, signal processing and multimedia with audio studies in acoustics, digital audio, recording and postproduction. Students must enroll in a minimum of two Electrical Engineering courses from the core courses. Students may also opt to add courses in other areas based on availability and interests.

Core Courses:

**Introduction to Digital Signal Processing EEN 436**
Real-time Digital Signal Processing Laboratory EEN 437
Engineering Acoustics EEN 502
Digital Speech and Audio EEN 540

Additional Courses:

Advanced Digital Compositing for Film and Video EEN 595
Advanced Computer Modeling and 3D Animation EEN 596

Courses available through the Frost School of Music:

Audio Workshop MMI 141
Transducer Theory MMI 501

Ecosystem Science and Policy

The Certificate in Ecosystem Science and Policy provides an opportunity for students from other universities to explore the South Florida environment, ecology and culture via interdisciplinary courses and experiential learning.

Students must take at least two core courses in Ecosystem Science and Policy. Miami Semester students will complete their schedules with courses chosen from among the interdisciplinary ECS courses and from other departments based on availability and interests.

Core Courses for sophomores:

Problems in Ecosystem Science and Policy ECS 112
Contemporary Environmental Issues ECS 202

Core Courses for juniors and seniors:

Contemporary Environmental Issues ECS 202
Perspectives on Environmental Decisions ECS 302
Interdisciplinary Approaches to Complex Human-Environmental Problems ECS 403

International Finance and Marketing

The Certificate in International Finance and Marketing is designed for business students from other universities who want to add an international dimension to their studies. This program allows students to select from a limited set of courses offered by the School of Business. The program focuses on the international aspects of business. The program is open to students with at least a junior standing who have met the course prerequisites. Students must take at least two courses below, but may take all four.

Core Courses:

International Finance FIN 330
International Marketing MKT 360
International Monetary Economics ECO 442
International Business Law BSL 412

Marine Science

The Certificate in Marine Science is a hands-on study opportunity for those interested in marine science, oceanography, geology and marine physics. Students must enroll in a minimum of three Marine Science courses. In addition, highly qualified students may be eligible for an independent study research project. Students may also opt to add courses in other areas based on availability and interests.

Sport Administration

Sport Administration is an opportunity for students who are interested in the ethics, leadership, and business of managing athletic organizations. Students will have the opportunity to participate in an internship that fits their interest area as well taking hands-on courses in the Department of Exercise & Sport Sciences. Internships may take place within the UM Athletic Department or local professional sport franchises. Students make take any combination of courses that equal at least 12 credit hours.

Core Courses:

Sport Facilities and Event Management KIN 206
Sport Marketing KIN 302
Essential Leadership in Sports and the Professions KIN 306
Ethics Ethical Decision Making in Sport and the Professions KIN 308
Legal Aspects of Sport KIN 401
Sport Information Management KIN 403
Finance and Budget in Sport Administration KIN 405
Seminar in Sport Administration (internship) KIN 498
The Summer Scholars Program
www.miami.edu/ssp

The Summer Scholars Program (SSP) provides a unique opportunity for high school students to study at the University of Miami for three weeks during the second summer semester and earn between 5 – 6 semester credits. Students will either live on campus or participate as a commuter. SSP is designed to expose high school students to university academics and campus life before commencing undergraduate studies. Interested high school students should seek further information and application requirements for the program on the website at www.miami.edu/ssp.

Applicants should choose one (1) area of specialization. Each specialization area has a subset of required courses*:

**Broadcast Journalism**
- Introduction to Electronic Media and Production CEM 245
- Radio Production and Performance CEM 235

**Business and Law**
- Fundamentals in Business BUS 100
- Prelaw Studies GBM 100

**Engineering**
- Track A: Aerospace, Architectural, Civil, Environmental, and Mechanical Engineering
  - Introduction to Architectural, Civil, and Environmental Engineering CAE 100
  - Introduction to Aerospace and Mechanical Engineering MAE 100

- Track B: Biomedical, Computer, and Electrical Engineering
  - Introduction to Biomedical Engineering BME 100
  - Introduction to Computer and Electrical Engineering EEN 100

**Filmmaking**
- Survey of Motion Pictures CMP 103
- Introduction to Digital Production CMP 151

**Forensic Investigation**
- Forensic Investigation APY 100
- Introduction to Forensic Anthropology APY 200

**Health and Medicine**
- Health Promotion, Prevention, and Rehabilitation NUR 200
  *Students must choose one (1) of the following:*
  - Infectious Diseases: An Investigation and Challenges BIL 195
  - Introduction to Neuroscience NEU 100
  - Introduction to Psychiatry NEU200

**International Relations**
- Introduction to American National Government POL 100
- Introduction to World Politics POL 200
Marine Science
   Introduction to Aquaculture MSC 105
   Marine Environments of South Florida MSC 115

Sport Administration
   Leadership, Management, and Ethics in Sports KIN 100
   Survey of Sport Administration KIN 200

Sports Medicine
   Introduction to Athletic Training KIN 105
   Explorations in Exercise Science KIN 110

* Course titles, numbers, descriptions, and credits awarded are subject to change.
SUMMER SESSIONS
www.miami.edu/summersessions

The Summer Sessions program at the University of Miami is an exceptional opportunity for students to enhance their educational goals in a concentrated time period and for the South Florida community to take part in some of the innovative and unusual courses taught by outstanding faculty and well-known guest lecturers.

Special Academic Programs – Intersessions

January and Spring Break Intersessions - www.miami.edu/intersession
May and August InterSessions – www.miami.edu/summersessions

January, Spring Break, May, and June Intersession are short term credit courses designed so you can concentrate fully on: topics not normally offered during regular semesters; getting individual quality time with distinguished faculty members; and sharing knowledge with other students.

Tuition charges for January and Spring Break Intersession are separate from and in addition to your spring tuition charges (ARE NOT included in the full time 12-20 credit hours "Flat Rate" of Spring Semester).

Due to the intense format of the Intersession courses, there are special drop and refund policies; please refer to the web site for complete details.
**ARC101 Architecture Design I**

6.00 credits  Fall

The study of architecture as an intellectual and aesthetic discipline. Topics include concept, site, form and technique. Corequisite: ARC 111, 121.

**ARC102 Architecture Design II**

6.00 credits  Spring

Architectural response to shelter, space and setting requirements. Topics include programming, program analysis and design, anthropometrics, and architecture psychology. Corequisite: ARC 112, 122.

**ARC110 Introduction to Architectural Design**

3.00 credits  Summer

Introduction to the design process and the role of the architect in society. Building design, landscape architecture, urban planning, historic preservation, architectural theory and graphics are taught through drawing and model making in a studio setting. Open to non-architecture majors in college and high school students entering 10th, 11th and 12th grades interested in exploring the field of architecture.

**ARC111 Drawing I**

3.00 credits  Fall

An introduction to graphic representation as exploration, selection, coordination and acquisition of visual knowledge in three methods: freehand, mechanical and digital drawing. This course covers topics of orthographic and oblique projections, geometric constructions, lettering, parti-sketches, shade and shadow, portfolio design and basic knowledge of digital programs; Adobe Photoshop, Adobe In-Design, Sketch-up Pro, and Autocad.

PREREQUISITE: Corequisite: ARC 101,121.

**ARC112 Drawing II**

3.00 credits  Spring

An intermediate course that continues methods integration introduced in Drawing I focusing on conical projections, color theory, measured drawings, Sketchup-up Pro, Autocad, and Revit.

PREREQUISITE: ARC101, 111, Corequisite ARC 102, 122.

**ARC121 Architecture and Culture**

3.00 credits  Fall

Architecture as an intellectual and aesthetic discipline. Focus on design theory, language, typology, image, form, context, and case studies. Corequisite: ARC101, 111.

**ARC122 Architecture and Behavior**

3.00 credits  Spring

Those aspects of environmental psychology which affect architectural design. Studies in human behavior and the design process, application of psychological factors to the design of buildings and their environment. Corequisite: ARC 102,11 2.

**ARC141 On-Site Survey of European Architecture and Urbanism**

3.00 - 6.00 credits  Spring & Summer

On site introduction to architecture and the city with a historical review of most European periods from classical to contemporary. Survey of European architectural and urbanistic precedents in important selected locations. Elective course open to all majors; lecture and seminar format.
ARC203 Architecture Design III  
6.00 credits  
Fall  
Architectural response to natural environment and site requirements. Focus on site analysis and design, climate, access and circulation, landscape, relation to larger context. Corequisite: ARC 223.

ARC204 Architecture Design IV  
6.00 credits  
Spring  
Building materials and structure as active constituents of architecture design. Focus on orientation, enclosure, low-energy responses, selection and assembly of construction materials, short and intermediate span structural systems. Corequisite: ARC 231.

ARC213 DRAWING III  
3.00 credits  
Fall  
An advanced representation course that builds on the tools and methods of Drawing I & II while introducing students to more advanced techniques of three dimensional modeling that integrates hand drawing and computer drawings. Topics covered include: diagramming, research/analytical drawing, designing in perspective, and integration of the following digital programs, Revit, Rhino, Maya, 3-D Max, and Archicad. PREREQUISITE: ARC 102, 111, 112 or permission of the instructor.

ARC223 Architecture and the Environment  
3.00 credits  
Fall  
Architectural response to natural environmental requirements. Focus on climate, control, natural energy use, ecosystems, energy flow, environmental intervention, case studies of indigenous buildings.

3.00 credits  
Fall  
Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction; Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.

ARC231 Building Technology: Structural Systems  
3.00 credits  
Spring  
Structural systems: the tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral building envelope and financial considerations.

ARC267 History of Architecture I: Ancient, Medieval and Renaissance  
3.00 credits  
Fall  
Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century. Corequisite: ARC 203.

ARC268 History of Architecture II: Baroque through Contemporary  
3.00 credits  
Spring  
Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end of the sixteenth century through to the present. Corequisite: ARC 204.
ARC292 Introduction to Architecture Design I  
3.00 credits  
Spring 
Survey of the architecture profession and introduction to architecture design for non-architecture majors. Role, opportunities, vocabulary, visual awareness, techniques and procedures of design.

ARC293 Introduction to Architecture Design II  
3.00 credits  
Spring 
Continuation of ARC 292 and an introduction to the interactions between architecture and the engineering disciplines for non-architecture majors. Theories of building and site design, technology as an integral component of design, program, site, climate and methodology.

ARC294 Introduction to the Development of Architecture  
3.00 credits  
Fall 
Introduction to architecture for non-architecture majors. Vocabulary, themes, principles and processes of design, cultural, social, economic and technological influences demonstrated through historic examples.

ARC301 Architecture Design  
6.00 credits  
Summer 
Comprehensive building and site design for students transferring into the architecture program at third year level. Topics include human, environmental, cultural and technological factors.

ARC305 Architecture Design V  
6.00 credits  
Fall 
Environmental systems and structure as active constituents of architectural design. Topics include the integration of enclosure, structure, environmental and mechanical systems in intermediate and long span structures. Corequisite: ARC 362, CAE 213.

ARC306 Architecture Design VI  
6.00 credits  
Spring 
Government and finance as active constituents of architecture design. Topics include zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies. Corequisite: ARC 351, CAE 313.

ARC323 On Site Study of Selected Architecture and Urbanism  
3.00 - 6.00 credits  
Spring & Summer 
On site study of specific architectural and/or urbanistic precedents at selected locations. Focus on specific period(s) and/or architect(s). Elective course open to all majors.

ARC362 Environmental Building Systems I  
3.00 credits  
Fall 
Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; plumbing - fixtures and pipes; safety systems - fire safety and emergency and signal systems. Corequisite: ARC 305.
ARC363 Environmental Building Systems II
3.00 credits Spring
Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces. Principles and applications of electrical equipment and wiring design. Corequisite: ARC 306.

ARC371 Ancient Architecture
3.00 credits Fall
History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

ARC373 Early Christian, Byzantine, and Medieval Architecture
3.00 credits Fall
History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.

ARC382 Architecture and Culture in Italy
3.00 credits Spring
A cultural and historical framework in preparation for participation in the Rome program. A range of topics, including architecture, art, history, cinema, literature and politics presented by University faculty from a variety of disciplines. Required for participation in the Rome Program.

ARC390 History of Cities
3.00 credits Fall
Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

ARC407 Architecture Design VII
6.00 credits Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design.

ARC408 Architecture Design VIII
6.00 credits Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC452 Management of Professional Practice
3.00 credits Fall, Spring
Overview of the practice and the profession, legal and ethical concerns, business types and management practices, traditional and non-traditional practices and services, contracts and contractual relationships.

ARC475 Colonial Architecture
3.00 credits Fall
History of architecture and human settlements. Colonial Architecture from the 16th through the 19th centuries in North and South America, the Caribbean, India and Africa.
ARC476 19th and 20th Century Architecture
3.00 credits  Fall
History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

ARC481 Special Problems
1.00 - 3.00 credits  Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC482 Special Problems
1.00 - 3.00 credits  Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC483 Special Problems
1.00 - 3.00 credits  Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC500 Architecture Theory
3.00 credits  Fall

ARC501 Architecture Design and Theory I
6.00 credits  Fall
Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

ARC502 Architecture Design and Theory II
6.00 credits  Spring
Technology component; materials, structure, and environmental control systems as a framework for architectural design. Construction materials and methods, structural systems, mechanical systems.

ARC503 Architectural Design and Theory III
6.00 credits  Fall
Legal and economic component; government and finances as active constituents of architecture design. Zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

ARC504 Architecture Design
6.00 credits  Fall
Architecture Design: Comprehensive Component. Topics include zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

ARC507 Architecture Design
6.00 credits  Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.
ARC509 Architecture Design IX
6.00 credits  Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC510 Architecture Design X
6.00 credits  Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC511 Drawing
3.00 credits  Fall
Graphic representation and exploration of visual ideas through increased awareness of visual and graphic vocabulary, stressing projections, light, shade and shadow, perspective, and freehand sketching.

ARC512 Advanced Visual Analysis
3.00 credits  Offered By Announcement Only
Drawing as a means of analyzing and recording visual experience. Composition, form, light, color and drawing as a primary device in the mental registration of visual experience.

ARC513 Computing
3.00 credits  Spring
An introduction to new electronic design tools and technology available to architects today. Lectures on the history and future of computing in the profession.

ARC514 Michelangelo
3.00 credits  Fall
Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo's work.

ARC515 Computer Modeling
3.00 credits  Fall, Spring
Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.

ARC516 Architectural Watercolor Renderings
3.00 credits  Fall
This course will use freehand drawing and watercolor painting as a vehicle to study and record the urban and architectural conditions of Coral Gables and other South Florida sites. Particular emphasis will be placed on the analytical potential of sketches (recording space, light, surfaces and color).

ARC517 Construction Documents
3.00 credits  Fall
Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.

ARC518 Documentation of Historic Architecture
3.00 credits  Summer
Principles of preservation and restoration, research methods, measured drawings, surveying methods, case studies.
ARC519 Architecture and Color
3.00 credits Summer
This course focuses on the theory and practice of color and its application to architectural design. Topics include color history from Newton through Alber, the relationship between color practice in science versus art, and the discipline of color in architecture from the Neoclassical movement through the Modern Movement.

ARC523 Interior Architecture Design
3.00 credits Fall
Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

ARC524 Selected Topics in Interior Architecture Design
3.00 credits Spring
Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.

ARC525 Landscape Arch Design I
3.00 credits Fall, Spring
Analysis and design of landscape spaces. Studies in historical precedent, gardens, parks, plazas, squares and response to architectural context.

ARC527 Architecture Photography
3.00 credits Offered By Announcement Only
Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.

ARC528 Historic Preservation
3.00 credits Spring
Basic design principles for the rehabilitation of historic buildings. Evaluating character-defining details; significance analysis; context of setting issues within historic districts; applying the Secretary of the Interior's Standards for rehabilitation.

ARC529 Research in Design-Methods and Procedures
3.00 credits Fall, Spring
Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.

ARC530 Building Technology II: Materials & Methods.
3.00 credits Fall, Spring
Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction; Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes, assembles, detailing and basic building code concepts.

ARC531 Building Technology II: Structural Systems
3.00 credits Spring
Structural systems: The tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral loads, building envelope and financial considerations.
ARC532 Building Structures I  
3.00 credits  
Summer  
The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.

ARC533 Building Structures II  
3.00 credits  
Fall & Summer  
The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.

ARC536 Italian Gardens  
3.00 credits  
Fall, Spring  
Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.

ARC537 Research in Rome  
3.00 credits  
Fall, Spring  
An exploration of Roman history, architecture and urban form through lectures, on site study and drawing assignments. Emphasis on chronological and spatial sequence of development.

ARC541 Seminar on Town Design  
3.00 credits  
Fall  
Introduction to the lexicon of urbanism; analytical presentations of the concepts of: region, town, neighborhood, corridor, district, and building type; interdisciplinary presentations, review, and criticism of current town and urban design projects.

ARC544 The Architecture of Palladio  
3.00 credits  
Fall  
On site study of the architecture and urbanism of Andrea Palladio. Emphasis on the artistic precedents of the Veneto Region.

ARC545 Urban Composition  
3.00 credits  
Offered By Announcement Only  
Survey and analytical review of urban rooms as the vessel of human activity in urban culture. Study of proportional and compositional aspects of urban rooms together with economic, social, and cultural factors. Readings and discussion format.

ARC546 Studies of Havana  
3.00 credits  
Spring  
Analysis of the physical structure of a major city and its environments including an exploration of its history and iconographic themes, mapping and building studies.

ARC550 Professional Lecture Series  
3.00 credits  
Fall, Spring  
Exposure to the various professional disciplines in South Florida that make contributions to the design process. Case study analysis and evaluation of current building project, from time of initial formulation through completion, including research, diagrammatic studies, site visits and lectures.
ARC551 Contemporary Theories of Architecture
3.00 credits Offered By Announcement Only
Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.

ARC554 Architecture of South Florida
3.00 credits Offered By Announcement Only
History of architecture and human settlements. Studies of significant architectural landmarks and urban design of the South Florida Region, chronological growth of Miami, Miami Beach, Coral Gables, Key West and Palm Beach.

ARC558 Theories of Landscape Architecture
3.00 credits Fall
Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design.

ARC561 Building Technology I: Materials and Methods.
3.00 credits Fall
Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction. Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.

ARC562 Environmental Building Systems I
3.00 credits Summer
Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; plumbing - fixtures and pipes; electrical - equipment and wiring design; safety systems - fire safety and emergency and signal systems.

ARC563 Environmental Building Systems II
3.00 credits Spring
Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces electrical equipment and wiring design.

ARC567 History of Architecture I: Ancient, Medieval and Renaissance
3.00 credits Fall
Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century. Corequisite: ARC 501.

ARC568 History of Architecture II: Baroque through Contemporary
0.00 - 3.00 credits Spring
Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end sixteenth century through to the present. Corequisite: ARC502.
ARC569 Directed Readings
3.00 credits  
Fall, Spring & Summer
A structured program of readings and essays organized by the student and his/her graduate supervisor constituting a preparation for graduate research in the student's chosen area of interest.

ARC570 Modern Architecture
3.00 credits  
Spring
History of architecture, landscape, and city design in the modern era.

ARC571 Ancient Architecture
3.00 credits  
Fall
History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

ARC572 Selected Topics in World Architecture
3.00 credits  
Fall
History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, S. E. Asia, China, Japan, Pre-Columbian America.

ARC573 Early Christian, Byzantine, and Medieval Architecture
3.00 credits  
Fall
History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.

ARC575 Colonial Architecture
3.00 credits  
Fall
History of architecture and human settlements. Iberian and British Colonies from the 16th through the 19th centuries: North and South America, Caribbean, India and Africa.

ARC576 19th and 20th Century Architecture
3.00 credits  
Fall
History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

ARC577 The Architecture of Alvar Aalto
3.00 credits  
Fall
An examination of the architecture of Alvar Aalto through the analysis of selected buildings.

ARC578 Italian Rationalist Architecture
3.00 credits  
Offered By Announcement Only
History of Italian architecture and urban design between 1914 and 1950: cultural, technological, and theoretical developments; relationship between architecture, politics and propaganda; related survey of the period in other countries (France, German, Soviet Union).

ARC581 Special Problems
3.00 credits  
Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.
ARC582 Special Problems
3.00 credits
Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC583 Special Problems
3.00 credits
Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC584 Special Problems
1.00 - 3.00 credits
Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC585 Special Problems
1.00 - 3.00 credits
Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC586 Special Problems
1.00 - 3.00 credits
Fall, Spring & Summer
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC590 History of Cities
3.00 credits
Fall, Spring
Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

ARC593 Computer Animation
3.00 credits
Spring
Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.

ARC594 Geographic Information Systems in Urban Design
0.00 - 3.00 credits
Spring
Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.

ARC596 Interactive Multimedia in Design
3.00 credits
Spring
Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.
AIS101 The Foundations of the United States Air Force I
1.00 credit Fall
Survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS102 The Foundations of the United States Air Force II
1.00 credit Spring
Survey and follow on course to AIS101, designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS150 Leadership Laboratory
0.00 credit Fall, Spring
Leadership Laboratory (LLAB) is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. It is a student planned, organized, and executed practicum conducted under the supervision of the Detachment 155 Commander and Operations Flight Commander.

AIS201 The Evolution of USAF Air and Space Power I
1.00 credit Fall
Survey and follow-on course to AIS 101/102 designed to examine general aspects of the employment of air and space power through a historical perspective. Historical examples assist in understanding the development of Air Force distinctive capabilities and missions. In addition, the students continue discussing the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders. Students also continue to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS202 The Evolution of USAF Air and Space Power II
1.00 credit Spring
Continuation of AIS 201 which provides students with knowledge level understanding for general element and employment of air and space power. Discusses the importance of Air Force Core Values with use of operational examples and historical Air Force leaders. Continues to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS301 Air Force Leadership Studies I
3.00 credits Fall
Aerospace Studies 301 teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.
AIS302 Air Force Leadership Studies II
3.00 credits                      Spring
Continuation of AIS 301 and is a study of Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. Case studies are used to examine Air Force leadership and management situations. mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities.

AIS401 National Security Affairs/Preparation for Active Duty I
3.00 credits                      Fall
Aerospace Studies 401 is designed to examine national security process, regional studies, advanced leadership ethics, and Air Force Doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism with a continuing emphasis on the refinement of communication skills. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

AIS402 National Security Affairs/Preparation for Active Duty II
3.00 credits                      Spring
Continuation of AIS 401 which examines regional studies and advanced leadership ethics. Special topics of interest focus on the military as a profession, officership, military justice, preparation for active duty, and current issues affecting military professionalism. Continued emphasis is given to refining communication skills. mandatory Leadership Laboratory complements this course by providing students advanced leadership experiences.

Africana Studies
AAS150 Introduction to Africana Studies
3.00 credits             Fall, Spring & Summer
Experiences of African American and other African-descended peoples with emphases on social, cultural, political, etc.

AAS260 History of Slavery in the Atlantic
3.00 credits                      Fall
The emergence and eventual abolition of the Trans-Atlantic slave trade and its effects on both old and new world.

AAS290 Special Topics
3.00 credits             Offered By Announcement Only
Content varies by semester.

AAS350 Black Leadership in the U.S.
3.00 credits             Fall, Spring
Black leaders and leadership organizations. Emphasis on their role in overcoming oppression and barriers to advancement.

AAS390 Special Topics
3.00 credits             Fall, Spring & Summer
Content varies by semester.

AAS490 Senior Seminar in Africana Studies
3.00 credits                      Fall, Spring
Content varies by semester.
AMS101 Introduction to American Studies  
3.00 credits  
Fall, Spring  
An interdisciplinary approach to American Studies with attention to a particular theme or period.

AMS301 TOPICS IN AMERICAN STUDIES  
0.00 - 3.00 credits  
Spring  
Content varies by semester.

AMS310 THE UNITED STATES IN THE WORLD  
3.00 credits  
Spring  
The culture and history of the United States in a global framework.

AMS321 Topics in American Studies: History  
3.00 credits  
Offered By Announcement Only

AMS322 Topics in American Studies: Literature  
3.00 credits  
Offered By Announcement Only

AMS323 Topics in American Studies: Politics  
3.00 credits  
Offered By Announcement Only

AMS324 Topics in American Studies:  
3.00 credits  
Offered By Announcement Only

AMS325 Topics in American Studies: Law  
3.00 credits  
Offered By Announcement Only

AMS326 Topics in American Studies: Education  
3.00 credits  
Offered By Announcement Only

AMS327 Topics in American Studies: Film  
3.00 credits  
Offered By Announcement Only

AMS328 Topics in American Studies: Music  
3.00 credits  
Offered By Announcement Only

AMS329 Topics in American Studies: Art  
3.00 credits  
Offered By Announcement Only

AMS330 Topics in American Studies: Sociology  
3.00 credits  
Offered By Announcement Only

AMS331 Topics in American Studies: Geography  
3.00 credits  
Offered By Announcement Only

AMS332 Topics in American Studies: Anthropology  
3.00 credits  
Offered By Announcement Only

AMS333 Topics in American Studies: Environmental Studies  
3.00 credits  
Offered By Announcement Only

AMS334 Topics in American Studies: Ethnic Studies  
3.00 credits  
Offered By Announcement Only
AMS335 Topics in American Studies: Women's and Gender Studies
3.00 credits Offered By Announcement Only

AMS336 Topics in American Studies: LGBTQ Studies
3.00 credits Offered By Announcement Only

AMS337 Topics in American Studies: Culture Studies
3.00 credits Offered By Announcement Only

AMS338 Topics in American Studies: International Studies
3.00 credits Offered By Announcement Only

AMS339 Topics in American Studies: Urban Studies
3.00 credits Offered By Announcement Only

AMS350 History and culture of South Florida
3.00 credits Spring
The history and culture of South Florida from a multidisciplinary perspective.

AMS399 Independent Study
1.00 - 3.00 credits Offered By Announcement Only
By arrangement with instructor; content varies.

AMS401 Seminar in American Studies
3.00 credits Fall, Spring
Content varies by semester.

AMS499 Independent Study
3.00 credits Fall & Summer
By arrangement with instructor; content varies.

AMS501 SENIOR PROJECT
3.00 credits Spring
All majors must complete either an individual research project or an internship at a local cultural or civic institution. Either option must be approved by the program director.

AMS505 HONORS THESIS
3.00 credits Spring
American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS505: honors thesis. Candidates for departmental honors are responsible for finding a faculty member to serve as the thesis advisor. Students would take AMS 501 in the fall semester or the senior year and AMS 505 in the spring to complete the honors thesis.

Anthropology

APY100 Introduction to Forensic Investigation
3.00 credits Spring
Students will go into the field to gain an introductory understanding about skeletal identification and crime lab processes.

APY101 Introduction to Anthropology
3.00 credits Fall, Spring
A broad overview of archaeology, cultural anthropology, biological anthropology, and linguistics.
APY200 Introduction to Forensic Anthropology
3.00 credits Offered By Announcement Only
Students will learn the basics of the human bone structure and how it relates to anthropology and forensic studies.

APY201 Principles of Archaeology
3.00 credits Fall, Spring
History, methods, and theory of archaeology with an outline of the main characteristics of the prehistoric record throughout the world.

APY202 Principles of Cultural Anthropology
3.00 credits Fall, Spring
Cultural anthropology, including such topics as economics, politics, kinship and families, health systems, religion, and personality.

APY203 Principles of Physical Anthropology
3.00 credits Fall, Spring
The origin and biological development of the human species; human evolution explored by means of the fossil record of prehistoric population; differentiation and adaptation of contemporary populations in various world environments; the comparison of humans and other primates with respect to biological and behavioral variability.

APY204 Principles of Linguistic Anthropology
3.00 credits Fall
Human linguistic principles of phonology, morphology, and grammar to construct a framework for understanding the operation of language in cultural context. The functions of human language in structuring ideological, economic, and political realms.

APY208 Short-Changed in the City
3.00 credits Fall
Marginalization plagues sub-populations in almost every large city. An anthropological view of this problem and its origins, presented through readings, discussions, lectures and field trips.

APY230 The Sounds of the World's Languages
3.00 credits Offered By Announcement Only
The range of sounds produced by the speakers of the world's languages. An introduction to phonetics, with a focus on acoustically-oriented methods used in contemporary phonetics.

APY240 World Prehistory: Our first three million years
3.00 credits Spring
An introduction to the prehistoric record worldwide which examines the evolution of human complexity and culture through non-written form of evidence from the archeological record.

APY300 Societies and Cultures in Latin America and the Caribbean
3.00 credits Fall
This course is designed to give students an understanding of issues related to social and processes in Latin American and Caribbean societies, with emphasis on history, class, gender, ethnicity, religion, politics and power, family and migration processes as well as literary and artistic creations. We will begin our study by analyzing the sociohistorical 'production' of these regions, subject formation and processes of political organizing.
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Anthropology

APY301 World Prehistory
3.00 credits
Spring
The global prehistoric record, with emphasis on the development of social complexity and ancient states.

APY306 Human Evolution
3.00 credits
Spring
The macroevolution of humans using the fossil record of vertebrates, including the development of uniquely human behavioral and anatomical adaptations, and of diversity in living populations.

APY307 Human Adaptation
3.00 credits
Spring
Human biological adaptation to different environments and stress is examined anthropologically within an evolutionary framework. Mechanisms of adaptation to temperature extremes and other climatic variables, high altitude, disease, nutritional stress, urbanization, extraterrestrial conditions, and other environmental challenges are described in relation to biological and behavioral variations among human populations. The limits of human performance and human adaptive potential in the present and future are explored.

APY308 Human Variation: Anthropology of Race
3.00 credits
Fall
Human biological diversity is viewed historically within a cross-cultural, evolutionary framework. Patterns of variation in human morphological, anatomical, physiological, biochemical, genetic, and behavioral characteristics are investigated in peoples living in different environments throughout the world. Observed differences among human populations are discussed with reference to traditional theories of racial taxonomy and modern perspectives in human classification.

APY309 Evolution of Human Behavior
3.00 credits
Spring

APY310 Primate Behavior and Adaptation
3.00 credits
Spring
The taxonomy, distribution, anatomy, social behavior and adaptations to habitats of human and non-human primates as seen from an evolutionary perspective.

APY315 Folk and Alternative Medicine
3.00 credits
Spring
Historical and cultural backgrounds of health therapies, including theoretical bases of traditional ethnomedical, nonwestern, and complementary medical systems.

APY320 The Evolution of Language
3.00 credits
Spring
Popular contemporary hypotheses on the origins and development of language.

APY340 Marine Archaeology
3.00 credits
Spring
Location, excavation, and study of submerged sites.
APY345 Ancient Civilizations of Mesoamerica
3.00 credits  Spring
Major pre-Columbian cultures of Mesoamerica, from Olmec to Aztec periods, with emphasis on ancient Maya.

APY360 Anthropology of Food
3.00 credits  Fall
Evolution of human diet, basic nutrition, food taboos, effects of domestication, effects of diet on skeletal remains, analysis of your own food habits, and the impact of certain foods on our biocultural evolution of our species.

APY361 Gender and Language
3.00 credits  Fall, Spring & Summer
The ways in which language is used in the constitution of gender from a cross-cultural perspective. Course is co-listed with WGS 361

APY362 The Languages of the World
3.00 credits  Spring
The world's languages. The primary focus is on major differences and similarities among the structural properties of languages from diverse regions and linguistic families. In short, an introduction to linguistic typology.

APY376 Economic Anthropology
3.00 credits  Offered By Announcement Only
The structure and operation of the small-scale economy in the social system is examined. The interrelationship between social and economic systems, and the formation of non-market economies.

APY377 Anthropology of Political Systems and Discourse
3.00 credits  Offered By Announcement Only
Political systems and processes in tribal societies, with special emphasis on dispute settlement, the organization of political control, and the use of oratory. Case studies from Latin American and African examples.

APY385 Caribbean Cultures
3.00 credits  Spring
Caribbean societies, including ethnic diversity, production and exchange, domestic organization, and belief systems.

APY386 Psychological Anthropology
3.00 credits  Fall
The interaction between personality and cultural settings. Topics include cross-cultural child rearing and enculturation, behavioral development and adjustment, deviance, and ethnopsychiatry.

APY387 Cultural Evolution
3.00 credits  Spring
Evolution of social systems and technologies, from hunting and gathering bands through industrial states.

APY391 Gender in Ancient Cultures
3.00 credits  Offered By Announcement Only
A cross-cultural examination of the role gender played in ancient complex culture areas, such as Mesoamerica, Mesopotamia, and the Mediterranean, with emphasis on using the archaeological record to reconstruct social roles.
APY392 Sex and Culture  
3.00 credits  
Fall  
A cross-cultural examination of sex roles and sexuality; gender identity, division of labor, functions of marriage, sexual practices, reproductive control, and political relationships between the sexes.

APY393 Drugs and Culture  
3.00 credits  
Offered By Announcement Only  
Cross cultural review of human drug use with special attention to the use of drugs in cultural context.

APY394 Comparative Religion  
3.00 credits  
Fall  
A cross-cultural investigation of differing levels of religious belief systems examined from both etic and emic points of view.

APY395 Gender, Race & Class  
3.00 credits  
Fall  
Conceptions and intersections of gender, race, and class in historical and contemporary cultures; the impact of these experiences on individuals and society as a whole.

APY396 Youth Culture, Identity and Globalization  
3.00 credits  
Spring  
Youth cultural practices and experiences in various urban contexts in the world. Particular emphasis is placed on marginalization, identity and commodification of violent practices as embedded in the globalization processes.

APY398 Coastal Cultures  
3.00 credits  
Spring  
Fishermen and their special relations to the environment, from Thailand and Sri Lanka to Alaska and the West Indies. Decision-making processes among fishermen, business concepts, responses to technology and myths of the sea.

APY399 The Anthropology of Kinship and Family in America  
3.00 credits  
Fall  
Theories of kinship and the family. It will examine emergence of new patterns of kinship networks and construction of individuals. Ethnographic materials will be drawn from the Americas and the Caribbean, particularly Brazil, Cuba, Haiti, Jamaica and the United States.

APY405 Readings in Anthropology  
1.00 - 3.00 credits  
Fall  
Supervised readings on special topics in Anthropology.

APY406 Readings in Anthropology  
1.00 - 3.00 credits  
Spring  
Supervised readings on special topics in Anthropology.

APY413 Medical Anthropology  
3.00 credits  
Fall  
APY414 Forensic Anthropology I: Human Osteology
3.00 credits                                                               Fall
Identification and interpretation of the human skeleton, including age, sex, hard
tissue pathology and traumas.

APY415 Forensic Anthropology II: Fieldwork
3.00 credits                                                                 Spring
The investigation, analyses, and legal aspects of human remains recovered from
crime scenes and mass disasters.

APY416 Bioarchaeology-Peopling the past
3.00 credits                                           Offered By Announcement Only
Contextualization of bodies in space, cultural milieu and time are the primary
focus of this course. Students will explore bioarchaeology's history, development
and major topical concerns.

APY418 Seminar in Anthropology
3.00 credits                                                           Fall, Spring
Consideration of special topics in physical anthropology, linguistics, archaeology
and ethology and their interrelationships.

APY419 Politics of the Past
3.00 credits                                                                 Spring
The intersection of archaeology, politics, capitalism, and discrimination to consider
the presentation, misconstrual, revision, and reclamation of the past. Lecturing
will be kept to a minimum, as the bulk of the class will be devoted to discussion
and debate.

APY420 Archaeology, Architecture, and the City
3.00 credits                                           Offered By Announcement Only
Ancient architectural remains in the global anthropological perspective, emphasizing
the role of architecture in shaping the evolution of social and political interactions.

APY422 Pseudoscience in Archaeology
3.00 credits                                                                 Spring
Reconstructions of how people lived in the past that claim scientific validity,
use the terminology of science, but are unsupported by evidence, can be called
pseudoscientific. This course critically evaluates the field of pseudoscientific
archaeology by applying the scientific method, logic, and common sense.

APY435 Anthropology of Nature and Environment
3.00 credits                                                                 Spring
This course is an introduction to the anthropological investigation of nature,
biology, and environment. Taking examples from cultural anthropology and the
subfields of environmental anthropology, political ecology, and the anthropology
of science, the course builds an understanding of the various ways in which ideas
about nature and human nature and nature making practices shape our contemporary
world: its places, spaces, life forms, and forms of life.

APY484 Anthropological Theory
3.00 credits                                                                 Spring
Theoretical frameworks directing data collection and research methodology in
anthropology.
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Anthropology

APY485 Archeological Theory and Technique
3.00 credits Offered By Announcement Only
Theoretical traditions that shape modern archaeological research design and interpretation.

APY501 Methods of Anthropological Research
3.00 - 6.00 credits Spring
Concentration on research methods for Cultural, Archaeological, Linguistic, and/or Biological Anthropology.

APY502 Field Studies in Anthropology
3.00 - 6.00 credits Fall, Spring & Summer
Field research in advanced topics in Cultural, Archaeological, Linguistic and/or Biological Anthropology. Preparation of data for professional presentation and publication is stressed.

APY505 Museum Internship
3.00 credits Fall, Spring
Field work and on-site experience in museum studies conducted in conjunction with the major museums in Miami. Training and research in methods and techniques in museology.

APY506 Workshop in Anthropology
3.00 - 6.00 credits Fall, Spring
This course is designed for upper level and graduate students to participate in special topics in Anthropology and related fields.

APY511 ARTLAB AT LOWE
3.00 credits Spring
Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

APY512 Advanced Medical Anthropology
3.00 credits Fall, Spring
Applications of theories and methods of medical anthropology to problems in human health and disease.

APY518 Advanced Seminar in Anthropology
3.00 credits Fall, Spring
Specialized topics in Anthropology to involve students into current research specializations.

Arabic
ARB101 Elementary Arabic I
3.00 credits Fall
Fundamental grammatical principles; drill in pronunciation; simple reading and translation. Closed to native speakers.

ARB102 Elementary Arabic II
3.00 credits Spring
Reading and translation; oral and written exercises. Closed to native speakers.

ARB201 Intermediate Arabic
3.00 credits Fall
Continuation of ARB 102. Reading and translation; oral and written exercises. Closed to native speakers.
ARB202 Intermediate Arabic II
3.00 credits
Continuation of Arabic 201. Readings designed to integrate listening comprehension, speaking, reading, writing skills. Discussion of Arab society, history and culture. Closed to native speakers.

ARB205 Advanced Arabic I
3.00 credits
5th semester course in Modern Standard Arabic, the Arabic used in almost all written communication and in formal speech throughout the Arab world. Continued development of all four language skills (listening, speaking, reading, and writing) together with study of cultural aspects of the Arab world. Conducted in Arabic. Closed to students who graduated from a high school in which the primary language of instruction was Arabic.

ARB251 LEVANTINE COLLOQUIAL ARABIC I
3.00 credits
This course will enable students to converse in the colloquial Arabic dialects of the Levant (Jordan, Lebanon, Palestine, and Syria). Development of communicative abilities in speaking and comprehension, as well as reading and writing (as used in social media, theater, etc.) of colloquial Levantine Arabic. Closed to native speakers (students educated in schools where Arabic was the language of instruction); heritage learners at the beginning level may be accommodated.

ARB310 Topics in Arabic Studies in Translation
3.00 credits
Topics within the main linguistic, literary, and cultural facets of the Arabic-speaking world, including language in society, gender and sexuality, immigration, and literary, cinematic, and artistic representations of central themes or issues. Conducted in English. Writing credit. May be repeated for credit if topics vary.

ARB312 ARAB CULTURES: A CULTURAL HISTORY OF THE ARAB WORLD
3.00 credits
Study of the main points of Arab cultural history, from Pre-Islamic times to the period following European colonization with an emphasis on intellectual history and literary and visual arts. This course is taught in English and does not fulfill the CAS foreign language requirement. Writing Credit.

ARB315 TOPICS IN GENDER AND SEXUALITY IN TRANSLATION
3.00 credits
Topics in gender and sexuality in the context of the Arab world, through literary and/or cultural studies. This course is taught in English and does not fulfill the CAS foreign language requirement. May be repeated for credit if topics vary. Writing Credit.

ARB591 Directed Readings
1.00 - 3.00 credits
Directed readings (Independent study) in Arabic Studies.

Art
ART101 Introduction to Drawing I
3.00 credits
Contour, cross-contour, perspective, proportion, chiaroscuro, and gesture in pictorial composition.
ART102 Introduction to Drawing II
3.00 credits  Fall, Spring
Experimentation, chance, exaggeration, movement, texture, and color in pictorial composition.

ART103 Two-Dimensional Design
3.00 credits  Fall, Spring & Summer
Line, rhythm, shape, pattern, value and color in pictorial composition.

ART104 INTRODUCTION TO 3D TECHNIQUES IN CLAY, GLASS, METAL, WOOD
3.00 credits  Fall, Spring
Basic 3D design principles and techniques in clay, metal, and wood. Students will rotate into each of the areas and learn to use the equipment in each area and make projects in each of the materials.

ART105 Figure Drawing
3.00 credits  Fall, Spring
Drawing the human figure: proportion, anatomy, perspective, gesture, and expressive line.

ART107 Introduction to Drawing III
3.00 credits  Fall
Continuation of ART 101 with emphasis on Renaissance perspective and alternative systems of spatial representation. Survey of materials and methods. Introduction of color.

ART108 Figure in Clay I
3.00 credits  Fall, Spring
Introduction to modeling the human figure in clay; emphasis on proportion, anatomy, volume, gesture and form.

ART109 Introduction to Electronic Media
3.00 credits  Fall, Spring
Computer skills for desktop publishing and digital imaging.

ART202 Introduction to Painting
3.00 credits  Fall, Spring
Materials and techniques of easel painting.

ART210 Introduction to Photography
3.00 credits  Fall, Spring & Summer
Camera techniques and darkroom procedures for black and white photography.

ART217 Introduction to Sculpture
3.00 credits  Fall, Spring
Integrated approach to concept development, craftsmanship and appropriate use of materials.

ART251 Intaglio/Relief I
3.00 credits  Offered By Announcement Only
Drypoint, engraving, etching, aquatint, and soft ground; relief and intaglio printed collographs; relief printing from linoleum.
ART253 Silkscreen I  
3.00 credits  Offered By Announcement Only  
Beginning silkscreen: monotyping with screens, reduction printing, multiple run silkscreen printing and beginning photo silkscreen.

ART254 Computer Applications for Printmaking  
3.00 credits  Offered By Announcement Only  
Software programs used as printmaking manipulation tools to aid in the planning of prints.

ART261 Hand-built Ceramics I  
3.00 credits  Fall, Spring  
Beginning hand-building techniques: pinching, coiling, slab construction; introduction to glazing and firing.

ART262 Wheel Thrown Ceramics I  
3.00 credits  Fall, Spring  
Introduction to wheel throwing, glazing and firing.

ART263 Introduction to Glass Blowing  
3.00 credits  Fall, Spring  
Forming shapes and vessels from molten glass by the use of a blow pipe and glass tools.

ART291 Graphic Design I  
3.00 credits  Fall, Spring  
A comprehensive approach to understanding design fundamentals and the practice of graphic communications.

ART292 Multimedia I/ Web Design  
3.00 credits  Fall, Spring  
Introduction to web design using several current time-based media.

ART293 Typography  
3.00 credits  Fall, Spring  
Type and image compositions, history, arrangement, style, aesthetics of printed communications, type software and calligraphy.

ART294 Multimedia II/ Animation  
3.00 credits  Fall, Spring  
Animation using time-based media.

ART301 Intermediate Painting I  
3.00 credits  Fall, Spring  
Painting in oil and acrylic. Emphasis on experimentation and creative expression.

ART302 Intermediate Painting II  
3.00 credits  Fall, Spring  
Continuation of ART 301.

ART305 Intermediate Figure Drawing  
3.00 credits  Fall, Spring  
Continuation of ART 105.
ART308 Figure in Clay II
3.00 credits
Continuation of ART 108.

ART310 Intermediate Photography I
3.00 credits
Fine art photography in black and white. Continuation of ART 210. Emphasis on experimentation and creative expression.

ART311 Color Photography
3.00 credits
Fine Art photography in color. Emphasis on craftsmanship and creative expression.

ART312 Introduction to Digital Photography
3.00 credits
Introduction to the technology of electronic/computer digitized photography.

ART317 Intermediate Sculpture I
3.00 credits
Incorporation of symbol and metaphor to achieve meaning, use of additional materials and technical processes.

ART318 Intermediate Sculpture II
3.00 credits
Continuation of ART 317.

ART351 Intaglio/Relief II
3.00 credits
Continuation of ART 251. Additional processes such as mezzotint, relief printing from woodblocks, multiple block printing, photographic xerox transfers and photo etching.

ART353 Silkscreen II
3.00 credits
Continuation of ART 253, including silkscreening on canvas, larger format work, and advanced photo silkscreen techniques.

ART354 Computer Assisted Printmaking: Lithography and Silkscreen
3.00 credits
The use of inkjet and laser printers to make positives for black and white and process color work in photo lithography; custom color separations for multiple screen printing.

ART361 Hand-built Ceramics II
3.00 credits
Continuation of ART 261.

ART362 Wheel Thrown Ceramics II
3.00 credits
Continuation of ART 262.

ART364 Intermediate Glass Blowing
3.00 credits
Exploration of glass working techniques.
ART391 Graphic Design II
3.00 credits  Fall, Spring
Development of form and conceptual design. Contemporary visual rhetorical strategies such as metaphors, puns, irony and methonymy.

ART392 Multimedia III
3.00 credits  Fall, Spring
Video art, multimedia, installation art and interactive animation.

ART401 Advanced Painting I
3.00 credits  Fall, Spring
Development of a personal style in painting.

ART402 Advanced Painting II
3.00 credits  Fall, Spring
Continuation of ART 401.

ART405 Advanced Figure Drawing
3.00 credits  Fall, Spring
Continuation of ART 305.

ART410 Advanced Photography I
3.00 credits  Fall, Spring
Development of a personal style in black and white, color, and/or digital photography.

ART411 Intermediate Digital Photography
3.00 credits  Offered By Announcement Only
Digital photographic imaging with an emphasis on computer integration of silver based and alternative processes.

ART417 Advanced Sculpture I
3.00 credits  Fall, Spring
Individual and collaborative installation and site-specific art.

ART418 Advanced Sculpture II
3.00 credits  Fall, Spring
Development of a personal visual vocabulary.

ART451 Intaglio/Relief III
3.00 credits  Offered By Announcement Only
Continuation of ART 351.

ART452 Lithography III
3.00 credits  Offered By Announcement Only
Continuation of ART 352.

ART453 Silkscreen III
3.00 credits  Offered By Announcement Only
Continuation of ART 353.

ART454 Computer Assisted Printmaking: Intaglio and Relief
3.00 credits  Offered By Announcement Only
Continuation of ART 354, photo etching and relief processes.
ART461 Figure in Clay III
3.00 credits
Fall, Spring
Advanced modeling from the figure. Emphasis on anatomy, line, gesture, volume, proportions and the expressive handling of clay.

ART462 Advanced Ceramics
3.00 credits
Fall, Spring
Development of expressive skills in either hand-building or wheel throwing techniques.

ART491 Graphic Design III
3.00 credits
Fall, Spring
Advanced page layout coupled with extensive use of typography with applications in page design for advertising and collateral projects.

ART493 Illustration
3.00 credits
Offered By Announcement Only
Contemporary illustration for print, new media, portfolio and exhibition.

ART499 Honors Thesis
3.00 - 6.00 credits
Fall, Spring
Formal thesis and project including an exhibition supervised by member of the department faculty.

ART501 Advanced Painting III
1.00 - 6.00 credits
Fall, Spring
Course content decided between student and professor.

ART502 Advanced Painting IV
1.00 - 6.00 credits
Fall, Spring
Continuation of ART 501.

ART503 Advanced Painting V
1.00 - 6.00 credits
Fall, Spring
Course content decided between student and professor. An independent study course may be repeated.

ART505 Advanced Painting VII
1.00 - 6.00 credits
Offered By Announcement Only
Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

ART509 Independent Study in Other Media
1.00 - 6.00 credits
Fall, Spring
Course content decided between student and professor. Independent study course may be repeated.

ART510 Advanced Photography III
3.00 credits
Fall, Spring
Course content decided between student and professor.

ART511 Advanced Photography IV
3.00 credits
Fall, Spring
Continuation of ART 510.
ART512 Independent Study in Photography  
1.00 - 6.00 credits  
Fall, Spring  
Course content decided between student and professor. An independent study course may be repeated.

ART517 Advanced Sculpture III  
3.00 credits  
Fall, Spring  
Examination of ongoing work in relationship to historical and contemporary interpretations issues.

ART518 Advanced Sculpture IV  
3.00 credits  
Fall, Spring  
Continuation of ART 517.

ART551 Intaglio/Relief IV  
3.00 credits  
Offered By Announcement Only  
Advanced work in intaglio/relief processes: course requirements decided between student and professor.

ART552 Lithography IV  
3.00 credits  
Offered By Announcement Only  
Advanced work in lithography: course requirements decided between student and professor.

ART553 Silkscreen IV  
3.00 credits  
Offered By Announcement Only  
Advanced work in silkscreen.

ART554 Computer Assisted Printmaking  
3.00 credits  
Offered By Announcement Only  
Advanced work in computer assisted printmaking; course requirements decided between student and professor.

ART555 Topics in Printmaking  
1.00 - 6.00 credits  
Offered By Announcement Only  
Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

ART562 Contemporary Ceramic Art  
3.00 credits  
Fall, Spring  
Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

ART563 Independent Study in Ceramics/Glass  
1.00 - 6.00 credits  
Fall, Spring  
Course content decided between student and professor. An independent study course may be repeated.

ART564 Directed Research and Projects in Ceramics/Glass  
3.00 credits  
Fall, Spring  
Historical to contemporary approach to ceramics; furthering of the technical ability, and development of artistic style.

ART591 Portfolio/Business of Design  
3.00 credits  
Offered By Announcement Only  
Individually supervised graphic design portfolio. Professional practices in design.
ART592 Special Projects/Multimedia/Portfolio  
3.00 credits  
Offered By Announcement Only  
Video Art, print design, illustration or multimedia portfolio preparation.

ART593 Seminar in Professional Practices  
1.00 - 6.00 credits  
Fall, Spring  
Advanced course with a required placement in a professional design or multimedia setting. Classroom sessions on professional topics and issues. Portfolio required.

ART599 Exhibition Preparation  
3.00 credits  
Fall, Spring  
A seminar class devoted to the preparatory work needed to plan and promote a solo exhibition, including installation/lighting concerns. Preliminary written assignments will also be given in preparation for ART 710 Thesis.

Art History

ARH107 History of Photography  
3.00 credits  
Spring  
A study of photography as a visual medium of expression and communication: a chronological examination of its origins, styles and uses.

ARH131 Survey of Western Art I  
3.00 credits  
Fall, Spring & Summer  
The art of western cultures from pre-history through the Middle Ages.

ARH132 Survey of Western Art II  
3.00 credits  
Fall, Spring & Summer  
The art of western cultures from the Renaissance through the 20th century.

ARH220 Student Docent Practicum at the Lowe Art Museum  
1.00 credit  
Fall

ARH225 Introduction to Museum Studies  
3.00 credits  
Offered By Announcement Only

ARH233 European Visions of the New World  
3.00 credits  
Offered By Announcement Only  
Survey of the European view of the Americas (16th-18th centuries) using prints, paintings, drawings, and illustrations in travel accounts.

ARH250 SPECIAL TOPICS IN NON-EUROPEAN ART  
3.00 credits  
Offered By Announcement Only  
Special Topics in Non-European Art

ARH260 Islamic Art  
3.00 credits  
Fall  
Islamic art from the 7th to the 17th century including architecture, manuscript illumination, textiles, ceramics, and small-scale luxury objects. Study of Islam as a religious and political entity showing how the Islamic world defined itself in cultural creation.

ARH321 Andean Art  
3.00 credits  
Offered By Announcement Only  
South American art from formative times through the Incan empire and the Spanish conquest (A.D. 1521).
ARH325 MUSEUM STUDIES INTERNSHIP
1.00 - 3.00 credits  Fall, Spring
Traditional Art of Central, Eastern, and Southern Africa from earliest forms to the present.

ARH326 The Art of South Asia
3.00 credits  Fall
The Arts of South Asia with selections from India and Thailand.

ARH327 The Art of East Asia
3.00 credits  Spring
The Art of East Asia with selections from China, Korea, and Japan.

ARH332 Greek Art
3.00 credits  Offered By Announcement Only
The art of ancient Greek civilization.

ARH333 Roman Art
3.00 credits  Offered By Announcement Only
Roman art from the 1st century B.C. through the 4th century A.D.

ARH335 Early Christian and Byzantine Art
3.00 credits  Offered By Announcement Only
Christian art from the second through the fifteenth centuries in Rome and the Byzantine Empire.

ARH336 Medieval Art
3.00 credits  Offered By Announcement Only
Western European art from the 4th through the 12th century.

ARH337 Italian Renaissance Art
3.00 credits  Offered By Announcement Only
The painting, sculpture, and architecture of Florence in the 15th century.

ARH338 Sixteenth Century Italian Art
3.00 credits  Offered By Announcement Only
The painting, sculpture, and architecture of Italy in the 16th century.

ARH339 Northern Renaissance Art
3.00 credits  Offered By Announcement Only
The painting of France and the Netherlands in the 14th and 15th centuries.

ARH340 Baroque Art
3.00 credits  Offered By Announcement Only
Art and architecture of the seventeenth century, focusing on major cultural centers in Europe and the Americas.

ARH341 Eighteenth-Century European Art
3.00 credits  Offered By Announcement Only
European art from 1700-1820, including Rococo and Neoclassicism, ending with Goya in Spain.

ARH342 Nineteenth-Century European Art
3.00 credits  Offered By Announcement Only
Neo-Classicism, Romanticism, Realism, Impressionism, 1760-1900.
ARH343 Modern Art
3.00 credits Fall
Cezanne to Surrealism. Primarily European Art c. 1880-1940 in the context of the
development of Modernism and its aesthetic theories.

ARH344 Contemporary Art
3.00 credits Spring
American and European Art from the Second World War to the present in its social,
political, and theoretical contexts.

ARH346 History of Graphic Design
3.00 credits Offered By Announcement Only
Evolution of Graphic Design from the invention of writing through the twentieth century
concentrating on contemporary themes and technical innovations.

ARH347 Special Topics in Art History
3.00 credits Offered By Announcement Only

ARH357 Critical Issues in the History Photography
3.00 credits Offered By Announcement Only
The history and theory of photography in visual culture and an exploration of debates
regarding how this medium of mass communication has transformed our perceptions
and conceptions of art, society, and culture over the past two centuries.

ARH360 Art and Cinema
3.00 credits Offered By Announcement Only
Exploration of the relationship between art, art history, and cinema.

ARH365 Latin American Modernism
3.00 credits Offered By Announcement Only
The art and theories of Latin American Modernism.

ARH405 SPECIAL TOPICS IN MEDIEVAL ART
3.00 credits Offered By Announcement Only
Changing topics in Medieval Art.

ARH407 Special Topics: Renaissance and Baroque Art
3.00 credits Offered By Announcement Only
Changing topics in Renaissance and Baroque art.

ARH408 SPECIAL TOPICS IN MODERN ART
3.00 credits Offered By Announcement Only
Changing topics in Modern Art.

ARH409 Special Topics in Contemporary Art
3.00 credits Offered By Announcement Only
Changing topics in contemporary art.

ARH411 Special Topics: Museum Studies
3.00 credits Offered By Announcement Only
Changing topics in museum studies.

ARH440 Seventeenth-century Dutch Art
3.00 credits Fall
Art and artists of the 17th Century Dutch Republic, including Rembrandt and Vermeer.
ARH445 REMBRANDT VAN RIJN
3.00 credits Offered By Announcement Only
Seventeenth-century Dutch Artist Rembrandt Van Rijn's life and work.

ARH505 Problems in Art History
3.00 credits Fall, Spring
A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

ARH506 Problems in Art History
3.00 credits Fall, Spring
A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

ARH508 Museum Exhibition
3.00 credits Offered By Announcement Only
Organizing an art museum exhibition, and participating in the installation. Writing and composing the catalogue.

ARH509 Museum Internship
1.00 - 3.00 credits Fall, Spring
UM sponsored internship with Miami-area museum.

ARH510 Arts Administration Internship
1.00 - 3.00 credits Fall, Spring
UM sponsored internship with Miami-area arts institution.

ARH511 ARTLAB at the LOWE
3.00 credits Spring
Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

ARH530 Seminar in Art History
3.00 credits Offered By Announcement Only
Special topics in western and nonwestern art. Semester's topic will be announced.

ARH540 Seminar in The History of Museums and Collecting
3.00 credits Offered By Announcement Only
History of museums and collecting practices in western Europe and the United States from the sixteenth to the twentieth century.

ARH560 Seminar in Nineteenth and Twentieth Century Art
3.00 credits Offered By Announcement Only
Special topics including museum practices and theory, women's art and contemporary issues.

ARH570 Seminar in Non-European Art
3.00 credits Offered By Announcement Only
Special Topics in Non-European Art.
Art History

ARH598 Seminar in Contemporary American Art
3.00 credits
Fall
Issues in Art since 1960: Aesthetic theories and ideological issues generated in contemporary art as expressed in the writing of artists and art critics.

Biochem and Molecular Bio

BMB145 INTRODUCTION TO BMB RESEARCH
2.00 credits
Fall, Spring
Students will collaborate on a research project and learn valuable laboratory skills. The goal for this course is to make students research-ready through an active, inquiry-based, platform for developing core competencies in biology, genetics, BMB (biochemistry & molecular biology), bioinformatics, scientific discourse and ethics.

BMB151 FRESHMAN SEMINAR
1.00 credit
Spring
Students acquire and discuss basic BMB information in a group project setting. Topics are identified by the instructor but refined in response to student interest and discovery. As students create a scientific review manuscript suitable for publication, they learn about the publication process, research ethics and politics.

BMB245 INTRODUCTION TO BMB OR NUTRITION RESEARCH
2.00 credits
Fall, Spring & Summer
Students shadow a research assistant in the lab of a BMB faculty member and learn about the research projects and techniques used by the group. Students will assist in preparing reagents, conducting experiments, analyzing data and generating brief reports. Attendance in lab group meetings is expected. Students maintain a weekly online journal and will write a paper describing the research in the lab and proposing a research problem and approach to solve in BMB545.

BMB411 READINGS IN BMB
1.00 credit
Fall, Spring
Students read and discuss one BMB primary research article each week and answer a set of questions meant to provoke critical evaluation of the work. The course introduces students to critical reading of the primary literature in BMB and is open to students at any level. Peer-mentoring and informal student-led instruction is central to the course.

BMB417 Biochemistry of Food and Nutrition
3.00 credits
Spring
This course will provide thorough understanding of the role of different nutrients, their occurrence in food, uptake in the digestive system, transport in blood or lymph, uptake in cells, storage, function and metabolism and excretion. Biosynthesis of nutrients in plants and micro-organisms will also be considered. The students will be taught how to gather information about the course topics.
BIL101 Introductory Biological Science
3.00 credits
Fall, Spring & Summer
An introduction to life sciences for the non-major. Students with credit in BIL150 may NOT take this course to fulfill the natural science requirement. Not for credit in the biology major or minor.

BIL102 Elementary Biotechnology
3.00 credits
Offered By Announcement Only
Major aspects of the biotechnology field for the non-science major. Food biotechnology, enzymes, environmental biotechnology, transgenic animals and plants, analytical biotechnology and more. Not for credit in the biology major or minor.

BIL103 Introduction to Ecology
3.00 credits
Fall, Spring
Overview of ecological and evolutionary principles; Relationships of organisms to living and non-living aspects of their environment; human impact on ecosystems. Not for credit in the biology major or minor.

BIL104 Genetics and Society
3.00 credits
Offered By Announcement Only
The impact of new knowledge in genetics and heredity on society, including a consideration of questions about the inheritance of I.Q. and behavior, racial differences, genetic screening, control of reproduction, genetic engineering, forensic applications. Not for credit in the biology major or minor.

BIL106 Biology of Animals
3.00 credits
Offered By Announcement Only
Evolution and diversity of the animal kingdom and the relationship between humans and other animals. Not for credit in the biology major or minor.

BIL107 Introduction to Evolution
3.00 credits
Fall
Processes and mechanisms of evolution. A scientific approach to the study of evolution by natural selection, concepts of fitness and adaptation, genetic and developmental bases of evolutionary change, how new species arise, major trends in evolution, extinction and human evolution. Not for credit in the biology major or minor.

BIL109 Human Biology
3.00 credits
Fall
A survey of human anatomy and physiology and the relationship of our species to its environment and other species. Not for credit in the biology major or minor.

BIL113 General Biology Honors Seminar
1.00 credit
Fall
Special topics in biology correlated with BIL 150.

BIL114 General Biology Honors Seminar
1.00 credit
Spring
Special topics in biology correlated with BIL 160.
Biology

BIL149 First Year Information
1.00 credit                                                                    Fall
First year seminar for incoming Biology majors. Facilitation and encouragement of development of critical thinking skills, proficiency in oral and written expression, and an ability to solve problems by integrating knowledge from different disciplines in Biology.

BIL150 General Biology
4.00 credits                                                          Fall & Summer
Principles of biology at the cellular, genetic, and organismal levels of organization. Cell structure and function, energy transduction, biological information transfer, genetics, physiology.

BIL151 General Biology Laboratory
1.00 credit                                                           Fall & Summer
A laboratory approach to applying the scientific method. Experimental design and hypothesis testing at the cellular and molecular level.

BIL152 HHMI General Biology Laboratory.
1.00 credit                                                                  Fall
Laboratory exercises to accompany BIL 150. Students teams engage in two inquiry-based laboratory research projects, each lasting six weeks, per semester.

BIL160 Evolution and Biodiversity
4.00 credits                                                        Spring & Summer
Mechanisms of evolution from an organismal perspective. Systematics, biodiversity, evolutionary theory and mechanisms with emphasis on the morphological, ecological, and behavioral adaptations of selected representatives of the Domains of living organisms.

BIL161 Evolution and Biodiversity Laboratory
1.00 credit                                                                 Spring & Summer
A laboratory approach to applying the scientific method. Experimental design and hypothesis testing at the organismal and ecological level.

BIL162 HMMI Evolution and Biodiversity Laboratory.
1.00 credit                                                                  Spring
Laboratory exercises to accompany BIL 160. Student teams engage in two inquiry-based laboratory research projects, each lasting six weeks, per semester.

BIL210 Human Anatomy
0.00 - 4.00 credits                                                        Fall
Structural interrelationships of organ systems. Demonstrations, dissections, and discussions.

BIL215 Human Physiology
3.00 credits                                                                 Spring
Function of major human systems.

BIL216 Human Physiology Laboratory
2.00 credits                                                                  Spring & Summer
Experiments illustrating the physiology of human organ systems.
BIL220 Evolution and Disease
3.00 credits Fall, Spring
Evolutionary insights on the origins and emergence of diseases, drug resistance, and how diseases have shaped human evolution.

BIL221 Biology of Birds
4.00 credits Offered By Announcement Only
General biology of birds, field identification, natural history and migrations of southern Florida species. Lecture, 2 hours; laboratory, 3 hours; 4 field trips, 6 hours each. Binoculars required.

BIL226 General Botany
3.00 credits Offered By Announcement Only
Survey of the plant kingdom, including evolution, plant diversity, reproduction, structure, function and ecology.

BIL227 General Botany Laboratory
1.00 credit Offered By Announcement Only
Laboratory exercises to accompany BIL 226.

BIL228 Medical Botany
3.00 credits Offered By Announcement Only
History of medical botany, approaches to health by different cultures, separation and identification of secondary compounds and mechanisms of action. Molecular and physiological action of different secondary compounds in the treatment of common western ailments. In vivo identification of local medicinal plants.

BIL230 Introduction to Marine Biology
3.00 credits Fall

BIL231 Introduction to Marine Biology Laboratory
1.00 credit Fall
Experimental laboratory exploring ecology, physiology and behavior of marine organisms in southern Florida marine habitats. Exercises cover laboratory techniques in behavior, functional morphology, productivity, fisheries research, osmoregulation and community ecology.

BIL236 Ecology Lab
1.00 credit Fall, Spring

BIL241 Animal Behavior
3.00 credits Fall, Spring
Mechanistic and evolutionary aspects of animal behavior. A survey of systems that illustrate the control, development and function of behavior in a variety of animals.

BIL242 Animal Behavior Laboratory
1.00 credit Offered By Announcement Only
A lab/field course in basic behavioral concepts using a variety of organisms, both vertebrate and invertebrate, in aquatic and terrestrial environments.

BIL250 Genetics
3.00 credits Fall, Spring & Summer
The nature, organization, replication, expression, and evolution of the genetic materials.
BIL251 Principles of Genetics Laboratory
1.00 credit  Fall, Spring
Laboratory exercises in genetics.

BIL252 HON: Honors Laboratory in Genetics
2.00 credits  Spring
Laboratory exercises in genetics.

BIL255 Cellular and Molecular Biology
3.00 credits  Fall, Spring & Summer
Structure, molecules, and functions of cells.

BIL256 Cellular and Molecular Biology Laboratory
2.00 credits  Spring
Laboratory exercises in cellular and organismal biology involving current research techniques and applications.

BIL258 Core Laboratory Techniques
2.00 credits  Offered By Announcement Only
Conceptual and applied methods course in modern analytical techniques. It will expose students to the Department of Biology's three best-developed core laboratory facilities for imaging, molecular biology, and element analysis.

BIL265 Comparative Physiology
3.00 credits  Fall, Spring

BIL268 Neurobiology
3.00 credits  Offered By Announcement Only
Neurons, organization of the nervous system, electrical properties of neurons, neurotransmitters, receptors, synaptic transmission, sensory and motor system, and complex brain functions.

BIL285 Special Topics in Biology
3.00 credits  Offered By Announcement Only
Topics relevant to the biological sciences, co-listed with other departments or programs.

BIL299 Seminar in Research Problems
2.00 credits  Fall, Spring
Discussion of current research of the Biology Faculty.

BIL310 Advanced Human Anatomy
4.00 credits  Spring
An in-depth exploration of the human body requiring extensive laboratory work, lectures, dissections, and field trips.

BIL311 Biostatistics
3.00 credits  Fall, Spring
Descriptive and inferential univariate and bivariate statistics applied to biological data. Probability, probability distributions, data description and presentation, hypothesis testing, decision making and experimental design. (Not open to students with credit in MTH 224, PSY 204 or equivalent).

BIL312 Biostatistics Laboratory
1.00 credit  Offered By Announcement Only
Computer laboratory exercises to complement BIL 311.
BIL315 Marine Biota and Biogeochemical Cycles
3.00 credits                      Spring
The diverse sources, transformations, and sinks of chemical constituents in the sea; distribution of dissolved and particulate materials in the sea. Role of marine organisms in marine biogeochemical cycling and the marine carbon cycle and its interaction with the terrestrial biosphere and atmosphere.

BIL316 Global Primary Production
3.00 credits                                           Offered By Announcement Only
Photosynthesis supports the vast majority of life on planet earth. Although terrestrial and aquatic photoautotrophs share the same basic photosynthetic mechanisms, the physical environment and the fate of primary product differ on land versus in the sea. This course reviews the magnitude and processes that shape primary production in terrestrial, oceanic, and freshwater habitats. It includes the fate of primary production in the earth's biomes, and the role of terrestrial and aquatic productivity in regulating, and responding to, variable climate.

BIL321 Invertebrate Zoology
4.00 credits                                           Offered By Announcement Only
Biology of invertebrates, with emphasis on tropical and subtropical marine forms. Field work and combined lecture-laboratory sessions.

BIL324 The Biology of Fishes
3.00 credits                                           Offered By Announcement Only
Selected topics on the ecology and physiology of fishes. Lectures on reproduction, respiration, osmoregulation, sense systems, hormonal control.

BIL325 Herpetology in the Galapagos
3.00 credits                      Fall
Evolution and natural history of the living reptilian products of natural selection in the Galapagos. Lectures and intensive fieldwork focus on adaptations to demanding environmental pressures that drive natural selection in the charismatic reptiles of the Galapagos. Taught in the Galapagos as part of the UGalapagos semester.

BIL330 Ecology
3.00 credits                      Fall, Spring
The interactions of living organisms with each other and with their abiotic environment.

BIL331 Ecology Laboratory
1.00 credit                      Fall, Spring
Lab and field exercises in ecology. Some Saturday field trips required.

BIL332 Ecology and Land Use in the Galapagos
3.00 credits                      Fall
Fundamental principles of ecology manifested on Isla Isabela will be employed to evaluate land usages including subsistence and production agriculture, animal husbandry, fuel wood and timber, and conservation with ecotourism. Habitats, flora, and fauna from the vicinity of Puerto Villamil to the rim of Volcan Sierra Negra; analysis of agricultural practices and problems of the mist zone on this volcano's southeastern flank. Taught in the Galapagos as part of the UGalapagos semester.

BIL335 Tropical Field Biology
3.00 credits                      Spring
Intensive field study in the Costa Rican rainforest conducted during semester recesses with additional pre-trip lectures. Requires payment of trip costs.
BIL350 Survey of Marine Mammals
3.00 credits  Offered By Announcement Only
The evolution and ecology of the cetaceans, pinnipeds, manatees, and allies: Natural history, zoo geography, physiology, husbandry, and biomedical aspects.

BIL352 Techniques in Scanning Electron Microscopy
3.00 credits  Spring
Tissue preparation, use of the scanning electron microscope, photography, and analysis and manipulation of digital images. Lecture 1 hour; laboratory 5 hours.

BIL353 Projects in Scanning Electron Microscopy
2.00 credits  Fall
Individual research projects in scanning electron microscopy. Six hours of laboratory.

BIL358 Mathematical Biology
3.00 credits  Offered By Announcement Only
Biomathematics concerned with shape and form, random processes, dynamic phenomena, and chaos in complex systems.

BIL360 Comparative Physiology
3.00 credits  Fall, Spring
Animal and plant physiological processes such homeostasis, energy budget, movement, sensation, and reproduction with emphasis on the organismal level.

BIL363 Environmental Physiology
3.00 credits  Offered By Announcement Only
Functional and adaptive significance of morphological and physiological traits of organisms in relation to their physical environment.

BIL365 Endocrinology
3.00 credits  Offered By Announcement Only
The endocrine glands and the chemistry, mechanisms of action, and physiological effects of hormones. Emphasis on vertebrate hormones, including clinical aspects of human endocrinology.

BIL367 A Survey of Cancer Biology
3.00 credits  Offered By Announcement Only
The biological aspect of human cancers, including their incidence, diagnosis and treatment.

BIL369 Fundamentals of the Biology of Aging
3.00 credits  Offered By Announcement Only
How and why we age. The biology of aging at the molecular, cellular, and organismal levels in a comparative and evolutionary context.

BIL371 Readings in Biology
1.00 credit  Spring
Independent readings on selected topics in biology under the supervision of individual faculty.

BIL372 Readings in Biology
1.00 credit  Fall, Spring
Independent readings on selected topics in biology under the supervision of individual faculty.
BIL374 Seminar in Biology
1.00 credit  
Fall, Spring  
Seminar on selected topics in biology.

BIL375 Seminar in Biology
1.00 credit  
Fall, Spring  
Seminar on selected topics in biology.

BIL381 Workshop Leaders in Biology I
0.00 - 1.00 credit  
Fall  
Peer-led Team Teaching of workshops for groups of BIL 150 students. May be taken once only for credit in the BIL major, but may be taken additional times for a general education credit. Students may serve as workshop leaders for a second time for a stipend if they (1) have taken the course once before and (2) are graduating seniors.

BIL382 Workshop Leaders in Biology II
0.00 - 1.00 credit  
Spring  
Peer-led Team Teaching of workshops for groups of BIL 150 students. May be taken once only for credit in the BIL major, but may be taken additional times for general education credit. Students may serve as workshop leaders for a second time for a stipend if they (1) have taken the course once before and (2) are graduating seniors.

BIL384 Special Laboratory Topics in Biology
1.00 - 3.00 credits  
Offered By Announcement Only  
Topics relevant to the biological sciences, listed as subtitle. May be co-listed with other departments or programs.

BIL385 Special Topics in Biology
2.00 - 6.00 credits  
Offered By Announcement Only  
Topics relevant to the biological sciences, listed as subtitle. May be co-listed with other departments or programs.

BIL403 Neuroscience Laboratory
4.00 credits  
Spring  
Research methods and laboratory experiments in contemporary neuroscience from individual cells to behavior. Scientific writing and computer applications in experimental design and analysis. Combined lecture and laboratory.

BIL415 Coral Reef Science and Management
3.00 credits  
Offered By Announcement Only  
Coral reefs as biophysical and socioeconomic systems. Coral reef typology, geomorphology; biotic and abiotic components of coral reef ecosystems.

BIL432 Ecology in the Galapagos
3.00 credits  
Fall  
Organisms in relation to their environment, with focus on interactive, hands-on learning that connects empirical nature with abstract thinking. Lectures, discussion and fieldwork on ecosystem ecology, plant dispersal and colonization; organisms' responses to spatial and temporal variability in their environments, plant/animal interactions. Origins and effects of invasive species and actions of bio-control agents. Taught in the Galapagos as part of the UGalapagos semester.
BIL433 Conservation in Practice
3.00 credits
Fall
Intersection between economic development, science and conservation in one of the world’s most pristine and fragile ecosystems, the Galapagos Islands. Exploration of how tourism offers an alternative to unsustainable fisheries that once drove the local economy, yet has created a new set of pressures on the people and the environment. Mitigation efforts, science, and international conservation mesh with an understanding of local politics, customs and cultures. Taught in the Galapagos as part of the UGalapagos semester.

BIL451 Ethics and Genetics
3.00 credits
Offered By Announcement Only
Pressing social, ethical, and legal issues raised by our constantly increasing knowledge of genetics, and the applications of this knowledge already available or being proposed. Access to and use of personal genetic information; race and genetics; the diagnosis and treatment of inherited diseases; new modalities of healthcare delivery through genetics; the current state of stem cell research; genetically modified animals and plants as sources of food, medicines, and fuel; and the use of genomics.

BIL455 Developmental Biology
3.00 credits
Fall
Principles of differentiation, morphogenesis and development. Critical analysis of the methods used to study these problems.

BIL466 Environmental Physiology: Oxygen, Water and Ionoregulatory Stress
3.00 credits
Fall
Lecture and laboratory experiments in environmental physiology. Homeostasis, interactions with the external environment, and life with limited oxygen and water. Lectures will be discussion-based: students will be expected to read primary research articles before lecture to foster participation in those discussions and form hypotheses for the accompanying laboratory.

BIL471 Special Studies in Biology
2.00 - 4.00 credits
Offered By Announcement Only
Content of course will vary and be listed as a subtitle.

BIL481 Undergraduate Teaching Assistant Training in Biology
1.00 - 3.00 credits
Fall, Spring
Training and teaching assistance for undergraduate workshops or laboratories, under the direct supervision of faculty. Specific topic is indicated by course subtitle. This course may be taken no more than twice for credit in the Biology major or minor, and if taken twice, teaching assistance must be for two different BIL courses. May be taken multiple times for general elective credit only.

BIL482 PRISM Teaching Fellow
2.00 credits
Fall, Spring
Undergraduate mentors to PRISM students, and teaching fellows to PRISM course instructors in biology.

BIL483 CIVIC ENGAGEMENT IN THE GALAPAGOS
3.00 credits
Fall
Biological and/or conservation projects in cooperation with citizens of the Galapagos.
BIL485 Special Topics in Biology
2.00 - 6.00 credits  Fall, Spring
Topics relevant to the biological sciences, co-listed with other departments or programs.

BIL491 Departmental Seminar in Biology
1.00 credit  Fall
Research seminars by distinguished biologists.

BIL492 Departmental Seminar in Biology
1.00 credit  Spring
Research seminars by distinguished biologists.

BIL495 Projects in Biology
2.00 credits  Fall, Spring
Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

BIL496 Projects in Biology
2.00 credits  Fall, Spring
Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

BIL497 Projects in Biology
2.00 credits  Fall, Spring
Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

BIL498 Senior Thesis
2.00 credits  Fall, Spring
Formal thesis preparation supervised by a member of the departmental faculty including a public oral defense and submission of the written document to the department.

BIL499 Research Colloquium
1.00 credit  Fall, Spring
Discussion of current research done by undergraduate students.

BIL511 Biometry
3.00 credits  Offered By Announcement Only
Descriptive and analytical statistics as used in biology. Emphasizes sampling, presentation of quantitative data, probability theory applications, distributions, parametric and non-parametric test procedures.

BIL520 Evolution
3.00 credits  Offered By Announcement Only
Evolutionary mechanisms and pathways: sources of hereditary variation, evolutionary forces, origins of adaptations, speciation, macro-evolution, origin of life and humankind.

BIL521 Systematics
3.00 credits  Offered By Announcement Only
Concepts and methods in phylogenetic systematics. Lectures, discussions, and computer labs, 3 hours.
BIL523 Advanced Biology of Marine Invertebrates
4.00 credits  Offered By Announcement Only
Detailed study of major phyla of marine invertebrates. Special emphasis on taxa found in waters off southern Florida. Field course. Lectures, laboratory, special projects, and seminars.

BIL525 Advanced Herpwtology
3.00 credits  Offered By Announcement Only
Systematics, biogeography, and evolutionary biology of amphibians and reptiles, with emphasis on modern families. Combined lecture and laboratory.

BIL526 Studies in the Biology of Mycorrhizae
2.00 credits  Offered By Announcement Only
Readings, discussions and laboratory exercises concerning the biology of mutualistic root-inhabiting fungi and their plant hosts. Topics will vary by semester. Course may be repeated for credit.

BIL531 Advanced Field Ecology
5.00 credits  Offered By Announcement Only
Principles of and practical experience in quantitative sampling of community structure, plant and animal populations, and animal activities. Emphasis on individual projects. Lecture, 3 hours; laboratory/field, 10 hours on alternate Saturdays, plus research projects.

BIL532 Stable Isotope Ecology
3.00 credits  Offered By Announcement Only
Stable isotope analysis applied to ecological questions such as nutrient cycling, photosynthesis and trophic level studies.

BIL535 Molecular Ecology
3.00 credits  Offered By Announcement Only
Molecular markers and analyses, and their applications to different problems in biology. Appropriate sampling, methods for assessing genetic diversity and differentiation. Approaches to studying gene flow, tools for behavioral ecology, remote sampling, tracking individuals, and paternity analysis, hybridization and speciation, DNA bar codes, and gene expression from a population biological perspective.

BIL536 Molecular Ecology Laboratory
1.00 credit  Offered By Announcement Only
Laboratory techniques, molecular tools, applications, and analysis methods commonly used by researchers in the areas of molecular ecology and population genetics.

BIL537 Ecosystem Ecology
3.00 credits  Offered By Announcement Only
Concepts and models of energy and nutrient flow, food webs, successional processes, human influences and effects of spatial heterogeneity.

BIL548 Bioinformatics Algorithms
3.00 credits  Offered By Announcement Only
The complexity of bioinformatics computations. Introduction to Perl and Bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor binding site recognition and motif finding, gene prediction, phylogeny, micro array analysis, RNA folding, gene design and synthesis.
BIL552 Bioinformatics Tools  
3.00 credits Offered By Announcement Only  
Databases and tools of bioinformatics as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, protein structure-function analysis and various applications.

BIL554 Electron Microscopy  
4.00 credits Fall  
Techniques in transmission electron microscopy (TEM) including tissue preparation, use of the electron microscope, photography, and interpretation of micrographs. Lecture, 1 hour; laboratory, 6 hours.

BIL555 Projects in Electron Microscopy  
2.00 credits Spring  
Individual research projects in transmission electron microscopy, 6 hours.

BIL556 Ecological and Evolutionary Genomics  
3.00 credits Offered By Announcement Only  
The evolution of genomes, and the ecological interactions that drive their evolution.

BIL565 Evolution and Development  
3.00 credits Offered By Announcement Only  
Exploration of the relationship between common descent and biological diversity, principally changes in organismal development through time.

BIL568 Evolution and development of Nervous Systems  
3.00 credits Offered By Announcement Only  
Mechanisms/pathways/modules underlying formation of the nervous system during embryo development. How some properties of nervous systems have resisted change while others have diverged dramatically during evolution.

BIL569 Biology of Aging  
3.00 credits Offered By Announcement Only  
The hypotheses and data relating to the biological basis of aging in animals, including humans.

BIL575 Advanced Special Studies in Biology  
1.00 - 6.00 credits Offered By Announcement Only  
Content of course will vary by semester. Content in any semester will be indicated via subtitle in the class schedule.

Chemistry  

CHM099 PREPARATORY CHEMISTRY 1  
3.00 credits Fall, Spring & Summer  

CHM101 CHEMISTRY AND SOCIETY  
3.00 credits Fall  
The basic principles of chemistry for the non-science major with an emphasis on understanding the chemistry of the world around us, especially as it pertains to the choices we make as consumers and as a society. Integrated themes include energy, the environment, food and nutrition, health and personal care, and other contemporary societal issues.

CHM102 Fundamentals of Chemistry II  
3.00 credits Offered By Announcement Only  
A continuation of Chemistry 101.
Chemistry

CHM103 Chemistry for Life Sciences I (Lecture)  
3.00 credits  
Fall  
Essentials of inorganic chemistry as it applies to biological systems. Designed for (but not limited to) those planning health-related careers. Lecture, 3 hours.

CHM104 Chemistry for Life Sciences II (Lecture)  
3.00 credits  
Spring  
A continuation of CHM 103, with emphasis on organic and biological chemistry, including biochemical processes and metabolism. Lecture, 3 hours.

CHM105 Chemistry for Life Sciences I (Laboratory)  
1.00 credit  
Fall  
Designed for those students in CHM 103 requiring a laboratory course. Laboratory, 3 hours.

CHM106 Chemistry for Life Sciences II (Laboratory)  
1.00 credit  
Spring  
Designed for those students in CHM 104 requiring a laboratory course. Laboratory, 3 hours.

CHM111 Principles of Chemistry I  
3.00 credits  
Fall, Spring & Summer  
Fundamental principles of chemical science. The beginning course for science majors and premedical students. Lecture, 3 hours.

CHM112 Principles of Chemistry II  
0.00 - 3.00 credits  
Fall, Spring & Summer  
Continuation of CHM 111. Lecture, 3 hours.

CHM113 Chemistry Laboratory I  
1.00 credit  
Fall, Spring & Summer  
Laboratory techniques of chemistry. To accompany CHM 111. Laboratory, 3 hours.

CHM114 Chemistry Laboratory II  
1.00 credit  
Fall, Spring & Summer  
Continuation of CHM 113. Intermediate laboratory techniques and quantitative analysis. To accompany CHM 112. Laboratory, 3 hours.

CHM151 Chemistry for Engineers I  
0.00 - 3.00 credits  
Fall, Spring  
Fundamental principles of chemistry for engineering students. Not recommended for students that plan to enter Medical School. Lecture, 3 hours.

CHM153 Chemistry Laboratory for Engineers  
1.00 credit  
Fall, Spring  
An introductory laboratory course to accompany CHM 151. The techniques of chemistry for engineering students.

CHM201 Organic Chemistry I (Lecture)  
3.00 credits  
Fall, Spring & Summer  
The chemistry of carbon compounds. Required of chemistry majors, and premedical students; recommended for majors in life sciences. Lecture, 3 hours.
Chemistry

**CHM202 Organic Chemistry II (Lecture)**  
3.00 credits  
Continuation of CHM 201. Lecture, 3 hours.  
_Fall, Spring & Summer_

**CHM205 Organic Chemistry Laboratory I**  
1.00 credit  
Introduction to techniques of organic chemistry. Laboratory, 3 hours.  
_Fall, Spring & Summer_

**CHM206 Organic Chemistry Laboratory II**  
1.00 credit  
Continuation of CHM 205. Laboratory, 3 hours.  
_Fall, Spring & Summer_

**CHM304 Structural Identification of Organic Compounds**  
3.00 credits  
The fundamental principles of ultraviolet/visible, infrared, nuclear magnetic resonance and mass spectrometry. How the combination of these sophisticated analytical techniques can be used to elucidate the structures of organic compounds.  
_Fall_

**CHM316 Instrumental Analytical Chemistry**  
3.00 credits  
Modern methods of quantitative analysis. Lecture, 3 hours.  
_Spring_

**CHM317 The Chemistry of Food and Taste.**  
3.00 credits  
The chemical compositions of the raw materials and end products, and a survey of the changes that these undergo when exposed to human manipulations.  
_Spring_

**CHM320 Instrumental Methods in Chemistry and Biochemistry**  
2.00 credits  
Instrumental methods in modern chemistry and biochemistry, including spectro metric, electrochemical and chromatographic (separation) techniques. Laboratory, 8 hours.  
_Spring_

**CHM331 Physical Chemistry for Premedical Students**  
3.00 credits  
Fundamentals of thermodynamics as applied to gases, liquids and solutions; chemical kinetics and other selected topics. Lecture, 3 hours.  
_Spring_

**CHM360 Physical Chemistry I (Lecture)**  
0.00 - 3.00 credits  
Introduction to physical chemistry including thermodynamics, gaseous and liquid states, solutions, homogeneous and heterogeneous equilibrium. Lecture, 3 hours.  
_Fall_

**CHM364 Physical Chemistry (Laboratory I)**  
1.00 credit  
Representative experiments in physical chemistry. Laboratory, 4 hours.  
_Fall, Spring_

**CHM365 Physical Chemistry II (Lecture)**  
3.00 credits  
Chemical kinetics, introductory quantum chemistry, molecular spectroscopy.  
_Spring_

**CHM381 Workshop Leaders in Chemistry I**  
1.00 credit  
Students engaged in Peer-Led Team Teaching of workshops for groups of CHM 111 and/or CHM 112 students may enroll for this course. May be repeated.  
_Fall, Spring_
CHM382 Workshop Leaders in Chemistry II
1.00 credit  
Fall, Spring  
Students engaged in Peer-Led Team Teaching of workshops for groups of CHM 111 and/or CHM 112 students may enroll for this course. May be repeated.

CHM391 CHEMISTRY INTERNSHIP FOR CREDIT
1.00 - 3.00 credits  
Fall, Spring & Summer  
Provides chemistry majors with an opportunity to apply skills learned in course work within settings outside the university. For example students can work in local schools, assisting instructors and mentoring students. They can also work in companies or government agencies for a defined period of time with clearly delineated goals to expand their expertise and practical knowledge of chemistry. Each enrolled student will be closely mentored by a faculty member.

CHM401 Environmental Chemistry
3.00 credits  
Spring  
Major environmental features of the earth; Role of natural and synthetic chemicals in the environment; Atmospheric and aquatic pollution; Application of acid-base theory and oxidation reduction to environmental problems.

CHM442 Inorganic Chemistry (Laboratory)
1.00 credit  
Spring  
Synthesis of inorganic compounds and determination of their physical and chemical properties. CHM 541 is a co-requisite for ACS chemistry majors. Laboratory, 3 hours.

CHM464 Physical Chemistry (Laboratory II)
1.00 credit  
Spring  
Continuation of CHM 364. Laboratory, 4 hours.

CHM488 Undergraduate Research
1.00 - 3.00 credits  
Fall, Spring & Summer  
Laboratory research under the direction of a member of the chemistry faculty. Thesis optional. Course may be repeated for credit.

CHM490 Honors Research
1.00 - 3.00 credits  
Fall, Spring & Summer  
Laboratory research under the direction of a member of the Chemistry faculty. Thesis required. Course may be repeated for credit.

CHM520 Physical Organic Chemistry
3.00 credits  
Fall  
Aspects of chemical bonding, acids and bases, steoeochemistry, aromaticity, pericyclic reactions, linear free energy relationships, transition state theory, excited state chemistry, reactive intermediaries, mechanisms of uni- and bi-molecular reactions.

CHM522 Synthetic Organic Chemistry
3.00 credits  
Fall  
Functional group transformations, Synthon approach. Retro-synthetic analyses, multi step syntheses.

CHM524 Supramolecular Chemistry
3.00 credits  
Offered By Announcement Only  
Complexation, recognition, and catalysis as applied to bio-organic chemistry. Steric, polar, and lipophilic interactions as well as proximity effects in the design of synthetic enzyme mimics, cationic transport species, etc.
CHM525 Structural Organic Chemistry  
3.00 credits  
Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electropsay mass spectrometry. Assignment of absolute configuration of chiral centers. Spring

CHM526 CHM523 Medicinal Chemistry  
3.00 credits  
Spring

CHM530 Fluorescence Spectroscopy and Microscopy  
3.00 credits  
Fall, Spring
The photophysical properties of organic compounds that illustrates the fundamental principles of fluorescence. It also explains how fluorescence spectra and images can be recorded and how these powerful analytical techniques can be used to address significant problems in biology and medicine.

CHM535 Molecular and Supramolecular Photochemistry  
3.00 credits  
Offered By Announcement Only
Generation of a model that will help rationalize/predict excited state reactions. A brief background on physical aspects of photochemistry will be given. Exploring and understanding of reactions that are triggered by light. Importance of light in life will be highlighted.

CHM541 Principles of Bonding and Reactivity in Inorganic Chemistry  
3.00 credits  
Fall
Bonding principles necessary to understand the structure, stability, and fundamental reactivity of main group and transition metal inorganic compounds.

CHM553 Modern Quantum Chemistry  
3.00 credits  
Offered By Announcement Only
Many-electron wave functions and operators. Hartee-Fock approximation, density functional theory, configuration interaction, and many-body perturbation theory.

CHM565 Principles of Spectroscopic Techniques  
3.00 credits  
Offered By Announcement Only
Spectroscopic techniques: nuclear magnetic resonance (NMR), mass spectra (MS), ultraviolet (UV), visible infrared (IR), fluorescence, and other specialized spectroscopic techniques.

CHM575 Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy  
3.00 credits  
Offered By Announcement Only
Theory of nuclear magnetic resonance; Bloch equations; relaxation theory; time-domain versus frequency domain spectroscopies, and principles of multidimensional spectroscopy.

CHM591 Topics in Chemistry  
1.00 - 3.00 credits  
Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, Topics in Chemistry.

CHM592 Topics in Chemistry  
1.00 - 3.00 credits  
Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, Topics in Chemistry.
University of Miami Bulletin, 2013-2014  
Undergraduate Course Listing  
College of Arts and Sciences  
Chemistry

CHM593 Readings in Chemistry  
1.00 - 3.00 credits  
Offered By Announcement Only  
Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

CHM594 Readings in Chemistry  
1.00 - 3.00 credits  
Offered By Announcement Only  
Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Chinese  
CHI101 Elementary Chinese (Manarim)  
3.00 credits  
Fall, Spring  
Conversation, grammar, reading, elementary composition.

CHI102 Elementary Chinese (Manarim)  
3.00 credits  
Spring  
Continuation of CHI 101, conversation, grammar, reading, elementary composition.

CHI201 Intermediate Chinese I  
3.00 credits  
Fall, Spring  
Expanding further on language skills (grammar, composition and reading) while introducing students to aspects of Chinese customs, history and culture. Closed to native speakers.

CHI202 Intermediate Chinese II  
3.00 credits  
Spring  
Continuation of CHI 202. Further development of reading, writing, speaking and listening skills in Manarin Chinese. CLOSED TO NATIVE SPEAKERS.

CHI205 Advanced Chinese  
3.00 credits  
Offered By Announcement Only

CHI300 ADVANCE CHINESE: SIXTH SEMESTER CHINESE  
3.00 credits  
Fall & Summer  
Course provides UM undergraduate students with total immersion of cultural and linguistic experience in the most culturally diverse province of China-Yunnan. Yunnan is the most southwest province of China bordering the countries of Vietnam, Laos and Burma. It is the sixth-largest province and home to a third of all China's ethnic minorities. Yunnan is also famous for its diverse scenery, ranging from tropical rainforest to snow-capped mountains.

Classics  
CLA220 Greek and Roman Mythology  
3.00 credits  
Fall, Spring & Summer  
The major political, cultural, and social themes that appear in Greek and Roman mythology, examining literary and material evidence.

CLA221 SPORTS & SOCIETY IN THE ANCIENT WORLD  
3.00 credits  
Fall, Spring  
The role of sports in ancient Greek and Roman culture. Topics covered include: Mycenean bull-Jumping; athletic events in Homer; the Olympic games; chariot racing and gladiatorial combat at Rome; and the connection between public athletics and religion. Students learn to interpret literary and iconographic evidence, and study architectural remains such as the stadium at Olympia, the Circus Maximus, and the Colosseum.
CLA222 Sexuality and Gender in the Ancient World
3.00 credits  Fall, Spring & Summer
Basic questions of sexuality and gender in ancient Greece and Rome: What does it mean to be male or female? What can we discover about ourselves from the way(s) we have sex? How are all these things related to life, love, power?

CLA224 The Heroic Journey
3.00 credits  Spring
The figure of the Hero On a Journey has long captivated the minds of story-tellers and audiences. This motif, known as The Monomyth, speaks the profoundest hopes and fears of humankind. This course will examine the Monomyth as it occurs particularly in the classical tradition from Gilgamesh to Tolkein.

CLA225 MAGIC AND THE OCCULT IN ANTIQUITY
3.00 credits  Fall, Spring
A broad sweep of evidence for magic and the occult in the ancient Mediterranean world. The focus is Graeco-Roman Egypt, renowned in antiquity for occult arts such as divination, daemonology, astrology, and alchemy. The primary sources analyzed are diverse, and include magical formulae, manuals, recipes, curses, philosophical writings, and literary accounts, in particular those by Lucian and Apuleius, purporting to provide true tales of magic.

CLA232 Topics in Ancient Law, Scandalous Trails from the Ancient Legal World
3.00 credits  Fall, Spring
This course examines selected trials from ancient Greece and Rome both as a way to understand these legal systems in themselves and as a way to explore the cultures, values, and biases that shaped them.

CLA233 Ancient Medicine
3.00 credits  Fall, Spring
Provides a historical survey of evidence, practices, and ideas from the world of ancient medicine.

CLA241 Greek Civilization
3.00 credits  Fall, Spring
This course introduces key concepts, events, and personalities of Greek culture.

CLA242 Roman Civilization
3.00 credits  Fall, Spring
Introduces key concepts, events, and personalities of ancient Roman culture.

CLA243 The Art of Government in Greece and Rome
3.00 credits  Fall, Spring

CLA271 ANCIENT PHILOSOPHY
3.00 credits  Fall, Spring
What is knowledge, and how can it be known? Why be moral? What is justice? What is the good life? If we really have free will, can there be such a thing as destiny? In what does friendship consist? What exactly is love? What is the meaning of death? These and other questions were addressed powerfully by the ancient Greeks and Romans; and their answers continue to inspire, intrigue, and bewilder us today. This course will explore such crucial philosophical themes, along with the actual method(s) of inquiry that the ancients devised for examining them. Major figures such as Plato and Aristotle will be featured, along with fragments of the Presocratics and selections from other ancient philosophers.
CLA300 Vampire in folklore, fiction and film.  
3.00 credits  
Fall, Spring & Summer

CLA301 Ancient Greece  
3.00 credits  
Fall  
Greek civilization from the Late Bronze Age to the end of Greek independence at the battle of Chaeronea in 338 B.C.E.

CLA302 The Hellenistic Age  
3.00 credits  
Spring  
Conquests of Alexander the Great and the spread of Greek culture in the Near East under Alexander's successors until the death of Cleopatra in 31 B.C.E.

CLA303 The Roman Republic  
3.00 credits  
Fall  
Roman civilization from the establishment of the Republic until the Battle of Actium in 31 B.C.E.

CLA304 The Roman Empire  
3.00 credits  
Spring  
Roman civilization from the reign of Augustus in 37 B.C.E. to the Fall of Rome in 476 C.E.

CLA310 Survey of Ancient Greek Literature and Culture  
3.00 credits  
Fall, Spring & Summer  
Classical Greek culture, paying special attention to Greek literature from Homer to Aristotle. It is intended to lay a foundation for understanding how Hellenic thought and art influenced the development of all subsequent Western culture. All texts will be read in English translation.

CLA311 Survey of Classical Latin Literature and Culture  
3.00 credits  
Fall, Spring & Summer  
A broad introduction (in English translation) to the literature of the Roman Republic and Empire. The Greek heritage behind Latin literature will be highlighted. Readings will be chosen from authors such as Catullus, Cicero, Vergil, Horace, Ovid, Petronius, Juvenal, Tacitus, and Suetonius, and from genres such as epic and lyric poetry, oratory, history and satire.

CLA315 The Classical Epic Tradition  
3.00 credits  
Offered By Announcement Only  
The course treats the rise and development of the Western epic tradition from Homer, Lucretius, and Virgil in the classical world, through Dante in the Middle Ages, Milton in the Renaissance, and Wordsworth and Eliot in modernity.

CLA323 The Ancient World on Screen  
3.00 credits  
Fall, Spring & Summer  
How do we represent the ancient Greeks and Romans in modern media? What happens to the books the ancients wrote when these are turned into modern films, TV shows or video games?
CLA325 Vampire in Folklore, Fiction, and Film
3.00 credits
Fall, Spring & Summer
By pondering the role of vampires and other such monsters, in folklore, fiction, and film, this course attempts to ponder such fundamental questions as What does it mean to be human? and What are the implications of death? The tradition will be traced from its earliest antecedents in the ancient world to its latest manifestation in current fiction and screen media.

CLA340 Greek Tragedy
3.00 credits
Fall, Spring
Readings in English of the tragedies of Aeschylus, Sophocles, and Euripides.

CLA341 Comedy in ancient Athens and Rome
3.00 credits
Fall, Spring
The comic plays of the ancient Greeks and Romans in English translation. The focus is close reading and analysis of plays by Aristophanes, Menander, Plautus, and Terence, with a view to their socio-political, cultural, and historical milieu. The final weeks are devoted to reception of these works by Shakespeare and Moliere.

CLA372 GREEK RELIGION
3.00 credits
Fall, Spring
Examines the religious thought and practice of the ancient Greek-speaking world from the Bronze Age to the first century CE. Major topics include ritual, sacrifice, prayer, chthonic and sky deities, oracles, and mystery-cults. Students will learn to interpret primary source material, such as the epic poems of the archaic period, the so-called Homeric Hymns, and objects of material culture.

CLA373 Religions of Rome
3.00 credits
Fall, Spring

CLA491 DIRECTED READING IN CLASSICS
1.00 - 3.00 credits
Fall, Spring & Summer
Content to be determined by faculty member and registering student(s).

CLA492 Directed Reading in Classics
3.00 credits
Fall, Spring & Summer
This course will address a specific author, topic or text (appearing as a subtitle). Analogous to REL 401-403 courses and to (existing)CLA 491.

CLA495 Senior Thesis I
3.00 credits
Fall, Spring & Summer

CLA496 Senior Thesis II
3.00 credits
Fall, Spring & Summer

CLA505 Seminar in Ancient Studies
3.00 credits
Fall, Spring & Summer
Topics in Greek and Roman studies.

Computer Science

CSC115 Social and Ethical Issues in Computing
3.00 credits
Spring
History, social context and methods and tools of analysis. Professional and ethical responsibilities. Intellectual property. Privacy and civil liberties.
CSC119 Computers and Society
3.00 credits  Spring

CSC120 Computer Programming I
4.00 credits  Fall

CSC210 Computing for Scientists
3.00 credits  Fall, Spring

CSC220 Computer Programming II
4.00 credits  Fall, Spring
Common APIs including list, priority queue, set, and map, and their efficient implementations in an object-oriented language using fundamental data structures. Sorting and other applications of recursion. Combining asymptotic analysis and experiments to extrapolate running times. Using APIs in a software project.

CSC300 Android Programming
3.00 credits  Offered By Announcement Only
Programming mobile devices in the Android framework.

CSC314 Computer Organization and Architecture
3.00 credits  Fall

CSC322 System Programming
3.00 credits  Spring

CSC329 Introduction to Game Programming
3.00 credits  Spring
Fundamental programming issues in game design: Software design; Version control; Basic graphics; GUI programming. Large-scale game project: Team development of a functional game; Graphics and GUI component; Networking component; Core game engine.

CSC330 ANDROID PROGRAMMING
3.00 credits  Offered By Announcement Only
CSC401 Computer Science Practicum I  
1.00 credit                                            Offered By Announcement Only  
Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

CSC402 Computer Science Practicum II  
1.00 credit                                            Offered By Announcement Only  
Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

CSC403 Computer Science Practicum III  
1.00 - 3.00 credits                                    Offered By Announcement Only  
Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

CSC405 Computer Science Seminars  
1.00 credit                                                            Fall, Spring  
A range of topics in Computer Science, as embodied in the seminars hosted by the Department.

CSC410 Computer Science Project Planning  
1.00 - 3.00 credits                                    Offered By Announcement Only  
Planning for the implementation of a Computer Science project, including: Problem analysis, System architecture design, Algorithm and data structure selection, User interface design, Verification and validation plan, and Prototyping.

CSC411 Computer Science Project Implementation  
1.00 - 3.00 credits                                    Offered By Announcement Only  
Implementation of a Computer Science project, including: Hardware preparation, Component implementation, System integration, Verification and validation, and Documentation.

CSC412 Computer Science Internship  
1.00 - 3.00 credits                                    Offered By Announcement Only  
A commercial computing environment. Normally 50 internship hours are required per credit earned (the host company must supply documentary evidence of hours worked).

CSC481 Undergraduate Teaching Assistant Training in Computer Science  
1.00 - 3.00 credits                                                    Fall, Spring  
Training and teaching assistant for a specific course, in computer laboratories. May be taken multiple times, assisting maximally twice for a given course.

CSC507 Data Security and Cryptography  
3.00 credits                                            Offered By Announcement Only  

CSC517 Data Structures and Algorithm Analysis  
3.00 credits                                                            Fall, Spring  
CSC519 Program Languages  
3.00 credits  
Fall  

CSC521 Principles of Computer Operating Systems  
3.00 credits  
Fall  

CSC523 Database Systems  
3.00 credits  
Fall  

CSC524 Computer Networks  
3.00 credits  
Spring  

CSC527 Theory of Computing  
3.00 credits  
Spring  
Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

CSC528 Introduction to Parallel Computing  
3.00 credits  
Offered By Announcement Only  
Parallel computing systems shared-memory parallel programming, with open MP, parallel programming, software with open MPI software package. Applications: vector distributed-memory and matrix operations, sorting, image processing.

CSC529 Introduction to Computer Graphics  
3.00 credits  
Offered By Announcement Only  

CSC531 Introduction to Software Engineering  
3.00 credits  
Spring  

CSC540 Algorithm Design and Analysis  
3.00 credits  
Offered By Announcement Only  
Design techniques include divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting, searching, combinatorial and graph algorithms.
CSC545 Introduction to Artificial Intelligence
3.00 credits
Offered By Announcement Only

CSC547 Computational Geometry
3.00 credits
Offered By Announcement Only
Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS.

CSC548 Bioinformatics Algorithms
3.00 credits
Fall

CSC552 Bioinformatics Tools
3.00 credits
Fall
Databases and tools of bioinformatics, as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, and protein structure-function analysis, and various applications.

CSC555 Multimedia Systems
3.00 credits
Offered By Announcement Only

CSC597 Topics in Computer Science
1.00 - 3.00 credits
Offered By Announcement Only

CSC598 Topics in Computer Science
1.00 - 3.00 credits
Offered By Announcement Only

CSC599 Topics in Computer Science
1.00 - 3.00 credits
Offered By Announcement Only

Ecosystem Science and Policy
ECS111 Introduction to the Earth's Ecosystem
3.00 credits
Fall, Spring
Earth's ecosystems and the interactions of humans with them. Concepts in ecology, environmental science and policy.

ECS112 Field Problems in Ecosystem Science and Policy
2.00 credits
Spring
Problem solving in ecology and environmental management. Class projects and case studies providing experience in identifying problems, quantifying scientific issues and considering management options and outcomes. Extensive field experience.

ECS113 Introduction to Environmental Policy
3.00 credits
Fall
Theories and case studies from various fields, including anthropology, economics, ethics, geography, political science and psychology, will be used to explore the multiple perspectives that influence group and individual perceptions of environmental issues.
ECS201 Seminar Series in Contemporary Environmental Issues I
1.00 credit  
Fall  
Current environmental topics involving interaction of science and policy.

ECS202 Seminar Series in Contemporary Environmental Issues II
1.00 credit  
Spring  
Current environmental topics involving interaction of science and policy.

ECS204 Environmental Statistics
3.00 credits  
Fall, Spring  
An overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data.

ECS232 Ecological Principles and Environmental Applications
3.00 credits  
Fall  
Overview of the science of ecology and its basic principles. Covers aspects of organismal ecology (including population genetics, structure, growth and regulation; adaptations and responses to the physical environment and biological communities); community ecology; and ecosystems (including energy flow, biogeochemical cycles, and biomes). Students will learn to apply ecological principles to understand and solve environmental problems.

ECS272 Special Topics in Ecosystem Science and Policy
1.00 - 3.00 credits  
Offered By Announcement Only  
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS301 Tools for Environmental Decision-Making: The Quantitative Perspective
3.00 credits  
Fall  
Quantitative decision-making techniques and methodologies.

ECS302 Perspectives on Environmental Decision Making
3.00 credits  
Fall, Spring  
Techniques for assessing human impacts on the environment. Covers approaches from law, ethics, anthropology and includes cases involving local, regional and global environmental management issues.

ECS309 Microbes and the Environment
3.00 credits  
Fall  
This course is designed to provide students in geology, biology and environmental science a fundamental understanding of the role microbes play in shaping the Earth and its environments as well as the basic principles and approaches to studying these interactions in both modern and ancient settings. The metabolic diversity displayed by microbial communities makes them an integral component of global elemental cycles. In this regard, microorganisms have shaped our planet over the past 4 billion years and continue to do so in a very prominent way. The goal of this course is to learn about microbial diversity and metabolism, and the ability of microbes to shape and influence the environment.
ECS310 Sustainable Living
3.00 credits
Spring
Sustainable Living explores ways of living that can be sustained for thousands of years, without further damage to earth, ocean and atmosphere. Topics covered include renewable energy, agricultural practices, water issues, green building, low carbon transportation and healthy living/eating. Students advocate for sustainable practices of their choice in writing and in oral/visual presentations. Frequent field trips.

ECS332 Ecology and Land Use in the Galapagos
3.00 credits
Fall
Fundamental principles of ecology manifested on Isla Isabela will be employed to evaluate land usages including subsistence and production agriculture, animal husbandry, fuel wood and timber, and conservation with ecotourism. Habitats, flora, and fauna from the vicinity of Puerto Villamil to the rim of Volcan Sierra Negra; analysis of agricultural practices and problems of the mist zone on this volcano's southeastern flank.

ECS335 Biodiversity in Peru
3.00 credits
Spring

ECS371 Readings in Ecosystem Science and Policy
1.00 - 2.00 credits
Offered By Announcement Only
Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

ECS372 Special Topics in Ecosystem Science and Policy
1.00 - 3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS373 Topics in Ecosystem Science
3.00 credits
Fall, Spring & Summer
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS374 Topics in Environmental Policy
3.00 credits
Fall, Spring & Summer
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS375 Topics in Environment and the Humanities
3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS376 Topics in Environmental Communication
3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS377 Topics in Environmental Economics and Development
3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in class schedule.
ECS380 Field Studies in Ecosystem Science and Policy
1.00 - 4.00 credits  Offered By Announcement Only
Field course to various U.S. and international regions, focusing on current and historic interactions of humans with the local environment. Includes water, land, and mineral resources as well as impacts on local ecosystems. Emphasis on current management efforts and potential impacts of climate change.

ECS401 Internship
3.00 credits  Fall, Spring & Summer
Students selecting the internship will be required to spend a minimum of 120 contact hours working in an outside firm or agency whose mission is to address environmental issues where science and policy intersect.

ECS402 Thesis
3.00 credits  Fall, Spring & Summer
Individual, original research of independent study supervised by a UM faculty member and concluded by formal thesis preparation, public oral defense and submission of the thesis.

ECS403 Interdisciplinary Approaches
3.00 credits  Fall, Spring
Students with diverse disciplinary backgrounds will design an interdisciplinary study focused on an environmental problem with a major science component and significant societal implications. Students will apply quantitative methods, formulate usable policy, and communicate their results.

ECS405 APPLIED RESEARCH IN ECOSYSTEM SCIENCE AND POLICY
1.00 - 3.00 credits  Fall, Spring & Summer
Faculty-mentored applied research in environmental topics. Projects in natural ecosystems, sustainable design and business, and communication of environmental issues.

ECS432 Ecology in the Galapagos
3.00 credits  Fall
Organisms in relation to their environment, with a focus on interactive hands-on learning experiences that connect empirical nature with abstract thinking. Lectures, discussion and field work will help students begin to understand ecosystem ecology, plant dispersal and colonization, organisms' responses to spatial and temporal variability in their environments, plant/animal interactions. Origins and effects of invasive species and actions of bio-control agents.

ECS433 Conservation in Practice
3.00 credits  Fall
Intersection between economic development, science and conservation in one of the world's most pristine and fragile ecosystems. Exploration of how tourism offers an alternative to unsustainable fisheries that once drove the local economy, yet has created a new set of pressures on the people and the environment. Mitigation efforts, science, and international conservation mesh with an understanding of local politics, customs, and cultures.
ECS501 Interdisciplinary Environmental Theory
3.00 credits  Fall
Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

ECS503 Interdisciplinary Environmental Methods
3.00 credits  Fall
Environmental methods related to core programmatic themes of Urban Ecology, Global Public health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of Interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

ECS507 INTERDISCIPLINARY ENVIRONMENTAL DECISION ANALYSIS
3.00 credits  Fall
Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm. Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

ECS572 Special Topics in ECS
0.00 - 3.00 credits  Fall, Spring & Summer
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

ECS580 Field Studies
1.00 - 4.00 credits  Offered By Announcement Only
This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

English
ENG100 Writer's Symposium
3.00 credits  Offered By Announcement Only
Writer's Symposium is designed to give students exposure and practice in the crafts of poetry and fiction. Students will develop skills appropriate to each genre. The course will explore the rhythm, line, image, and metaphor of poetry as well as fiction-related issues such as narration, dialogue, setting and point of view.

ENG103 Basic Academic Writing
3.00 credits  Fall, Spring
Intensive approach to the basics of academic writing with emphasis on building written fluency, using conventions of standard written English, and editing for precision and correctness. Intended for students who need extra preparation before entering ENG 105. Not for credit toward graduation.

ENG105 English Composition I
3.00 credits  Fall, Spring
Introduction to written academic argument and inquiry. Not for major or minor. Cannot be taken on credit-only option.
ENG106 English Composition II
3.00 credits Fall, Spring
Advanced approaches to written academic argument, with emphasis on textual analysis and incorporation of secondary sources. Not for major or minor. Cannot be taken on credit-only option.

ENG107 English Composition II: Science and Technology
3.00 credits Fall, Spring
Advanced approaches to written academic argument, with emphasis on textual analysis and incorporating source material using readings and approaches connected to science and technology. Alternative to ENG 106. Not for major or minor. Cannot be taken on credit-only option.

ENG201 World Literary Masterpieces I
3.00 credits Fall, Spring & Summer
Comparative study of literary masterpieces from ancient times through the Renaissance. Satisfies writing requirement.

ENG202 World Literary Masterpieces II
3.00 credits Fall, Spring & Summer
Comparative study of literary masterpieces from the Renaissance to the present. Satisfies writing requirement.

ENG205 Jewish Literature
3.00 credits Offered By Announcement Only
Selections from the Bible, the Talmud, the Kabbalah, medieval poetry and prose, Yiddish and Sephardic literature, and contemporary American and Israeli writers.

ENG208 Advanced Academic Writing for Transfer Students
3.00 credits Fall, Spring
Review of research techniques and revision strategies. Completes the university composition requirement for those students who transfer into UM with credit for one composition course from another institution. Open only to transfer students who have received transfer credit for either English 105 or English 106. Not open to students who have taken either English 105 and/or 106 at UM.

ENG209 Creative Writing
3.00 credits Fall, Spring & Summer
Analysis and writing of Short stories and poems. Cannot be taken for credit only.

ENG210 Literary Themes and Topics
3.00 credits Offered By Announcement Only
Literary analysis and practice in critical writing through the study of selected works; themes and topics vary by semester.

ENG211 English Literature I
3.00 credits Fall, Spring & Summer
Selected readings from the middle ages to the late 18th century. Satisfies writing requirement.

ENG212 English Literature II
3.00 credits Fall, Spring & Summer
Selected readings from the late 18th century to the present. Satisfies writing requirement.
ENG213 American Literature I
3.00 credits  
Selected American authors prior to the Civil War. Satisfies writing requirement.

ENG214 American Literature II
3.00 credits  
Selected American authors from the Civil War to the present. Satisfies writing requirement.

ENG215 English and American Literature by Women
3.00 credits  
A survey of women writers from the Middle Ages to the present; explores the female literary tradition and women's relationship to culture and society.

ENG219 CW BEGINNING MIXED GENRE WORKSHOP
3.00 credits  
Frequent exercises in workshop environment, with readings in contemporary fiction. Attention to tense and points of view; reviews of grammar and punctuation. 30-40 pages of creative writing, including development and revision of one full-length short story (12-20 pages).

ENG220 Introduction to Poetry
3.00 credits  
Introduction to the forms of poetry through the analysis of representative poems.

ENG230 Advanced Business Communication
3.00 credits  
Professional writing with critical attention to complex rhetorical situations. Practice in formal and informal written communication styles.

ENG260 African-American Literature
3.00 credits  
Selected readings of the eighteenth century to the present.

ENG261 Literature of the Americas
3.00 credits  
Selected readings from North, Central, and South American, and Caribbean literature from their origins to the present.

ENG290 Beginning Fiction Workshop
3.00 credits  
Frequent exercises in workshop environment, with readings in contemporary fiction. Attention to tense and points of view; reviews of grammar and punctuation. 30-40 pages of creative writing, including development and revision of one full-length short story (12-20 pages).

ENG292 Beginning Poetry Workshop
3.00 credits  
Emphasis of creation and critique of new student poetry in workshop setting; continued reading in genre. Variety of styles and techniques presented, including line, image and metaphor. 12-15 new poems, plus revisions, required.

ENG301 The Study of Language
3.00 credits  
Language itself as an object of study; broad linguistic issues of language types, processes of language change, and language variation. Emphasis on language in real world applications such as law, folk culture, poetry, education, and computers.
ENG306 Advanced Composition
3.00 credits
Composition and analysis of English prose. Topics vary. May be repeated if topics are different.

ENG310 Literature and Culture in Classical Greece and Rome, I
3.00 credits
Major pre-classical and classical Greek writers, including Homer, Sappho, Pindar, Aeschylus, Herodotus, and Sophocles, treated by close analysis, and attention to connecting themes; Greek art and archeology in reference to specific texts.

ENG311 Literature and Culture in Classical Greece and Rome, II
3.00 credits
Thucydides on the Peloponnesian War; the drama of Euripides and Aristophanes; the dialogues of Plato on Socrates' trial and death; Aristotle's Poetics. Early Roman tradition; Rome and its relation to Greek culture; Livy on Roman history; Cicero, Virgil's Aeneid, Marcus Aurelius.

ENG312 The European Middle Ages
3.00 credits
British and continental literature and thought from the 5th through the 15th centuries.

ENG315 The Classical Epic Tradition
3.00 credits
The rise and development of the Western epic tradition from Homer, Lucretius, and Virgil in the classical world, through Dante in the Middle Ages, Milton in the Renaissance, and Wordsworth and Eliot in modernity.

ENG316 EARLY CELTIC LITERATURE
3.00 credits
Study in translation of literary, hagiographic, and historiographic sources, principally from Irish, Welsh, and Latin, dating from 800 to 1800, with an introduction to source languages and to Celtic cultures beginning in the prehistoric era.

ENG319 Shakespeare
3.00 credits
Representative comedies, histories, tragedies and romances. Not for students who have taken ENG 430 or 431; may not be taken concurrently with ENG 430 or 431.

ENG321 Major American Novelists
3.00 credits
Works by selected American novelists.

ENG323 Major British Novelists
3.00 credits
Works by selected British novelists.

ENG325 Major European Novelists
3.00 credits
Works by selected European novelists.
ENG331 Legal Writing
3.00 credits
Offered By Announcement Only
A study of the composition of legal arguments in court opinions, legal briefs, oral arguments before the Supreme Court, and social-legal documents. Emphasis on analysis of issues, structure and style of legal writing, and the function of logic in persuasion.

ENG333 Writing the Research Paper
3.00 credits
Offered By Announcement Only
Advanced techniques in conducting research and writing the research paper. Use of traditional library resources, on-line searches, the Internet, and other research methods. Strategies for effective presentation of research findings. Students not in the Bachelor of General Studies program need permission of instructor.

ENG334 Legal Rhetoric
3.00 credits
Offered By Announcement Only
Legal texts and the rhetoric of legal discourse.

ENG340 Forms of the Novel
3.00 credits
Offered By Announcement Only
Techniques and esthetics of the novel form; emphasis on major tendencies in the evolution of long prose fiction rather than on chronological development.

ENG341 Modern British and American Poetry
3.00 credits
Offered By Announcement Only
Representative poets and critics of poetry since 1900; attention to the basic principles of poetics.

ENG342 Lyric Voices and Traditions
3.00 credits
Offered By Announcement Only
Major figures and trends in the history of lyric poetry.

ENG360 Comparative Literature of the Black World
3.00 credits
Offered By Announcement Only
Oral and written Black literature in Africa, the United States, the Caribbean, and South America.

ENG361 Caribbean Literature
3.00 credits
Offered By Announcement Only
Introduction to twentieth-century literature with special emphasis on the regional preoccupation with a distinctly Caribbean aesthetic.

ENG364 Sephardic Literature
3.00 credits
Offered By Announcement Only
Judeo-Spanish culture and literature from medieval times to the present.

ENG365 Literature of the Holocaust
3.00 credits
Offered By Announcement Only
Literature relating to the Nazi genocide and its aftermath.

ENG366 Asian American Literature
3.00 credits
Offered By Announcement Only
Literature by Asian immigrants and exiles in the United States.
ENG372 Women Writing: Theory and Practice
3.00 credits Offered By Announcement Only
Women writers, emphasizing the role of gender in literary creation.

ENG373 Literary Representations of Women
3.00 credits Offered By Announcement Only
The portrayal of women in literature from ancient times to the present.

ENG374 Women Writers
3.00 credits Offered By Announcement Only
A study of women's writings and feminist criticism from 1930 to the present.

ENG375 Modern Drama
3.00 credits Offered By Announcement Only
The major dramatists of the modern world: Ibsen, Chekhov, Strindberg, Shaw, Pirandello, and O'Neill.

ENG383 The Literature of Science Fiction
3.00 credits Offered By Announcement Only
A general survey of the literature of science fiction, with emphasis on writings of the twentieth century.

ENG384 The Bible as Literature
3.00 credits Offered By Announcement Only
Selected readings from the Bible.

ENG386 King Arthur in Literature
3.00 credits Offered By Announcement Only
King Arthur in literature from the fifteenth to the twentieth century in England and America.

ENG387 Literature and Imperialism
3.00 credits Offered By Announcement Only
Relationships between empire and literary expression. Works by authors such as Shakespeare, Behn, Defoe, Bronte, Conrad, Kipling, Melville, Yeats, Twain, and Forster.

ENG388 Literature and Popular Culture
3.00 credits Offered By Announcement Only
Literary forms of popular expression, considered in relation to politics, ideology, gender, or race; comparison to other forms of popular culture in print, music, or the visual media.

ENG389 THE SIXTIES: LITERATURE, HISTORY, AND CULTURE OF THE 1960s
3.00 credits Offered By Announcement Only
1960s culture in the United States through literature, film, and oral accounts of experience of the period.

ENG390 Intermediate Fiction Workshop
3.00 credits Fall, Spring
Review of craft issues presented in 290, with emphasis on development of structure and contemporary use of point of view.

ENG391 CW INTERMEDIATE MIXED-GENRE WORKSHOP
3.00 credits Fall, Spring
ENG392 Intermediate Poetry Workshop
3.00 credits
Fall, Spring
Review of craft issues presented in 292, integrating formal strategies with research topics.

ENG395 SPECIAL TOPICS
0.00 credit
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

ENG396 Special Topics
3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

ENG397 Special Topics
3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

ENG401 Senior Seminar in Literature
3.00 credits
Spring
An intensive study of a literary topic or figure.

ENG402 Independent Study
1.00 credit
Offered By Announcement Only
An intensive study of a literary topic or figure.

ENG404 Creative Writing (Prose Fiction)
3.00 credits
Offered By Announcement Only
Work toward professional standards primarily in prose fiction. Student fiction is considered in workshop sessions with comment by members of the class and instructors.

ENG406 Creative Writing (Poetry)
3.00 credits
Offered By Announcement Only
Work toward professional standards in poetry. Student poetry is considered in workshop sessions with comment by members of the class and by instructor.

ENG408 Writing Autobiography
3.00 credits
Offered By Announcement Only
Literary style and method using student autobiography as a resource.

ENG410 Old English Language and Literature
3.00 credits
Offered By Announcement Only
The grammar, syntax, and phonology of Old English language; readings in Old English poetry and prose.

ENG411 Old English Literature
3.00 credits
Offered By Announcement Only
Translation and Close analysis of Beowulf or other major poetic texts of Old English literature.

ENG420 Chaucer
3.00 credits
Offered By Announcement Only
Chaucer's major works.
ENG430 Shakespeare: The Early Plays
3.00 credits  Offered By Announcement Only
Shakespeare's plays from the period 1583-1600. May not be taken concurrently with ENG 319.

ENG431 Shakespeare: The Later Plays
3.00 credits  Offered By Announcement Only
A study of the second half of Shakespeare's canon, read in chronological sequence. The plays will be selected from those composed in the period 1600-1611. May not be taken concurrently with ENG 319.

ENG432 English Renaissance Poetry and Prose
3.00 credits  Offered By Announcement Only
A study of such figures as Wyatt, Sidney, Spenser, Nashe, Marlowe, Shakespeare, Jonson, Donne, Bacon, Milton.

ENG434 Seventeenth-Century Poetry and Prose
3.00 credits  Offered By Announcement Only
Seventeenth-century writers and forms, including work by major and minor writers such as James I, Jonson, Donne, Bacon, Lovelace, Carew, Herrick, Andrewes, Herbert, Milton, Marvell, Clarendon, Dryden, Rochester, Behn, and Bunyan.

ENG435 Milton
3.00 credits  Offered By Announcement Only
Selected readings in the poetry and prose of John Milton.

ENG440 Restoration and Eighteenth-Century Literature
3.00 credits  Offered By Announcement Only
English poetry and prose, exclusive of the novel, from Dryden to Burns.

ENG441 18th-Century British Novel
3.00 credits  Offered By Announcement Only
The British novel through the late eighteenth century.

ENG442 Politics and Literature
3.00 credits  Offered By Announcement Only
Relations between political theories and forms of literary expression.

ENG450 The Early Romantic Period
3.00 credits  Offered By Announcement Only
The rise of Romanticism in England and the first generation of writers, Blake, Wordsworth, Coleridge, and their contemporaries.

ENG451 The Late Romantic Period
3.00 credits  Offered By Announcement Only
The second generation of English Romantic writers: Byron, Shelley, Keats, and their contemporaries.

ENG455 Victorian Poetry and Prose
3.00 credits  Offered By Announcement Only
Selected English poetry and prose of the period, exclusive of the novel.

ENG456 Nineteenth-Century English Novel
3.00 credits  Offered By Announcement Only
Studies in the development of the English novel from Scott to Conrad.
ENG460 Modern British Literature
3.00 credits
Offered By Announcement Only
Studies in Edwardian and Modern literature. Modernist theory and techniques will be illustrated by reference to the work of selected major figures since 1900.

ENG465 Irish Literature
3.00 credits
Offered By Announcement Only
Twentieth-century Irish writers such as Yeats, Synge, Joyce, Stephens, O’Casey, Beckett, and Lavin. Consideration of Irish history, mythology, politics, and culture.

ENG466 Joyce
3.00 credits
Offered By Announcement Only
The major works of James Joyce.

ENG470 Contemporary British and American Poetry
3.00 credits
Offered By Announcement Only
The poetry of the contemporary period, 1945 to the present.

ENG472 Literature and Psychoanalytic Theory
3.00 credits
Offered By Announcement Only
A study of the ways in which Literature, Literary Criticism, and Psychoanalytic Theory interact.

ENG473 Twentieth-Century Literary Theory
3.00 credits
Offered By Announcement Only
An introduction to the major theories of the past century (e.g., psychoanalytic, formalist, materialist, feminist, new historicist).

ENG482 American Literature: 1800-1865
3.00 credits
Offered By Announcement Only
Topics such as individualism, slavery, class and gender relations. Works by Emerson, Poe, Hawthorne, Melville, Douglass, Stowe, and others.

ENG483 American Literature: 1865-1915
3.00 credits
Offered By Announcement Only
The works of such writers as Twain, Howells, James, Dickinson, Robinson, Crane, Norris, London, and Dreiser.

ENG484 American Literature: 1915 to 1945
3.00 credits
Offered By Announcement Only
The works of such writers as Pound, Eliot, H.D., Stein, Frost, Stevens, e.e. cummings, Ransom, Tate, Fitzgerald, Hemingway, Djuna Barnes, Faulkner, O'Neill.

ENG485 American Literature: 1945 to the Present
3.00 credits
Offered By Announcement Only
An intensive inquiry into the works of such writers as Albee, Bellow, Ferlinghetti, Ginsberg, Kerouac, Mailer, Miller, O'Connor, Plath, Welty.

ENG486 Early African-American Literature
3.00 credits
Offered By Announcement Only
African-American literature from the beginnings to the Harlem Renaissance of the nineteen twenties.
ENG487 Modern African-American Literature
3.00 credits
Offered By Announcement Only
African-American literature from the Harlem Renaissance to the present.

ENG488 Race, Ethnicity, and Literature
3.00 credits
Offered By Announcement Only
Topic varies by semester. The Construction of racial and ethnic difference in literature, focusing on the politics of group affiliation and identity.

ENG490 Studies in Women and Literature
3.00 credits
Offered By Announcement Only
Content varies by semester. Topics such as women in classical antiquity, women in the middle ages, women in the Renaissance, women in the Restoration and eighteenth century, women in the Romantic and Victorian period.

ENG491 Russian and Soviet Classics in English
3.00 credits
Offered By Announcement Only
Survey of Russian literature in translation from the late 19th century to the present.

ENG492 Postcolonial Literature and Theory
3.00 credits
Offered By Announcement Only
The legacy of colonialism as expressed in the works of Gordimer, Rushdie, Achebe, Walcott, Cesaire, Naipaul, Mukherjee, Crow Dog, Menchu, and others. Readings will address theoretical issues such as national formation, cultural hybridity, globalization.

ENG493 History of Literary Criticism
3.00 credits
Offered By Announcement Only
Content varies by semester.

ENG495 Special Topics
3.00 credits
Offered By Announcement Only
Content varies by semester and is indicated parenthetically following the title in the class schedule.

ENG496 Independent Study
1.00 - 3.00 credits
Offered By Announcement Only
By arrangement with instructor. Content varies by semester. May be used for single semester thesis.

ENG497 Senior Thesis I
3.00 credits
Offered By Announcement Only
Partial requirement for Departmental Honors in English Literature or Creative Writing. Research and preparation for writing senior thesis or creative project. To complete thesis, student must register for ENG 498 in following semester. Student will participate in a series of 3-4 pre-arranged workshops over the course of the two semesters.

ENG498 Senior Thesis II
3.00 credits
Offered By Announcement Only
Partial requirement for Departmental Honors in English Literature or Creative Writing. Writing of either a documented essay on a literary subject or project in prose fiction or poetry, to be written under the direction of a member of the faculty. Student will participate in a series of 3-4 pre-arranged workshops over the course of the two semesters.
ENG504 Form in Poetry
3.00 credits Offered By Announcement Only
Poetic works as literary objects, with attention to poetic trends and the creative process.

ENG505 Form in Fiction
3.00 credits Offered By Announcement Only
Fictional works as literary objects with attention to individual styles, Fictional Trends and the creative process.

ENG591 Graduate Practicum I: Teaching College Writing
0.00 credit Fall
Methods and problems in teaching English composition and college writing.

ENG592 Graduate Practicum II: Teaching College Literature
0.00 credit Spring
Methods and problems in teaching introductory literature courses.

ENG595 Special Topics
3.00 credits Offered By Announcement Only
Content varies by semester.

French

FRE101 Elementary French I
3.00 credits Fall, Spring & Summer
For students with no background or previous study of French. The focus of FRE 101 is the development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: university life, family, leisure activities, home and community. Includes both oral and written assessment of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French. Not open to students who have completed 2 or more years of high school French. Closed to heritage or native speakers of French.

FRE102 Elementary French II
3.00 credits Fall, Spring & Summer
Continuation of FRE 101. The development of communicative abilities in speaking, reading, writing and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: childhood and adolescence, food and lifestyle, university life and professions. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

FRE105 Accelerated Elementary French
3.00 credits Fall, Spring
For students with previous study of French desiring to review material covered in FRE 101 and 102 in preparation for continued study of French at the intermediate level. The focus of FRE 105 is the continued development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: family, leisure activities, home, and community, childhood and adolescence, food and lifestyle, university life and professions. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.
FRE211 Intermediate French I
3.00 credits
Fall, Spring & Summer
For students with previous study of elementary-level French. The continued development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: travel, technological innovations, the evolution of family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

FRE212 Intermediate French II
3.00 credits
Fall, Spring
For students with some previous study of French at the intermediate level, who are familiar with all tenses and with vocabulary related to the topics covered in FRE 101-211. FRE 212 is the first semester of a two-semester sequence ending with FRE 214. The continued development of skills in reading, writing, speaking, and listening in French, with an additional emphasis on cultural competence in the French-speaking world. Themes on: relationships, cultural values, different historical perspectives, and current politics. These themes will be explored through articles, films and literary texts. The course will develop writing and reading strategies, providing them with the tools to think, read, and write critically and analytically in papers of 1-3 pages. Progress will also be assessed through quizzes and exams. Course conducted entirely in French.

FRE214 Advanced French
3.00 credits
Fall, Spring
Continuation of FRE 212. This course will prepare students for advanced literature, linguistics, and culture courses. The class will use films, literary works, and other cultural texts. Students will write analytic essays of 3-5 pages to develop style, vocabulary, and syntax. Course conducted entirely in French.

FRE301 INTERPRETING LITERARY AND CULTURAL TEXTS IN FRENCH
3.00 credits
Fall, Spring
Tools for the interpretation and analysis of literary and cultural materials from the French-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in French.

FRE302 The Cultures of France
3.00 credits
Offered By Announcement Only
Historical survey of French intellectual, artistic, and popular culture. Writing credit.

FRE303 THE CULTURES OF FRANCOPHONE AFRICA, CANADA, AND/OR THE CARIBBEAN
3.00 credits
Offered By Announcement Only
Historical survey of the intellectual, artistic, and popular culture of the French-speaking communities in Africa, Canada and the Caribbean.

FRE321 LITERARY TOPICS
3.00 credits
Offered By Announcement Only
The study of literature, film and/or the arts through a specific topic. May be repeated for credit if topic is different.
FRE322 Topics in Global French Culture

3.00 credits  Offered By Announcement Only
Issues centered on the culture of France and/or regions where French is spoken. Topics such as film, Caribbean history, journalism, translations, migration. May be repeated for credit if topic is different.

FRE330 TOPICS IN GENDER AND SEXUALITY

3.00 credits  Offered By Announcement Only
Topics in gender and sexuality in the context of the French-speaking world, through literary and/or cultural studies. Writing Credit. May be repeated if topics vary.
PREREQUISITE: FRE 301 or the Equivalent

FRE340 MIGRATION IN LITERARY AND CULTURAL STUDIES

3.00 credits  Offered By Announcement Only
Study of migration to or from France, French-speaking Canada and America, Africa and/or the Caribbean. Writing Credit. May be repeated for credit if topics vary.
PREREQUISITE: FRE 301, OR EQUIVALENT

FRE345 FRANCO-MAGHREBIAN STUDIES

3.00 credits  Offered By Announcement Only
The study of major historical, social, cultural and literary issues related to the Franco-Maghrebian interface. Writing Credit. May be repeated for credit if topics vary.
PREREQUISITE: FRE 301, OR EQUIVALENT

FRE346 AFRICAN STUDIES

3.00 credits  Offered By Announcement Only
Topics in the literary and/or cultural study of French-speaking Africa. May be repeated for credit if topics vary. Writing Credit.

FRE360 THE CARIBBEAN THROUGH LITERARY AND CULTURAL STUDIES

3.00 credits  Offered By Announcement Only
Literary and cultural readings on the Caribbean. Writing Credit. May be repeated for credit if topics vary.

FRE363 MEDIEVAL AND RENAISSANCE TOPICS IN FRENCH

3.00 credits  Offered By Announcement Only
Topics within French literature from the 12th century to the end of the 16th century.

FRE364 EARLY MODERN TOPICS IN FRENCH

3.00 credits  Offered By Announcement Only
Topics within French literature from the 17th and 18th centuries.

FRE365 19th CENTURY TOPICS IN FRENCH

3.00 credits  Spring
Topics within French literature from the 19th and 20th centuries.

FRE432 French for Global Business

3.00 credits  Fall
The language and culture tools needed to work and conduct business in French anywhere it is spoken around the world.
FRE442 Advanced writing workshop in French
3.00 credits Offered By Announcement Only
Intensive writing of various genres based on the discussion of readings.

FRE501 Capstone
3.00 credits Fall, Spring
Course with a broad-based topic designed to integrate high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study toward the major. Topics vary. Open only to undergraduates in the last semester of their French major. Course is writing intensive; fulfills writing credit requirement.

FRE591 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only
May be repeated for credit if topic is different.

FRE592 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only

FRE594 Senior honors Thesis I
3.00 credits Fall, Spring
Directed research for honors thesis.

FRE595 Senior Honors Thesis II
3.00 credits Fall, Spring
Directed writing of honors thesis.

Geography
GEG105 World Regional Geography
3.00 credits Fall, Spring
An introduction to geography's basic concepts within the framework of a comprehensive survey of the world's major regions.

GEG110 Introduction to Human Geography
3.00 credits Fall, Spring
An introduction to the sub-fields of human geography by an examination of patterns and process in the international system.

GEG120 Physical Geography
3.00 credits Fall, Spring
The Earth system (atmosphere; hydrosphere; biosphere; lithosphere) emphasizing the interrelationships among its constituent subsystems; human-environmental interactions and geographic dimensions of these four subsystems.

GEG199 Introduction to GIS (Geographic Information Systems)
3.00 credits Fall, Spring
This course uses lecture and lab sessions to teach fundamental concepts in Geographic Information Systems (GIS) and introduce related geographic technologies (Global Positioning Systems, Remote Sensing, etc.). Topics include the nature and sources of digital and spatial data, map projections and datums, raster and vector data structures, raster and vector spatial analysis, and GIS project design. Students will learn to use ArcView and Idrisi, two leading GIS software programs.

GEG201 Topics in Geography
3.00 credits Fall, Spring
Content and prerequisites vary.
GEG212 Geography of Middle America and the Caribbean
3.00 credits
Human and physical geography of Middle America and the Caribbean. Fall

GEG221 INTRODUCTION TO HEALTH AND MEDICAL GEOGRAPHY
3.00 credits Offered By Announcement Only
An introduction to health and medical geography which has recently emerged as a significant subfield integrating public health and medicine with human and physical geography and climatology. Medical geography is explored across three major themes: disease ecology (relationship between disease and the natural/human environments), social approaches (including political economy and socio-behavioral approaches), and the spatial approach (using maps and spatial statistics to identify patterns in health outcomes and health services).

GEG222 Geography of South America
3.00 credits Spring
This course is an introduction to the geography of South America. It explores the physical, political, economic, social and cultural geographies of this diverse and complex world region. The course covers agrarian and urban land-use patterns, migration and territorial development and includes urban and regional planning, health, education and social services, with particular attention given to how these interventions address problems of uneven territorial development and social inequality.

GEG232 Geography and Development in Africa
3.00 credits Fall
A survey of the geography of Africa south of the Sahara, with particular emphasis on development and the role of African states in the international system.

GEG242 Economic and Political Geography of the Middle East
3.00 credits Fall
Human and physical geography of the Middle East with emphasis on current topics.

GEG252 United States and Canada
3.00 credits Spring
Human and physical geography of North America.

GEG272 Jewish Geography
3.00 credits Spring
Facts of Jewish history, geography, and demography both in the world and the United States. Basic geographic concepts that help us to understand the Jewish world and provide a basis for understanding the various ways that Jewish communities have adapted to different geographic circumstances.

GEG280 Introduction to Cartography and Computer Mapping
3.00 credits Offered By Announcement Only
Methods and techniques of cartography. Cartographic representation of spatial data.

GEG301 Topics in Geography
3.00 credits Offered By Announcement Only
Content and prerequisites announced when offered. Course may be repeated for credit if content varies.
GEG304 World Economic Geography
3.00 credits
Fall
Geographic analysis of the distribution of economic activities with emphasis on present-day patterns and trends of production, distribution, and consumption of the world's major commodities.

GEG341 Geography of Population and Development
3.00 credits
Spring
Major world population issues are discussed, including population growth, fertility patterns, mortality change, migration, ethnicity, and population structure changes.

GEG343 Doomsters & Boomsters: Perspective on Population Growth & Sustainability
3.00 credits
Spring
A critical look at two general views of global population growth and humankind's future prospects for sustainable well-being: so-called Doomsters, who believe that growing global human populations and resource-consuming lifestyles threaten our environment and the welfare of most human beings, and so-called Boomsters, who do not believe that population growth and consumption are a threat, but rather that the environment and lifestyles are generally improving, and that human ingenuity and technology will continue to make the world a better place.

GEG362 World Urban Geography
3.00 credits
Offered By Announcement Only
An introduction to the principles and methods that apply to the geographic study of cities and urbanization.

GEG370 Conservation of Resources
3.00 credits
Offered By Announcement Only
Problems of resource availability in an urban-industrial society.

GEG371 Environmental Geography: Current Issues
3.00 credits
Offered By Announcement Only
Topics selected from a wide range of current environmental problems from a geographical perspective. Students will become familiar with a wide range of ecological processes as well as the human forces that currently modify them.

GEG391 Intermediate GIS (Geographic Information Systems)
0.00 - 3.00 credits
Fall, Spring
This course deals with fundamental concepts of raster and vector data manipulation and analysis through lectures and laboratory exercises. Topics covered include vector polygon editing and topology, data quality assessment, integration of raster and vector data, basic concepts of remote sensing, cartographic modeling, suitability mapping, and multi-criteria evaluations.

GEG392 Remote Sensing of the Environment
3.00 credits
Spring
Theory and techniques of environmental remote sensing and imagery interpretation for earth resources monitoring and management.

GEG420 Geopolitics
3.00 credits
Fall
Analysis of contemporary global geopolitical issues.
GEG481 Introduction to Quantitative Methods  
3.00 credits  
Fall  
The use of basic methods or quantitative analysis in geographic research.

GEG491 GIS and Environmental Modeling  
3.00 credits  
Offered By Announcement Only  
Creation, editing, management and display of spatial databases in ARC/INFO, a vector-based GIS (Geographic Information System).

GEG501 Place, Region, Nature  
3.00 credits  
Offered By Announcement Only  
Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.

GEG511 Field Studies in Geography  
1.00 - 6.00 credits  
Offered By Announcement Only  
One to six weeks of intensive geographic field studies outside the Miami area. Lectures will be given prior to departure. The locations and topics of study will vary.

GEG515 Human Dimensions of Global Environmental Change  
3.00 credits  
Fall  
Explores the human dimensions of global environmental change using an interdisciplinary approach. The course is reading and writing intensive. Special attention is given to the central role that land-use/cover change plays in the larger realm of global environmental change.

GEG520 Immigration to the United States  
3.00 credits  
Fall  
A description and analysis of current immigration patterns in the United States.

GEG522 Urbanization in the Developing World  
3.00 credits  
Spring  
Patterns and processes in large cities in the developing world are examined.

GEG523 Seminar in Urban Management  
3.00 credits  
Fall  
Identification of and responses to urban problems in large cities in European and Latin American metropolitan areas. Emphasis is on demographic, cultural/ethnic, service-provision, environmental, transportation, and land-use problems. Approach is via case studies, theory applications, and planning practicalities.

GEG525 Problems in Geography  
1.00 - 6.00 credits  
Fall, Spring  
Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

GEG530 Resources and Society  
3.00 credits  
Offered By Announcement Only  
This course examines the relations between human society and material nature from within a broad theoretical perspective, relating questions of science, culture, and technology to the politics and economics of natural resources, focusing particularly on water, food, and petroleum.
GEG535 Internship in Geography
1.00 - 4.00 credits
Fall, Spring
Students are assigned to work for a local public or private agency.

GEG543 Doomsters & Boomsters: Perspective on Population Growth & Sustainability
3.00 credits
Spring
A critical look at two general views of global population growth and humankind's future prospects for sustainable well-being: so-called Doomsters, who believe that growing global human populations and resource-consuming lifestyles threaten our environment and the welfare of most human beings, and so-called Boomsters, who do not believe that population growth and consumption are a threat, but rather that the environment and lifestyles are generally improving, and that human ingenuity and technology will continue to make the world a better place.

GEG545 Special Topics
3.00 credits
Fall, Spring
Content varies by semester.

GEG552 Seminar on the Geography of South Florida
3.00 credits
Offered By Announcement Only
Human and physical geography of South Florida.

GEG580 Introductory Quantitative Methods for Geographical Analysis.
3.00 credits
Spring
Basic quantitative methods for geographic analysis.

GEG582 Advanced Quantitative Methods
3.00 credits
Offered By Announcement Only
Continuation of GEG 481. The use of statistical methods and techniques in the solution of geographic research problems.

GEG585 Advanced Cartography
3.00 credits
Fall, Spring
An understanding of cartography; a high degree of fluency in the art and science of map-making. The theory, principles, concepts and techniques required to present geographically-referenced data in order to effectively communicate spatial relationships, patterns, and the results of spatial analyses. Extensive experience in creating a wide variety of aesthetically-pleasing, professional-looking maps using ArcGIS.

GEG591 Introduction to GIS (Geographic Information Systems) for graduate students
0.00 - 3.00 credits
Offered By Announcement Only
Overview of basic concepts in GIS (Geographic Information Systems) for students wishing to get graduate credit. This class involves a student project using GIS.

GEG592 Advanced Environmental Remote Sensing
3.00 credits
Fall, Spring
A foundation in remote sensing and digital image processing. Special emphasis will be paid to land applications, use of satellite imagery, and the use of optical imagery in land-cover mapping. Introductory concepts of electromagnetic energy and radiative transfer; a basis for understanding remote sensing applications typically found in geography including multispectral image processing and classification.
University of Miami Bulletin, 2013-2014
Undergraduate Course Listing
College of Arts and Sciences
Geography

GEG593 Intermediate GIS
0.00 - 3.00 credits  Fall, Spring
The objective of this course is to provide an introduction to analysis of spatial data in geographic information systems (GIS). The course will provide students with instruction on manipulation of raster and vector data as well as cartographic modeling using raster-based GIS software. Students also will receive exposure to introductory concepts of remote sensing and visualization, which are rapidly growing sub-fields of GIS.

GEG595 WEB GIS
3.00 credits  Fall, Spring
Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications. Lab exercises will make use of both the commonly used open source GIS and related programming tools for customizing web-based mapping applications, as well as the leading proprietary web mapping capabilities provided in ESRI's ArcGIS Server. Students build their own on-line interactive, customizable maps and will learn the basics of client/server architecture and processing, JavaScript programming, and XML/HTML basics.

Geological Sciences

GSC101 Origin and Evolution of Planet Earth
3.00 credits  Fall, Spring
The origin of the elements and the evolution of the universe. The formation and early evolution of the solar system. The differentiation of the earth into core, mantle, and crust. Origin of the oceans and atmosphere.

GSC102 Evolution of the Biosphere
3.00 credits  Fall, Spring & Summer
The physical basis of life. The origin, early evolution, history of life on Earth. Emphasis on major crises and innovations, including the evolution of modern man.

GSC103 Evolution of the Modern Earth's Environment
3.00 credits  Fall, Spring & Summer

GSC106 Geological Influences on Society
3.00 credits  Spring

GSC107 Natural Disasters - Hollywood Vs. Reality
3.00 credits  Spring
This course will explore the causes, effects and societal responses to disasters. We will look at a variety of natural hazards and related disasters including flooding, volcanoes, landslides, earthquakes, hurricanes, tsunami and drought. Using excerpted segments of disaster films in conjunction with scientific treatments, we can identify the causes, frequency, consequences, risks, and public perceptions of natural hazards.
GSC110 The Earth System
3.00 credits
Fall, Spring & Summer
Interactions among the major components of the Earth System - the geosphere, the hydrosphere, the atmosphere, and the biosphere. To be taken concurrently with GSC 114 lab section.

GSC111 Earth System History
4.00 credits
Fall, Spring
Earth History, beginning with earliest origins and surveying major steps in the evolution of the geosphere, atmosphere, hydrosphere, and biosphere.

GSC114 EARTH PROCESSES LAB
2.00 credits
Fall, Spring

GSC204 Environmental Statistics
3.00 credits
Fall, Spring
This introductory course provides an overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data.

GSC230 Reef Systems Through Time
3.00 credits
Spring
Interacting geological, physical, chemical, biological, and climatic processes that define a reefal setting and system. Field trips included.

GSC231 Field Study of Reef Systems Through Time
2.00 credits
Spring

GSC260 Earth Materials
4.00 credits
Fall
Physical and optical properties of common rock-forming minerals and their occurrence in igneous, metamorphic, sedimentary rocks, and ore deposits. Lecture, 3 hours; laboratory, 4 hours.

GSC300 Trout and Calderas.
3.00 credits
Fall
A study of Earth processes necessary for environment which support and sustain wild trout. Instruction in fly fishing techniques based on an understanding of these processes.
GSC310 Microbes and the Environment
3.00 credits
Fall
This course is designed to provide students in geology, biology and environmental science a fundamental understanding of the role microbes play in shaping the Earth and its environments as well as the basic principles and approaches to studying these interactions in both modern and ancient settings. The metabolic diversity displayed by microbial communities makes them an integral component of global elemental cycles. In this regard, microorganisms have shaped our planet over the past 4 billion years and continue to do so in a very prominent way. The goal of this course is to learn about microbial diversity and metabolism, and the ability of microbes to shape and influence the environment.

GSC311 Field Study of Volcanoes and Society
2.00 credits
Spring
Field trip to Popocatepetl and surrounding sites near Mexico City. Nature and impact of explosive volcanic eruptions on prehistoric civilizations. Fee required.

GSC360 Depositional and Diagenetic Systems
4.00 credits
Fall
Sedimentary processes, sedimentology, and sedimentary diagenesis. Physical, biological and chemical sedimentation in Earth's surficial environments. Paleoenvironmental and diagenetic history reconstruction using petrologic, hand specimen, and field methods. Cyclicality in sedimentary systems. Lecture, 3 hours; field/laboratory, 3 hours.

GSC380 Paleontology and Stratigraphy
4.00 credits
Spring
Biostratigraphy, paleoecology, taphonomy, micro- and macro-evolutionary processes, and physical and chemical methods used for stratigraphic correlation. Major groups of invertebrate phyla comprising the bulk of the fossil record. Lecture, 3 hours; laboratory, 2 hours.

GSC401 Senior Internship
3.00 credits
Offered By Announcement Only
Field and laboratory studies conducted in conjunction with an approved academic environmental or industrial research laboratory or agency.

GSC410 Environmental Geochemistry
3.00 credits
Fall, Spring
Natural distribution of the elements on earth, and how this is being changed. Radioactivity and energy, greenhouse warming and ozone depletion, water and waste and other environmental problems.

GSC420 Geophysics
3.00 credits
Spring

GSC440 Igneous and Metamorphic Petrology
4.00 credits
Fall
Genesis and classification of igneous and metamorphic rocks, field relationships of rock assemblages, and results of recent laboratory investigations. Identification of common rock types in hand specimens and by thin-section and X-ray diffraction techniques. Lecture, 3 hours; laboratory, 3 hours.
GSC480 Structural Geology
4.00 credits
Spring
Behavior of rock materials; analysis, description and classification of geologic folds, faults, joints; analysis of rock fabrics; tectonic and geologic history of continents and continental margins. Lecture, 2 hours; laboratory, 2 hours.

GSC482 Field Methods
2.00 credits
Spring
Field and laboratory exercises in mapping. Interpretation of aerial and satellite photographs; coring and laboratory meets two hours/week. Field portion is on alternate Saturdays plus four day trip to Appalachians or Caribbean.

GSC490 Senior Thesis
3.00 credits
Fall, Spring & Summer
Individual, original research of independent study supervised by a member of the Departmental faculty and concluded by formal thesis preparation, public oral defense and submission of the thesis to the Department.

GSC491 Senior Thesis
3.00 credits
Fall, Spring & Summer
Individual, original research of independent study supervised by a member of the Departmental faculty and concluded by formal thesis preparation, public oral defense and submission of the thesis to the Department.

GSC550 Hydrogeology
3.00 credits
Fall
Movement of subterranean water. The mechanical, chemical and thermal interaction of water with porous solids, and the transport of energy and chemical constituents. The origin of porosity and permeability. The controls exerted on aquifers by the lithology, stratigraphy and structure of geologic deposits and formations.

GSC561 Colloquium - Current Topics in the Geosciences
1.00 credit
Spring
Weekly presentations and discussions. Written and oral presentations required.

GSC574 Special Studies
1.00 - 4.00 credits
Fall, Spring & Summer
Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

GSC575 Special Studies
1.00 - 4.00 credits
Fall, Spring & Summer
Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

GSC576 Special Studies
1.00 - 4.00 credits
Fall, Spring & Summer
Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.
GSC580 Summer Field Geology  
4.00 credits  
Spring & Summer  
An intensive four-week summer field laboratory study of modern geological processes and ancient rock sequences. Mapping, description and interpretation of rock and structural sequences, paleoenvironmental reconstruction, interpretation of tectonic history. Reports required. Touring course. Travel fee required.

GSC581 Summer Field Environmental Geology  
2.00 credits  
Spring & Summer  

GSC582 Field Studies  
1.00 - 4.00 credits  
Offered By Announcement Only  
Conducted field trips to selected geological sites in the United States and abroad. Report required.

GSC596 Research in Geology  
1.00 - 4.00 credits  
Fall, Spring & Summer

German  
GER101 Elementary German I  
3.00 credits  
Fall, Spring  
Fundamental grammatical principles; exercises to develop a foundation for skills of listening, speaking, reading, and writing; introduction to German culture. Closed to native speakers.

GER102 Elementary German II  
3.00 credits  
Fall, Spring  
Continuation of GER 101. Building upon fundamental grammatical principles; exercises to develop a foundation for skills of listening, speaking, reading, and writing; introduction to German culture. Closed to native speakers.

GER211 Intermediate German I  
3.00 credits  
Fall, Spring  
Continuation of GER 102, with special emphasis on essay writing.

GER212 Intermediate German II  
3.00 credits  
Fall, Spring  
Integrated grammar, writing, and conversation via content-based instruction. Diverse selection of readings: stories, plays, essays, interviews, other materials. Development of skills in a workshop format.

GER301 INTERPRETING LITERARY AND CULTURAL TEXTS IN GERMAN  
3.00 credits  
Fall  
Tools for the interpretation and analysis of literary and cultural materials from the German-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills.
GER302 The Cultures of the German-Speaking World
3.00 credits Offered By Announcement Only
Historical survey of cultures in areas of the world where German is spoken: arts, letters, science, political and social institutions. Conducted in German. Collateral readings and reports.

GER310 Ger 310: German Studies in Translation
3.00 credits Spring
Topics in German literature, philosophy, history, etc. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Writing credit. Does not fulfill foreign language requirement. May not be used for German minor credit.

GER321 Special Topics in German Studies
3.00 credits Offered By Announcement Only
Intensive study of a special topic. May be repeated for credit when topic varies. May be used to fulfill the humanities literature requirement. Writing credit.

GER365 Twentieth-Century German Studies
3.00 credits Offered By Announcement Only
The second empire and the third Reich, the Weimar Republic, and the two Germanies. Examination of the arts, sciences, letters, and political and social institutions of twentieth-century Germanophone areas. May be used to fulfill the humanities literature requirement. Writing credit.

GER370 The Holocaust in History, Film, and Memorial Culture
3.00 credits Offered By Announcement Only
The course examines the representation of the Holocaust in historiography, film, and memorial culture. Readings will include texts by historians and writers such as Primo Levi, Raul Hilberg, Daniel Goldhagen, James Young and others; films will include, among others, Alain Resnais's NIGHT AND FOG, Claude Lanzmann's SHOAH, and Steven Spielberg's SCHINDLER'S LIST. Reading-and writing-intensive course with reading and discussions in English. In addition to daily/weekly homework assignments, an in-class midterm exam and a final, cumulative take-home exam, students will also complete an extended analytical term paper. Students will also be required to watch films outside of regularly scheduled class hours.

GER400 Advanced German Conversation: Contemporary German Politics & Society
3.00 credits Fall
This advanced German conversation course provides students with the opportunity to expand and strengthen their oral proficiency and listening comprehension in German through a systematic exploration and guided discussions of current issues in contemporary German politics and society.

GER442 Advanced Stylistics and Composition
3.00 credits Spring

GER521 Advanced German Studies
3.00 credits Offered By Announcement Only
German language, literature, culture of the 18th-20th centuries. Involves independent research. WRITING CREDIT May be repeated for credit if topic is different.
GER591 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only

Greek

GRE101 Elementary Ancient Greek I
3.00 credits Fall
Alphabet, pronunciation, accentuation, vocabulary, grammar, reading exercises, and written exercises.

GRE102 Elementary Ancient Greek II
3.00 credits Spring
Continuation of GRE 101.

GRE201 INTERMEDIATE ANCIENT GREEK I
3.00 credits Fall
Reading from classical and Hellenistic authors. Building on their knowledge of elementary Greek grammar, students move toward real fluency in reading ancient Greek, and the pleasure of encountering these great authors in their original language.

GRE300 Sophocles
3.00 credits Spring
Reading Sophocles in the original Greek: Oedipus Rex. In this course we will initiate contact with the brilliant mind of Sophocles, the composer of prize-winning Greek tragedies. We will read - in all the clarity, precision and subtlety that Classical Greek offers - the most famous of the Oedipus stories, wherein Oedipus solves the riddle of the Sphinx and hears her prophecy.

GRE311 PLATO
3.00 credits Fall, Spring
Reading of Plato's dialogues and letters with a view to syntax, the acquisition of vocabulary, and Plato's prose style and philosophical thought.

GRE321 EURIPIDES
3.00 credits Fall, Spring
Readings in the plays of Euripides, with an emphasis on syntax, vocabulary, dramaturgy, and the social role of tragedy in ancient Athenian culture.

GRE411 Homer
3.00 credits Spring
Readings from the Iliad and/or Odyssey.

GRE421 Greek Orators
3.00 credits Fall
Readings from Lysias and Demosthenes.

GRE422 Aristophanes
3.00 credits Fall, Spring
Readings from Aristophanes' plays in the original Ancient Greek.

GRE431 HERODOTUS
3.00 credits Fall
Readings in ancient Greek from Herodotus, the father of history.

GRE491 Directed Readings
1.00 - 3.00 credits Fall, Spring & Summer
Content to be determined by faculty member and registering student(s).
HAI101 Elementary Haitian Creole I
3.00 credits
Fall
Development of basic listening, speaking, reading and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

HAI102 Elementary Haitian Creole II
3.00 credits
Spring
Basic listening, speaking, reading and writing skills developed in Elementary Haitian Creole 101. Students will produce more complex grammatical structures in oral and written presentations, and focus on improvement of pronunciation.

HAI201 Intermediate Haitian Creole I
3.00 credits
Fall
Basic listening, speaking, reading and writing skills developed in Elementary Haitian Creole 102. Continued development of communicative abilities and introduction to the cultural practices, family values, and social and environmental issues of Haiti. Include both oral and written components.

HAI300 Intermediate Haitian Creole I
3.00 credits
Fall
For students with previous study of Elementary-level Haitian Creole. The focus of HAI 300 is the continued development of communicative abilities in speaking, reading, writing and comprehension of Kreyol and as an introduction to the cultural practices, family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Haitian Creole.

Hebrew

HEB101 Elementary Hebrew I
3.00 credits
Fall
Grammatical principles: reading for comprehension and conversation; oral and written exercises. Normally, closed to students who have completed two years of high school Hebrew. Closed to native speakers.

HEB102 Elementary Hebrew II
3.00 credits
Spring
Continuation of HEB 101. Closed to native speakers.

HEB201 Intermediate Hebrew I
3.00 credits
Fall

HEB202 Intermediate Hebrew II
3.00 credits
Spring
Continuation of 201 with oral presentations, compositions, and grammar review. Class conducted in Hebrew. Closed to native speakers.

History

HIS101 History of the United States, I (to 1877)
3.00 credits
Fall, Spring
Political, social, and economic development of the United States through Reconstruction.

HIS102 History of the United States, II (since 1877)
3.00 credits
Fall, Spring
Political, social, and economic development of the United States since Reconstruction.
HIS131 Development of Western Civilization, I
3.00 credits
Fall, Spring
A survey of the development of the West from the emergence of the earliest civilizations in Mesopotamia and Egypt to the formation of modern European nation states in the sixteenth and seventeenth centuries, emphasizing the ideas, values, events, and institutions that have influenced the present.

HIS132 Development of Western Civilization, II
3.00 credits
Fall, Spring
A survey of the development of the West from the formation of modern European nation states in the sixteenth and seventeenth centuries to the present, emphasizing the rivalry of European powers, the impact of European expansion, the effect of industrialism and revolution upon Western society, and the role of the New World.

HIS161 History of Latin America, I (to 1824)
3.00 credits
Fall
A survey of Spanish and Portuguese America from the pre-Columbian era through the end of the colonial period.

HIS162 History of Latin America, II (since 1824)
3.00 credits
Spring
A survey of the national period in Latin American history, emphasizing the political and social issues in the transition from colonialism to nationhood.

HIS200 AFRICA AND THE AMERICAS: 1492 TO 1900
3.00 credits
Offered By Announcement Only
This course is a history of the African diaspora in Africa and the Americas. It will explore the movement of people, ideas, and practices between Africa and the Americas from 1492-1900. Topics will include drumming, dance, religion, language, food and medicinal practices.

HIS201 History of Africa, I (to 1800)
3.00 credits
Offered By Announcement Only
History of Africa before the Colonial period, emphasizing sources for the study of African history, African political and social institutions, the slave trade, and legitimate trade and markets.

HIS202 History of Africa, II (since 1800)
3.00 credits
Spring
The emergence of modern Africa from about 1800 to the present, emphasizing the European conquest of Africa, African responses to colonialism, independence and the post-independence period.

HIS209 African-American History to 1877
3.00 credits
Fall

HIS210 African-American History, 1877-PRESENT
3.00 credits
Spring
History of people of African descent in the United States from 1877 to present.

HIS211 Epics, Gods, Kings: Pre-Modern India 2500 B.C.E. to 1600 A.D.
3.00 credits
Fall
This course will explore the history, culture and political economy of India tracing it thematically from 2500 B.C.E. to 1600 A.D.
HIS220 History of European Sexuality
3.00 credits
Fall, Spring
The history of European sexuality from the Greeks to the present day.

HIS223 MEDICINE AND SOCIETY: FROM THE ANCIENT WORLD TO THE 21ST CENTURY
3.00 credits
Offered By Announcement Only
Medicine and society presents a historical survey of the development of western medicine and public health from the earliest times to the present.

HIS225 History of the Modern Business Enterprise
3.00 credits
Offered By Announcement Only
This course examines the history of big business in the nineteenth and twentieth centuries. Drawing often on individual firm histories, its focus will be a comparative study of the big business experience in America, Europe, Asia, and the imperial world.

HIS228 Holy War and Toleration in Western Religious Traditions
3.00 credits
Spring
An exploration of concepts of Holy War and Just War and of traditions of tolerance and intolerance in Judaism, Christianity, and Islam, from ancient times to the present.

HIS229 Consumer Society: A Global History
3.00 credits
Spring
In the United States we are surrounded today with a seemingly limitless variety of consumer goods, and we are offered constant reminders of the increasingly globalized nature of modern life. Too often, however, such commentary reflects a shocking lack of perspective about the origins and evolution of these trends. This course encourages a deeper understanding by exploring the history of how consumer societies emerged across the world. Spanning an arc from the eighteenth century to the present, the course looks at the social and cultural impact of global consumables (ranging from food to automobiles) in the Americas, Europe, Asia, and other regions. The readings and lectures consider the social, ethical, and environmental problems associated with the rise of global consumption.

HIS246 Origins and History of the Russian Revolution
3.00 credits
Offered By Announcement Only
The background and events of the Russian Revolution.

HIS253 History of Mexico: Guns and Tortillas, or, How Mexico Became Mexican
3.00 credits
Offered By Announcement Only
Culture and ideology of the Mexican Revolution.

HIS254 History of the Cold War in the Americas.
3.00 credits
Fall
Focusing on the late 1940s to late 1980s, this course examines the origins, evolution, and enduring consequences of the Cold War in the Americas. It explores key issues such as the emergence of new nationalist currents, the impact of U.S. intervention, competing visions of revolution and counter-revolution, and shifting definitions of democracy.

HIS261 Women's America I (Nineteenth Century)
3.00 credits
Fall
An introduction to the major currents in American women's history during the Nineteenth Century.
HIS262 Women's America II (Twentieth Century)  
3.00 credits  
Spring  
An introduction to the major currents in American women's history during the Twentieth Century.

HIS265 Witchcraft in Colonial America  
3.00 credits  
Offered By Announcement Only  
Exploration of witch beliefs and witch-hunting in colonial America, incorporating religious, cultural, gendered, psychological, political, legal, social, and economic perspectives.

HIS271 American Political History Since 1960: Policy, Public History, and Modern Media  
3.00 credits  
Offered By Announcement Only  
Explores selective elements of modern American politics, policy studies, media, and public history, predominantly since 1960.

HIS284 The Second World War.  
3.00 credits  
Offered By Announcement Only  
The Second World War: Analysis of its origins, the military and political course of events, and its consequences, such as the cold war.

HIS290 The Beach: The Beach as Place, Space and Event in World Historical Context  
3.00 credits  
Fall  
History of the beach as a particular geographic place and space in human history in comparative world context. Themes and issues include tourism, socio-economic factors in beach access, beach-related industries, immigration, cultural contact, exploration, beach life, surfing, ethnicity, segregation, and politics of real estate.

HIS291 THE SEA IN HISTORY  
3.00 credits  
Fall  
Human relations with the sea from prehistoric times to the present and across the globe. It will look at the spread of peoples, ideas, religions, and goods across the seas, and the role of networks, empires and navies in this history.

HIS296 Special Topics  
3.00 credits  
Fall, Spring & Summer  
Content varies by semester and is indicated parenthetically following course title in class schedules.

HIS300 Travel through Latin America: A Cuban Heritage Collection Research Seminar  
3.00 credits  
Fall  
This course examines the experiences of foreign and domestic travelers in Latin America. Seminar members will look carefully at the shared assumptions of travelers and compare their modes of social investigation. To this end, the course teaches students how to create their own research paper based on the diverse historical materials housed in the Cuban Heritage Collection.

HIS309 History of Southern Africa  
3.00 credits  
Offered By Announcement Only  
The establishment of the Dutch settlements and the apartheid system, African responses to European domination, and the collapse of apartheid and the emergence of a multi-racial South Africa.
HIS310 Africa in Cuba/Cuba in Africa: Slave Trade to Cuban Internationalist Missions
3.00 credits Offered By Announcement Only
The relationship between Cuba and Africa from the period of the slave trade to the late 1990s.

HIS311 Gandhi and the making of Modern India
3.00 credits Fall
This course will study Gandhi's practice of civil disobedience and non-violent movement against the British Empire, as well as his theories and praxis regarding moral discipline, critique of modernity and alternative vision of civil society and policy.

HIS312 FEMININITY, MASCULINITY, AND SEXUAL POLITICS IN INDIAN HISTORY
3.00 credits Offered By Announcement Only
U.S. involvement in Vietnam from 1945 to 1973, emphasizing the diplomatic and military components.

HIS315 Imperial China
3.00 credits Offered By Announcement Only
History of China from the origins of Chinese civilization to 1798.

HIS316 Modern China
3.00 credits Offered By Announcement Only
History of China since 1798.

HIS317 History of the Caribbean, I
3.00 credits Offered By Announcement Only
Caribbean history major topics, debates, and themes from the fifteenth to early nineteenth centuries; the centrality of the Caribbean to larger world histories of conquest, colonialism, slavery and emancipation, capitalism, migration, religious transformation, republicanism, and nation-state formation.

HIS318 Modern Caribbean History
3.00 credits Fall, Spring
Major topics, debates, and themes in Caribbean history from the late eighteenth century to the present.

HIS325 The Early Middle Ages: Europe, 450-1095
3.00 credits Offered By Announcement Only
Western historical development from the collapse of the classical ancient world to Europe's emergence as a distinct and viable civilization.

HIS326 The High and Late Middle Ages: Europe 1095-1500
3.00 credits Offered By Announcement Only
The mature medieval civilization and its transformation.

HIS327 The Renaissance in Florence
3.00 credits Offered By Announcement Only
Cultural, social, economic, religious and political life in Renaissance Italy.

HIS328 Reformation Europe
3.00 credits Offered By Announcement Only
The history of the 16th-century religious revolution known as the Reformation. Course focuses on its causes, development, and especially its political, social, and cultural consequences.
HIS330 The Scientific Revolution
3.00 credits Offered By Announcement Only
Transition between medieval science and Newtonian physics, focusing on sixteenth- and seventeenth-century developments in medicine, cosmology, physics, and scientific method.

HIS331 England to the Accession of the Tudor Dynasty (to 1485)
3.00 credits Offered By Announcement Only
The Creation of England and its development during the medieval period.

HIS332 England, 1485-1688
3.00 credits Offered By Announcement Only
England under the Tudors and Stuarts. Topics include: the monarchs and the monarchy; relations between England, Ireland, and Scotland; Henry VIII and the English Reformation; puritanism and society; popular culture; the city of London; the English Civil War; the Glorious Revolution of 1688.

HIS333 England and the Empire in the Age of Queen Victoria (1815-1901)
3.00 credits Offered By Announcement Only
Victorian Britain, emphasizing the manners, politics, and empire building, and the exploitation and humanitarianism of the century of Pax Britannica.

HIS335 The French Revolution and Napoleon (1789-1815)
3.00 credits Offered By Announcement Only
An analysis of French history from the Revolution to the collapse of the Napoleonic Empire, stressing the passing of feudalism in France.

HIS336 Modern French History
3.00 credits Offered By Announcement Only
This course covers the political, social, cultural, economic, and military history of France since 1870. Major themes include power and decline, the weight of historical memories, issues of French identity, and the central role of the French state.

HIS337 Modern European Jewish History
3.00 credits Offered By Announcement Only
Jewish history in Europe since 1789, emphasizing the effects of the Enlightenment, nationalism and Nazism, Jewish life in Western Europe and in the communist bloc, and the impact of Israel.

HIS338 The Holocaust in Historical Perspective
3.00 credits Offered By Announcement Only
The evolution and implementation of the theory of racialism in imperial Germany and the Third Reich.

HIS339 Germany from the Reformation to 1815
3.00 credits Offered By Announcement Only
German history from the Reformation through the reorganization of the German states after the Napoleonic Wars (1815) with emphasis on the federal character of early modern Germany, religion, and topics of social and economic change.

HIS340 History of Modern Germany since 1815
3.00 credits Offered By Announcement Only
German history since 1815 concentrating on the political and social history of the German Empire, Germany's role in World War I, the Weimar Republic and the rise of Hitler, Nazi Germany, and developments since 1945.
HIS342 Europe between the Versailles Treaty and the Cold War.
3.00 credits Offered By Announcement Only
A study of European history since World War I, giving special attention to contemporary economic, social, political, and international problems.

HIS344 Medieval Russia
3.00 credits Offered By Announcement Only
Domestic political, economic, social and religious developments, and foreign policies from the foundation to Kievan Rus' through the Mongol era and the formation of Muscovy to the end of Riurikid rule in the late 16th century.

HIS345 Early Modern Russia
3.00 credits Offered By Announcement Only
The transition from Muscovy to Imperial Russia. Domestic political, social, economic and cultural issues, and foreign affairs will be examined with emphasis on Western influences and reactions to them during the first two centuries of Romanov rule (17th and 18th centuries).

HIS346 Imperial Russia
3.00 credits Offered By Announcement Only
Domestic political, social, economic and cultural developments, and foreign affairs in Russia from the beginning of the 19th century to the Russian Revolution of 1917.

HIS347 Soviet Union and Post-Soviet Russia
3.00 credits Offered By Announcement Only
The Soviet Union from the Russian Revolution (1917) to the disintegration of the USSR (1991), and the post-Soviet period to the present.

HIS348 Europe in the Age of Hitler and Stalin
3.00 credits Offered By Announcement Only
This course covers European history between 1914 and 1945. Principal topics include the experience of two world wars, the rise of fascism and communism, the challenge of democracy, and the failure to secure a lasting peace.

HIS349 European Diplomatic History from Bismarck to the Cold War
3.00 credits Offered By Announcement Only
European Diplomatic History from the Revolutions of 1848 to the Cold War period.

HIS352 The Inquisition
3.00 credits Offered By Announcement Only

HIS353 History of Cuba
3.00 credits Offered By Announcement Only
The development of the Cuban nation, emphasizing the nineteenth and twentieth centuries and the Castro revolution. This course will concentrate on studying Cuba After Castro. We will analyze various scenarios for change and what implications these will have for the next administration in Washington DC as well as in other parts of the world.
HIS354 Latin America's Urban Explosion: 1900-2010
3.00 credits  Spring
Examines major facets of Latin America's urban transformation, 1900-2010. Studies urbanization from the perspectives of multiple disciplines including architecture, photography, art history, music, cultural studies and political science. Major themes include: architectural modernization and cultural change; industrialization and the emergence of professional sports; rural-urban migration and the proliferation of shanty towns; the emergence of mass politics; the expansion of the informal sectors; and the growth of social violence, drugs and crime.

HIS356 History of Argentina's Civilization, Barbarism, and Power.
3.00 credits  Fall, Spring
How did a country that was supposedly so prosperous and advanced become a land of perennial crisis? Countless observers have posed variations on this question in seeking to make sense of the ?Argentine riddle.? This class will provide students with an introduction to the fascinating history of Argentina. We will reject pat explanations of the ?riddle? to examine instead the array of cultural, political, and economic forces that have shaped Argentine society.

HIS357 Social History of Latin America
3.00 credits  Offered By Announcement Only
Demographic changes, race and ethnic relations, immigration, and urbanization.

HIS359 Caribbean Intellectual History
3.00 credits  Fall
Nineteenth and twentieth-century Caribbean political and social thought. Connects the history of ideas to the history of social movements in the region. Links international, intellectual, political and artistic currents.

HIS360 Modern Latin America Through Film
3.00 credits  Fall, Spring
Analysis of films with regard to their historical value and their impact on forming historical perceptions about modern Latin America.

HIS361 American Colonial History (1607-1763)
3.00 credits  Offered By Announcement Only
History of the British mainland colonies from the establishment of Jamestown to the end of the French and Indian War.

HIS362 The American Revolution (1763-1783)
3.00 credits  Offered By Announcement Only
The political, social, and constitutional issues that culminated in the Declaration of Independence, and the achievement of American nationhood.

HIS363 The Early Republic (1783-1850)
3.00 credits  Offered By Announcement Only
A study of the constitutional, political, territorial, economic, and social development of the United States from the end of the American Revolution to the Compromise of 1850.

HIS364 Civil War and Reconstruction (1850-1877)
3.00 credits  Offered By Announcement Only
A study of the origins of the American Civil War, emphasizing the economic, political and social, as well as military aspects of the conflict, and the course and consequence of the Reconstruction period.
HIS367 Contemporary America
3.00 credits Offered By Announcement Only
The United States since World War II.

HIS368 Nature and the Environment in American History
3.00 credits Offered By Announcement Only
Shifting attitudes toward nature and the environment in American history; the rise of environmentalism and changes in public policy related to environmental conservation and preservation.

HIS369 Introduction to Urban America
3.00 credits Offered By Announcement Only
The changing role of the city in American history. The built environment. The interaction of the built environment and the lives of residents.

HIS373 The Civil Rights Movement
3.00 credits Offered By Announcement Only
This course explores the modern Civil Rights Movement, one of the most profound occurrences in the history of the United States of America, and examines how it reshaped the nation, from politics and the economy to social relations and cultural values.

HIS374 HISTORY OF FEMINISM
3.00 credits Offered By Announcement Only
History of Feminism with a focus on the United States.

HIS375 Gender, Sex, and Sexuality in Early America
3.00 credits Offered By Announcement Only
Gender ideologies, gender relations, family life, attitudes toward sex, sexual behavior, and the regulation of sex in early America (1607-1800).

HIS376 American Legal and Constitutional History
3.00 credits Offered By Announcement Only
The development of legal thought and practice in the context of American politics, economy and ideology during the twentieth century. Special consideration will be given to social movements and their treatment under the rule of law.

HIS377 Sport in American History
3.00 credits Offered By Announcement Only
The role of sport in American culture. Sports relation to urban growth, professionalism, ethnic identity and assimilation, nationalism, and consumption.

HIS378 Early American Religious History (1607-1800)
3.00 credits Spring
Religious beliefs and practices during the seventeenth and eighteenth centuries in the British colonies that became the United States, emphasizing the diversity of religious culture in Early America.

HIS379 History of the Old South (1607-1861)
3.00 credits Offered By Announcement Only
The American South from Jamestown to secession, emphasizing the development of plantation society, the rise of internal and external conflict, and the shaping of the idea of the Old South.
HIS381 History of Florida
3.00 credits Offered By Announcement Only
Florida from its discovery, exploration, and colonization to the present.

HIS382 IDEAS AND CULTURE IN EARLY AMERICAN HISTORY
0.00 - 3.00 credits Spring
Intellectual and cultural history in America from the colonial period to the Civil War, focusing on developments in religion, philosophy, political and social theory, and the arts.

HIS383 Ideas and Culture in Modern United States History
3.00 credits Offered By Announcement Only
Intellectual and cultural history in the United States from 1865 to the present day, focusing on developments in philosophy, science, political theory, social criticism, and the arts.

HIS384 U.S. Gay and Lesbian History
3.00 credits Offered By Announcement Only

HIS386 History of U.S. Relations with Latin America
3.00 credits Offered By Announcement Only
A study of U.S. policy toward Latin America from the early 1800s to the present, emphasizing the roles of economics, territorial expansion, ideology, and race.

HIS389 Nineteenth-Century Europe: Barricades, Borders and Bourgeoisie
3.00 credits Fall
Survey of 19th Century Europe from the French Revolution to World War I, focusing on political and cultural history.

HIS390 Europe after Hitler
3.00 credits Offered By Announcement Only
Survey of European History from the end of World War II, focusing on political and cultural developments.

HIS391 The History of Everyday Life
3.00 credits Fall, Spring & Summer
The History of everyday life in early modern Europe (ca. 1500-1700). We will study how Europeans experienced and made sense of their environment, their communities, relationships, time, the self, the stages of life, food, drugs, work, and recreation.

HIS396 Special Topics
3.00 credits Fall, Spring & Summer
Content varies by semester and is indicated parenthetically following course title in class schedules.

HIS397 History Internship
3.00 credits Offered By Announcement Only
Provides history students with the opportunity to obtain credit for an internship with the approval and under the close supervision of a faculty member.

HIS401 Directed Readings in African History
1.00 - 3.00 credits Fall, Spring

HIS421 Directed Readings in European History
1.00 - 3.00 credits Fall, Spring
HIS451 Directed Readings in Latin-American History  
1.00 - 3.00 credits  
Fall, Spring

HIS461 Directed Readings in United States History  
1.00 - 3.00 credits  
Fall, Spring

HIS491 Directed Readings in Comparative History  
1.00 - 3.00 credits  
Fall, Spring

HIS501 Studies in African History  
3.00 credits  
Offered By Announcement Only
Selected topics in African history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS511 Studies in Asian History  
3.00 credits  
Offered By Announcement Only
Selected topics in Asian history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS531 Studies in European History  
3.00 credits  
Offered By Announcement Only
Selected topics in European history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS536 Studies in Medieval History  
3.00 credits  
Offered By Announcement Only
Selected topics in Medieval history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS538 Studies in Early Modern European History  
3.00 credits  
Offered By Announcement Only
Selected topics in European history before the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS544 Studies in Modern European History  
3.00 credits  
Offered By Announcement Only
Selected topics in European history after the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS551 Studies in Latin American History  
3.00 credits  
Offered By Announcement Only
Selected topics in Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS553 Studies in Colonial Latin American History  
3.00 credits  
Offered By Announcement Only
Selected topics in the colonial period of Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.
HIS554 Studies in Modern Latin American History
3.00 credits Offered By Announcement Only
Selected topics in Latin-American history before and after Independence. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS561 Studies in United States History
3.00 credits Offered By Announcement Only
Selected topics in United States history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

HIS564 Studies in American Intellectual and Cultural History
3.00 credits Offered By Announcement Only
Selected topics in American intellectual and cultural history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

HIS565 Studies in American Political and Diplomatic History
3.00 credits Offered By Announcement Only
Selected topics in American political and diplomatic history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

HIS569 Studies in African-American History
3.00 credits Offered By Announcement Only
Selected topics in African-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS570 Studies in Public History
3.00 credits Offered By Announcement Only
Selected topics in public history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS591 Studies in Comparative History
3.00 credits Offered By Announcement Only
Selected topics in Comparative History. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS595 Studies in Visual History
3.00 credits Offered By Announcement Only
Selected topics in the use of photographs and other visual evidence for historical purposes. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS599 Independent Research
3.00 credits Offered By Announcement Only

MAIA Program

IGS517 Practicum in International Administration
3.00 credits Fall, Spring & Summer
The practicum gives students the opportunity to apply academic theory and acquired skills in international administration under real world conditions. Students first complete an approved internship in an appropriate organization and then present a report/case study analysis under the supervision of the MAIA faculty.
IGS545 Global Warming Policy in European Union
3.00 credits  Summer
This course studies the EU, and especially the French, efforts to ecologically modernize their advanced economies particularly in regards to global warming emissions and energy usage. Class is centered in Paris with excursions to Starsbourg and Freiborg.

International Studies
INS101 Global Perspectives
3.00 credits  Fall, Spring
Introduces students to the study of international relations focusing on the continuing threat of national and ethnic conflict; terrorism; environmental and health concerns; globalization; economic interdependence, and poverty. Students are provided an overview of the evolution of international affairs in the modern era and are introduced to the various scholarly approaches for an understanding of international affairs.

INS102 Global Economics
3.00 credits  Fall, Spring
The international economy. This course develops the analytical tools underlying the economic way of thinking and applies them to two main topics: the environment and international trade.

INS201 Globalization and Change in World Politics
3.00 credits  Fall, Spring
The academic and public policy debates regarding the multiple impacts of the globalization of the world economy on the politics of nation-states and on the dynamics of the international system itself.

INS202 INS Methodology
3.00 credits  Spring
The approaches, methods and techniques used for designing and conducting international studies research.

INS210 INS Topics
3.00 credits  Offered By Announcement Only
Special topics taken at other institutions with no direct equivalents.

INS310 Advanced Topics in INS
3.00 credits  Offered By Announcement Only

INS311 Advanced Topics in INS II
3.00 credits  Offered By Announcement Only

INS321 Global Political Economy
3.00 credits  Offered By Announcement Only
The implications of the globalization of trade, production, finance, and culture on equity, social welfare and the quality of democratic institutions and practices in both the Global North and the Global South.
INS322 Economics of Development and the Environment  
3.00 credits  
Fall  
Structural changes that accompany economic growth that impact the environment and sustainable development.

INS335 Democratization  
3.00 credits  
Spring  
A comparative overview of the problems of introducing democratic and market economic institutions into areas where they have not flourished and how to maintain them in established democracies.

INS341 Nationalism, Ethnicity and Conflict  
3.00 credits  
Fall  
Examines theories of ethnic and national conflict focusing on contemporary issues throughout the world.

INS344 Gender and Politics  
3.00 credits  
Fall  
Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

INS352 Panoramic View of the Middle East  
3.00 credits  
Fall  
The Middle East and a basic understanding of the factors, forces and processes shaping developments in the modern and contemporary history of this important world region.

INS367 Foreign Policy Topics  
3.00 credits  
Offered By Announcement Only

INS380 Democracy and Globalization in Latin America  
3.00 credits  
Offered By Announcement Only  
The global dimensions of Latin American politics, emphasizing democratization and its discontents; human rights; the emergence of transnational civil society; and the impacts of market reforms on development, equity and social inclusion.

INS385 Latin American Topics  
3.00 credits  
Offered By Announcement Only

INS391 The European Union  
3.00 credits  
Fall, Spring  
The course will combine 6 objectives: 1) to investigate the historical development of Europe as a civilization and as an idea through review of some main historical and political factors and ideologies from 1815-present; 2) to survey the main organizations and experiments in European integration before/after World War II; 3) to analyze the historical development of the European communities; 4) to examine major institutions of the European Union; 5) to analyze the main European Union policies and current issues; 6) to reflect upon the future of the nation-state and the idea of a united Europe, the role of transformed ideologies, and the rebirth of nationalism while pondering about future scenarios for European integration.

INS394 European Topics  
3.00 credits  
Offered By Announcement Only
INS410 INS Advanced Seminar
3.00 credits
Offered By Announcement Only

INS411 IR Advanced Seminar
3.00 credits
Offered By Announcement Only

INS415 Independent Study
1.00 - 6.00 credits
Fall, Spring & Summer
Individualized research done under the guidance of selected faculty member. Depending upon the requirements established by the instructor, the student will be responsible for a research paper corresponding to the number of credits taken.

INS418 Honors Thesis
3.00 credits
Fall, Spring
Honors thesis research. This course is required for students seeking magna or summa cum laude and those seeking departmental honors. A thesis committee comprised of three members, two from International Studies and one from the university faculty must be established. The thesis advisor must also be from International Studies.

INS419 Honors Thesis II
3.00 credits
Fall, Spring
Honors thesis writing.

INS420 Global Trade
3.00 credits
Spring
Economic principles in global issues such as comparative advantage; specialization and trade; macroeconomics in the open economy; commercial policy; globalization; inequalities, within and among nations; and governance.

INS421 Poverty and the Environment
3.00 credits
Spring
The processes by which a growing economy creates wealth in the form of goods and services while simultaneously increasing poverty and pollution.

INS430 Comparative Studies Seminar
3.00 credits
Offered By Announcement Only

INS460 United Nations Seminar
3.00 credits
Fall, Spring
The organization and functions of the UN, including its structure, network of agencies, and issues in which it is involved. Emphasis is given to reforms, the Millennium Development Goals, and problematic relationships among the UN member states.

INS503 Int Relations Topics
3.00 credits
Offered By Announcement Only
Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

INS504 Int Rel Topics II
3.00 credits
Offered By Announcement Only
Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.
INS510 ISSUES IN INS
3.00 credits
Analysis of current issues of international importance.

INS511 Issues in INS II
3.00 credits
Analysis of current issues of international importance.

INS513 Information and Communication in International Relations
3.00 credits
Fall
First semester offering for students in the Master of Arts in International Administration program.

INS515 Independent Study
1.00 - 6.00 credits
Fall, Spring & Summer
Advanced level research done under the guidance of a selected faculty member. This course can be used as one of the two 500-level requirements for International Studies majors.

INS517 Practicum in International Administration
3.00 credits
Offered By Announcement Only
Each student in the Master of Arts in International Studies (with a specialization in International Administration) is required to complete a three (3) credit practicum/internship during the summer months subsequent to their completion of the fall and spring semester. The purpose of the practicum is to give each student the necessary skills to help advance their professional careers.

INS519 Internship
1.00 - 3.00 credits
Fall, Spring & Summer
A research paper is required for this course. The student works with a selected faculty member who determines the length and scope of the project. The Student is responsible for finding the internship position.

INS520 Microeconomics for INS
3.00 credits
Offered By Announcement Only
Microeconomics for students of international studies. Topics will include rationality, market failure and comparative advantage.

INS521 INT’L ECON TOPICS II (International Economic System Topics)
3.00 credits
Offered By Announcement Only
Selected topics in International Economics. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

INS522 Latin American Political Economy
3.00 credits
Offered By Announcement Only
Latin American political economy including analysis of market reform and integration of the region into the world economy.

INS523 Economics of Terrorism
3.00 credits
Spring
Economic resources of terrorist movements today: their financing, acquisition of tools, recruitment, and operations.
INS524 INTL ECON Topics
3.00 credits
Offered By Announcement Only

INS530 Comparative Analysis
3.00 credits
Offered By Announcement Only
Advanced overview of the comparative method. Required for students specializing in Comparative Studies at the graduate level.

INS532 Globalization and Human Rights
3.00 credits
Offered By Announcement Only
The integration of markets has many concerned for the political and economic rights of the common citizen. This course examines the effect of globalization on the human rights standards throughout the world.

INS533 Transnational Social Movements
3.00 credits
Offered By Announcement Only
Focusses on global civic activism and contentious politics, with particular attention to transnational non-state actors - NGOs, social movements, environmental protection, and the emergence of a global civil society.

INS536 Comparative Political Regimes
3.00 credits
Offered By Announcement Only
Literature concerned with the transition from authoritarianism to democracy in various parts of the world.

INS537 Comparative Political Economy
3.00 credits
Fall
Compares how domestic politics and macroeconomic policies interact with globalization. Case studies include welfare states in the U.S. and Europe, East Asian development, post communist transitions and market restructuring in Latin America and Africa.

INS540 National Security
3.00 credits
Offered By Announcement Only
The central issues concerning European security since World War II, with emphasis on the period since the end of the cold war.

INS542 Drug-Trafficking in the Americas
3.00 credits
Fall
The political economy of the U.S.-Latin American drug trade in the 20th Century along with the dynamics of the U.S.-led war on drugs through the first years of the Twenty First Century.

INS543 National Security and Foreign Policy
3.00 credits
Summer
Explores alternative conceptualizations of security and the new challenges to U.S. national security that have emerged in the Post-Cold War era.

INS550 Non-Western Regional Topics
3.00 credits
Offered By Announcement Only

INS551 Regional Topics II
3.00 credits
Offered By Announcement Only
Selected topics in International Business. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.
INS560 US Foreign Policy
3.00 credits  Spring
The leading approaches to the analysis of American foreign policy. Particular emphasis will be placed on the post-Cold War period and the new challenges to U.S. foreign policy of the 21st century.

INS561 Negotiation and Bargaining
3.00 credits  Spring
Examines the nature of diplomatic negotiation through readings and discussion of international negotiation and through the case method, selecting several cases of high-level policy issues in which the United States has been a principal actor.

INS562 International Peace and Conflict Resolution
3.00 credits  Offered By Announcement Only
The major sources of conflict, and what resources are available for making and keeping the peace? This class introduces students to the most fundamental concerns of the field of International Relations (IR), and especially of its sub-field IPCR.

INS563 International Organizations
3.00 credits  Offered By Announcement Only
The role, function, and impact on states of international governmental and non-governmental organizations in critical areas like peace and security, human rights, economic development, and environmental degradation.

INS564 International Law
3.00 credits  Fall
How international law affects the conduct of states. Issues include jurisdiction, diplomatic immunity, the use of armed force, peaceful dispute settlement among states, human rights, and the International Criminal Court.

INS565 The World Before European Domination
3.00 credits  Spring
The historical roots of the contemporary international system. Its objective is to question the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

INS566 US-Latin American Relations
3.00 credits  Fall
Political, economic and strategic aspects of U.S.-Latin American relations; the historical experience and contemporary issues, including the influence of extra-regional parties such as Europe and China.

INS567 Foreign Policy Topics
3.00 credits  Offered By Announcement Only

INS570 Globalization and Health
3.00 credits  Fall
Globalization and its benefits and threats to public health; the relationship between global economic, political, social, cultural, environmental and technological changes and their impact on human health.
INS571 International Development and Human Welfare
3.00 credits  Spring
Health and development links; macroeconomic policies and their impact on social equity; poverty and structural inequities; and other key issues that influence human development.

INS572 Global Health Policy and Ethics
3.00 credits  Fall, Spring
National, regional and global health policies with special consideration to ethical and human rights issues; policies and the moral considerations that shape public health policy.

INS573 Disasters, Terrorism and Global Public Health
3.00 credits  Spring
The historical processes and present trends of disasters, terrorism, humanitarian emergencies and their impact on human Health, safety and security.

INS580 Latin American Comparative Politics
3.00 credits  Fall
The major intellectual debates shaping the field of comparative politics including: (1) development, (2) military politics, (3) democratization and (4) the emergence of new social movements.

INS584 Latin American Thought
3.00 credits  Spring
The evolution of Latin American thought through political and intellectual history; the classical writings of the main pensadores, and a comparative analysis of contemporary ideological trends.

INS586 Brazil in Transition
3.00 credits  Offered By Announcement Only
The social, economic, cultural transformations shaping Brazilian politics. In addition to visiting Rio de Janeiro and Salvador, there will be seminars with Brazilian academics and social and political activists.

INS591 The European Union
3.00 credits  Fall, Spring
The European Union's history, institutions, policies and contemporary issues.

INS592 European Union and the World
3.00 credits  Spring
The European Union's development, its main institutions and policies followed by an analysis of the main features of the European Union's external relations.

INS593 European Security
3.00 credits  Spring
Regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

INS594 European Topics
3.00 credits  Offered By Announcement Only

INS599 Special Topics
3.00 credits  Offered By Announcement Only
ITA101 Elementary Italian I
3.00 credits  Fall, Spring
Drill in pronunciation, grammatical principles, reading and translation, oral and written exercises. Normally closed to students who have completed two years of high school Italian. Closed to native speakers.

ITA102 Elementary Italian II
3.00 credits  Fall, Spring
Continuation of ITA 101. Closed to native speakers.

ITA200 Discussion and Debates about Contemporary Italian Society
3.00 credits  Fall
Through recent movies, discussions, and formal debates, students will improve their spoken Italian while gaining understanding of contemporary society in Italy.

ITA211 Intermediate Italian I
3.00 credits  Fall, Spring
Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Italian.

ITA212 Intermediate Italian II
3.00 credits  Fall, Spring
This course uses different genres of texts (portraits, descriptions, short stories, film reviews, magazines) to explore different ways of writing and to prepare students for 300-level work. Structured in a workshop format, the course also develops conversational skills. Class conducted in Italian. Closed to native speakers.

ITA301 INTERPRETING LITERARY AND CULTURAL TEXTS IN ITALIAN
3.00 credits  Offered By Announcement Only
Tools for the interpretation and analysis of Italian literary and cultural materials. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and A complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in Italian.

ITA310 Topics in Italian Studies in Translation
3.00 credits  Offered By Announcement Only
Intensive study, in English translation, of a topic, theme, author, period, or literary movement. May be repeated when the topic varies. Writing Credit.

ITA312 Italian Civilization
3.00 credits  Offered By Announcement Only
The intellectual life of Italy, political and social institution arts, letters, and sciences. Collateral readings and reports.

ITA314 TOPICS IN EARLY MODERN ITALIAN LITERATURE IN TRANSLATION
3.00 credits  Offered By Announcement Only

ITA315 TOPICS IN GENDER AND SEXUALITY IN TRANSLATION
3.00 credits  Offered By Announcement Only
This course presents issues dealing with gender and sexuality in Italy in a variety of chronological settings, using the appropriate sources for the topic (e.g., films, newsprint and TV ads, novels). This course does not fulfill the foreign language requirement.
ITA316 TOPICS IN 18TH-AND 19TH CENTURY ITALIAN LITERATURE IN TRANSLATION
3.00 credits  Offered By Announcement Only
An introduction to one or more aspects of Italian literature of the 18th and 19th centuries in translation: e.g., the role of opera in Italian culture; the literature of the Italian Risorgimento; the historical novel. This course does not fulfill the foreign language requirement.

ITA317 TOPICS IN 20TH CENTURY ITALIAN LITERATURE IN TRANSLATION
3.00 credits  Offered By Announcement Only
An introduction to one or more aspects of Italian literature of the 20th century in translation: e.g., the experience of war, the child narrator in Calvino and Ammaniti, the experimental novels of the 1960s and '70s. This course does not fulfill the foreign language requirement.

ITA319 TRAVELS ITALY
3.00 credits  Offered By Announcement Only
Develops an understanding of Italy's contemporary image in the world by, first, presenting some of the earlier representations of Italy and Italians from Dante, through the Renaissance and Baroque periods, to the present; and second, by looking at the various cultures coming into contact with the Italian one. It attempts to come to grips with notions of representation, ethnicity, ethnocentrism, and stereotypes. Taught in English and does not fulfill CAS language requirement.

ITA321 Special Topics in Italian Literature
3.00 credits  Offered By Announcement Only
Introduction to one or more aspects of Italian literature of the Middle Ages in translation: e.g., Dante, the Stil novo, the literature of the Black Plague.

ITA330 TOPICS IN GENDER AND SEXUALITY IN ITALIAN CULTURE
3.00 credits  Offered By Announcement Only
Issues dealing with gender and sexuality in Italy in a variety of chronological settings, using the appropriate sources for the topic (e.g., films, newsprint and TV ads, novels). Taught in Italian.

ITA363 Introduction to Medieval and Renaissance Italian Literature
3.00 credits  Offered By Announcement Only
Culture and literature in Italian vernacular from its earliest document through the Renaissance. May be used to fulfill humanities literature requirement. Writing credit.

ITA364 Introduction to 17th-19th Century Italian Literature
3.00 credits  Offered By Announcement Only
Italian culture and literature from the Baroque to the nineteenth century. May be used to fulfill humanities literature requirement. Writing credit.

ITA365 Introduction to 20th Century Italian Literature
3.00 credits  Offered By Announcement Only
Italian culture and literature of the twentieth century. May be used to fulfill humanities literature requirement. Writing credit.
Italian

ITA394 Internship
1.00 - 3.00 credits                                           Fall, Spring & Summer
On-site experience in an Italian-speaking cultural, business, or not-for-profit organization. Normally 50 internship hours are required per credit earned (the host will supply documentary evidence of hours worked). Permission of a faculty member in ITA required.

ITA400 Creative Writing in Italian
3.00 credits                                           Offered By Announcement Only

ITA591 Directed Readings
1.00 - 3.00 credits                                    Offered By Announcement Only

ITA592 Directed Readings
1.00 - 3.00 credits                                    Offered By Announcement Only

Japanese

JPN101 Elementary Japanese I
3.00 credits                                                                   Fall
Introduction to modern Japanese: pronunciation, grammar, conversation, and the elements of the writing system. Closed to native speakers.

JPN102 Elementary Japanese II
3.00 credits                                                                 Spring
Continuation of JPN 101. Introduction to modern Japanese: pronunciation, grammar, conversation, and the elements of the writing system. Closed to native speakers.

JPN201 Intermediate Japanese I
3.00 credits                                                                   Fall
Continuation of JPN 102. Grammar, composition and readings in modern Japanese, which will introduce students to aspects of Japanese customs, history and culture. Closed to native speakers.

JPN202 Intermediate Japanese II
3.00 credits                                                                 Spring
Continuation of JPN 201. Grammar, dialogues, and readings, designed to integrate listening, comprehension, speaking, reading and writing skills. Discussion of the Japanese culture, history, and customs. Closed to native speakers.

JPN210 Introduction to Japanese Culture
3.00 credits                                           Offered By Announcement Only

Judaic Studies

JUS200 Israel Origins Culture and Society
3.00 credits                                                                 Spring
This course will review the emergence of modern Israel from the inception of Zionism to the present. It will include the structure of the old and new Yishuv, immigrations to Eretz Yisrael, British rule in Palestine, relationships with the great powers, sociological associations and cleavages, Israel-Diaspora relations, American Jewry and Israel, and religion and state.

JUS205 Icheic Service Corps Internship
3.00 credits                                                                   Fall
Interns will gain meaningful experiences that will offer them an opportunity to become involved in service-oriented activities that give them a deep insight and unique understanding of the historical significance of the Holocaust while providing valuable services to the survivors of Nazi atrocities.
JUS206 ICHEIC Service Corps Internship
3.00 credits  Spring
Interns will gain meaningful experiences that will offer them an opportunity to become involved in service-oriented activities that give them a deep insight and unique understanding of the historical significance of the Holocaust while providing valuable services to the survivors of Nazi atrocities.

JUS231 Jewish Civilization: Society, Culture, and Religion
3.00 credits  Offered By Announcement Only
Introduction to Jewish civilization from Abraham to present.

JUS250 The Holocaust Through Film, Memoir and Testimony
3.00 credits  Offered By Announcement Only
The purpose of the course is to introduce students to the history of the Holocaust through classroom dialogue, film, and literature analysis. Involving students in major ethical and moral issues raised in the study of the Holocaust by encouraging students to think critically, explore choices, and make decisions based on a code of conduct that reflects a commitment to humanity.

JUS301 STUDIES IN JUDAICA
3.00 credits  Offered By Announcement Only
Special topics offering at the 300-level for students pursuing a major/minor in Judaic Studies.

JUS314 The Rise of Judaism
3.00 credits  Fall, Spring
The history and literature of early Judaism, covering the period from the fall of Jerusalem in 587/586 BCE to the beginnings of rabbinic Judaism and the formation of the Mishnah (ca.200 CE).

JUS338 History of the Holocaust
3.00 credits  Fall
Focus on the roots, events and results of the Nazis nearly successful annihilation of Jewish men, women, and children living under the Swastika. We will study Hitler's political aims, his Aryan superiority mythology, his domestic and foreign policies, and his conquests. We will also investigate how Germans, admired for their culture, became instruments of mass murder. Also included in this survey are the heroism of Jewish resisters and gentile rescuers who stood in direct opposition to the silence of the Christian churches and inactivity of the nearly all nations in the face of the Jewish disaster.

JUS352 Panoramic View of the Middle East
3.00 credits  Fall, Spring
The course is designed to provide a comprehensive introduction to the Middle East and a basic understanding of factors, forces, and processes shaping developments in the modern and contemporary history of this important world region.

JUS360 Hollywood and Popular Culture: The American Jewish Experience
3.00 credits  Offered By Announcement Only
The image of the Jew and the Jewish experience in American Cinema.

JUS375 Religion and Democracy in Israel
3.00 credits  Offered By Announcement Only
Israel's evolution as a nation and a society by focusing on how religion impacts ethnicity, culture, and democracy.
JUS380 Archeology of Palestine  
3.00 credits
Fall, Spring
Survey of the major archaeological excavations and surveys of Palestine, how this is used to interpret biblical narrative and give context to the emergence of Judaism and Christianity.

JUS401 Studies in Judaica  
1.00 - 3.00 credits
Offered By Announcement Only
Designed to enable students interested in some phase of Judaic Studies to study extensively in that field of interest.

JUS410 Special Topics  
1.00 - 3.00 credits
Offered By Announcement Only

JUS411 Special Topics  
1.00 - 3.00 credits
Offered By Announcement Only

JUS421 Internship in Judaic Studies  
1.00 - 3.00 credits
Fall, Spring
Prescribed study and supervised work with practitioners in Judaic services.

JUS498 Senior Thesis  
3.00 credits
Fall, Spring
Partial requirement for Departmental Honors in Judaic Studies. Thesis to be a documented essay in any area of Judaic Studies written under the direction of a member of the faculty.

Latin
LAT101 Elementary Latin I  
3.00 credits
Fall, Spring
Elementary vocabulary, grammar and reading.

LAT102 Elementary Latin II  
3.00 credits
Fall, Spring
Continuation of LAT 101.

LAT201 INTERMEDIATE LATIN I  
3.00 credits
Fall, Spring
Translation and grammatical analysis of selected texts from Latin authors.

LAT202 INTERMEDIATE LATIN II  
3.00 credits
Fall, Spring
Introduction to reading Latin poetry. Students will read selections from the Aeneid, with emphasis on Virgil's language and meter, as well as the ancient epic tradition. Latin 202 prepares students for 300- and 400-level Latin poetry courses.

LAT203 Ovid's Metamorphoses  
3.00 credits
Fall, Spring
Readings in Latin from Ovid's Metamorphoses, including Apollo and Daphne, Echo and Narcissus, Midas and more.
LAT301 CATULLUS  
3.00 credits  
Fall, Spring  
An advanced Latin course on the works of the Roman poet Catullus. Students will read almost all of the poems in the Catullian corpus, and be introduced to the related secondary literature, covering topics such as ancient sexuality, invective and obscenity, the figure of the mistress in Latin love poetry, the arrangement of poems within a poetic book, meter, and the textual tradition.

LAT302 Petronius  
3.00 credits  
Fall, Spring  
An advance Latin prose reading course on Petronius Satyricon, a mysterious and fragmentary novel dating from the time of the decadent emperor Nero. Trimalchio's Dinner-Party, the central section of the work, forms the focus of the course. It is an account of a dinner hosted by a wealthy ex-slave, and can be read as a critique of the excesses of the Neronian age.

LAT311 CICERO: ORATIONS  
3.00 credits  
Fall, Spring  
Readings from the speeches of Cicero, with an emphasis on syntax, vocabulary, rhetorical theory and practice, and the historical situation of the speeches.

LAT321 VERGIL  
3.00 credits  
Fall, Spring  
An advanced reading course in the poems of Vergil.

LAT322 Martial Epigrams  
3.00 credits  
Fall, Spring  
Examines selected works of the first-century CE poet Martial, the acknowledged master of the verse epigram, considering his writing both as poetry (within the Greek and Roman traditions) and as social and political commentary.

LAT323 Seneca  
3.00 credits  
Fall, Spring  
Examines in Latin select writings of the Roman philosopher and statesman Lucius Annaeus Seneca.

LAT411 HORACE  
3.00 credits  
Fall, Spring  
Readings in the odes, epodes, satires and epistles of Horace.

LAT422 Lucretius  
3.00 credits  
Fall, Spring  
Detailed treatment of the Latin philosophical poet Lucretius and his lone surviving poem, DE RERVM NATVRA.

LAT431 LIVY  
3.00 credits  
Fall, Spring  
Readings from the Roman historian Livy.

LAT491 Directed Readings  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Content to be determined by faculty member and registering student(s).
LAS101 Introduction to Latin American and Caribbean Studies  
3.00 credits  
Fall, Spring  
Course will focus on culture, economy, geography, history, politics, and society of Latin America and the Caribbean, as well as on the ways in which scholars have studied the region. LAS101 replaces LAS201.

LAS200 Culture of the poor. Understanding poverty in a global perspective.  
3.00 credits  
Spring  
In this course, students will see how the poor have survival strategies in common across borders and ethnic divides. We will also look at common causes for impoverishment if different regions of the world, and analyze how widespread poverty in and of itself affects the economic, social, and political development of the communities most afflicted, whether on a societal or local level. We will see how the poor are regularly and unflinchingly discriminated against by those who are better off even in our enlightened society and century. Likewise, we will look at correlations between poverty and ethnic difference both at home and abroad.

LAS201 Introduction to Latin American and Caribbean Studies  
3.00 credits  
Fall  
Course will focus interdisciplinary on culture, economy, geography, history, politics, and society of Latin America and the Caribbean, as well as on the ways in which scholars have studied the region.

LAS290 Andean Societies  
3.00 credits  
Spring  

LAS291 Peruvian History and Culture  
3.00 credits  
Spring  

LAS301 Interdisciplinary Topics in Latin American and Caribbean Studies  
3.00 credits  
Fall, Spring  
Topics vary. Interdisciplinary focus may be thematic (e.g.: revolutions, new social movements, women's rights, Latin Americanism, testimonio, culture industries, etc.) or regional/national (e.g.: Andean Studies, Southern Cone Studies, Caribbean Studies, Mexican Studies, etc.)

LAS302 Interdisciplinary Topics in Latin American and Caribbean Studies-Travel Course  
3.00 credits  
Spring  
Topics vary. Interdisciplinary focus is thematic and regional (i.e. tourism in Yucatan; civil society in Chile, civil society in Haiti, cultural policy in the Caribbean, environmental policy in Panama.). Course involves travel during Spring Break and it has a program fee.

LAS320 Special Topics in Latin American and Caribbean Environment  
3.00 credits  
Offered By Announcement Only  
Topics vary. Interdisciplinary focus on policies and impact on globalization on the environment.

LAS321 Latin American Environmental Issues  
3.00 credits  
Fall  
A comprehensive course on Latin American and Caribbean environmental issues in their political, economic, and social dimensions.
LAS330 Special Topics in Latin American and Caribbean Religions
3.00 credits  Offered By Announcement Only
Topics vary. Interdisciplinary focus may be thematic or regional (eg: Liberation Theology, Latin American and Latino Religions, Caribbean Religions.)

LAS340 Special Topics in Latin American and Caribbean Economics
3.00 credits  Offered By Announcement Only
Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Economics and Economic Development.

LAS360 Special Topics in Latin American and Caribbean Politics
3.00 credits  Offered By Announcement Only
Topics Vary. Interdisciplinary focus may be thematic or regional (eg: democracy, new social movements, globalization, politics and society.)

LAS362 DRUG TRAFFICKING IN LATIN AMERICA AND THE CARIBBEAN
3.00 credits  Offered By Announcement Only
This course introduces students to the study of drug trafficking in Latin America and the Caribbean and its relationship with organized crime, understanding both as important aspects in the dynamics of globalization, international relations, and domestic politics.

LAS370 Special Topics in Latin American and Caribbean Media and Communications
3.00 credits  Offered By Announcement Only
Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Media and Communication.

LAS491 DEBATES ON CURRENT ISSUES IN LATIN AMERICAN AND CARIBBEAN STUDIES
3.00 credits  Offered By Announcement Only
Content may vary from semester to semester. This is an upper level course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean and Latino communities in the United States.

LAS494 Independent Study in Latin American and Caribbean Studies
1.00 - 3.00 credits  Fall, Spring
Independent study leading to a thesis, original piece of research, or creative project on a Latin American or Caribbean subject.

LAS501 INTERDISCIPLINARY IN LATIN AMERICAN AND CARIBBEAN
3.00 credits  Fall
Interdisciplinary methods and politics of Latin American and Caribbean area Studies.

LAS502 Research Design in Latin American Studies
3.00 credits  Spring
Interdisciplinary research methods and skills in Latin American and Caribbean studies.

LAS503 Program Seminar in Latin American Studies and Caribbean Studies
3.00 credits  Fall, Spring
Content of course will vary by semester.
LAS504 Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Cours
3.00 credits Spring
Topics vary. Interdisciplinary focus is thematic and regional (e.g.: tourism in Yucatan; civil society in Chile, Haiti-Dominican Republic relations, cultural policy in the Caribbean, environmental policy in Panama.) Course involves travel during Spring Break and it has a program fee.

LAS505 Internship in Latin American and Caribbean Studies
1.00 - 3.00 credits Fall, Spring & Summer
On-site experience in business, governmental organization, or non-profit organization dealing with Latin America and/or the Caribbean.

LAS506 CIVIC ENGAGEMENT IN LATIN AMERICA
1.00 - 3.00 credits Fall, Spring & Summer
On site experience in a civic engagement project in Latin America or the Caribbean.

LAS520 Interdisciplinary Topics in Latin American and Caribbean Environments
3.00 credits Fall, Spring
Topics vary. Interdisciplinary focus on policies and impact of globalization on the environment.

LAS594 Directed Readings in Latin America and Caribbean
3.00 credits Fall, Spring
Independent Study leading to an original piece of research, or creative projection of a Latin American or Caribbean interdisciplinary topic.

LAS597 Readings for the Comprehensive Exam
3.00 credits Fall, Spring
Readings for M.A. students who are preparing for comprehensive examinations.

Law Undergraduate
LWU000 HPLW LAW ELECTIVE
1.00 - 32.00 credits Fall, Spring & Summer

Master of Arts Liberal St
MLS595 Special Topics
3.00 credits Fall, Spring

MLS596 Special Topics
3.00 credits Offered By Announcement Only

MLS597 Special Topics
3.00 credits Offered By Announcement Only

Mathematics
MTH099 Intermediate Algebra
3.00 credits Fall, Spring & Summer
Real number operations, polynomials, factoring, rational numbers and rational expressions. Cannot be used to fulfill the 120 credits required for graduation.

MTH101 Algebra for College Students
3.00 credits Fall, Spring & Summer
Algebraic operations and properties of the real numbers; linear and quadratic equations and inequalities; polynomials and factoring; rational expressions; radical expressions; graphs of lines; systems of linear equations.
MTH105 Algebra and Trigonometry
5.00 credits Fall, Spring
An intensive course in algebra and trigonometry as covered in MTH 107-108, but without analytic geometry.

MTH107 Precalculus Mathematics I
3.00 credits Fall, Spring & Summer
Algebraic operations; equations and inequalities; complex numbers; functions and their graphs; polynomial, exponential, and logarithmic functions; systems of equations.

MTH108 Precalculus Mathematics II
3.00 credits Fall, Spring & Summer
Rational functions; analytic geometry; trigonometric functions, identities, and equations.

MTH113 FINITE MATHEMATICS
3.00 credits Fall, Spring & Summer
Sets, logic, counting techniques, elementary probability and statistics, mathematics in finance, linear programming, algebraic structures, symmetry. The selection of topics may vary by instructor. Intended for BA students.

MTH130 Introductory Calculus
3.00 credits Fall, Spring
A one-semester survey of the fundamental principles of calculus, functions, limits, derivatives, definite integrals, applications. Not for students planning further study of calculus beyond this course.

MTH140 Calculus Concepts with Foundations A
4.00 credits Fall
Tools from algebra and trigonometry for calculus. Functions and graphs, limits and continuity, the derivative and applications.

MTH141 Calculus Concepts with Foundations B
4.00 credits Spring
Tools from algebra, trigonometry, and analytic geometry for calculus. Further aspects of differentiation. Antiderivatives, definite integrals, and their applications.

MTH151 Calculus I for Engineers
5.00 credits Fall, Spring
Analytic geometry, limits and continuity, derivatives, the definite integral, and applications relevant to engineering. Intended for students taking PHY 205 concurrently.

MTH161 Calculus I
4.00 credits Fall, Spring & Summer
Limits and continuity, derivatives and applications, the definite integral and applications.

MTH162 Calculus II
4.00 credits Fall, Spring & Summer
Transcendental functions, methods of integration, improper integrals, infinite series, polar coordinates, and introduction to differential equations.
MTH171 Calculus I
4.00 credits Fall
The theory of limits, the derivative and the definite integral, techniques and applications. The sequence MTH 171-172 is more conceptually-oriented than MTH 161-162.

MTH172 Calculus II
4.00 credits Fall, Spring
Continuation of MTH 171. Additional topics on the derivative and definite integral, improper integrals, infinite series, and introduction to differential equations.

MTH210 Introduction to Linear Algebra
3.00 credits Fall, Spring

MTH211 Calculus III
3.00 credits Fall, Spring & Summer
Vectors in space, partial differentiation, multiple integration.

MTH224 Introduction to Probability and Statistics
3.00 credits Fall, Spring & Summer
Probability distributions, random variables, expectation and variance, point estimation, interval estimation, testing of hypotheses, analysis of variance.

MTH230 Introduction to Abstract Mathematics
3.00 credits Fall, Spring
Fundamentals of set theory, logic and methods of mathematical proof.

MTH300 Mathematical Models in Biology and Medicine
3.00 credits Spring

MTH309 Discrete Mathematics I
3.00 credits Fall, Spring

MTH310 Multivariable Calculus
3.00 credits Fall, Spring & Summer

MTH311 Introduction to Ordinary Differential Equations
3.00 credits Fall, Spring

MTH320 Introduction to Numerical Analysis
3.00 credits Spring
Interpolation, quadrature, numerical solution of algebraic and transcendental equations, and optimization.
MTH359 Mathematical Models in Biology and Medicine
3.00 credits  Spring
Fundamentals of the dynamical systems approach to modeling temporal change in biological systems. An introduction to the analysis of mathematical models in biology and medicine with detailed, concrete examples drawn from ecology, cell biology, neuro-science, and physiology.

MTH433 Advanced Calculus
3.00 credits  Fall
A rigorous and comprehensive treatment of the theoretical concepts of calculus. The real number system; sequences; series; continuity, differentiation, and integration of functions of one variable.

MTH461 Survey of Modern Algebra
3.00 credits  Fall, Spring
Algebraic systems, equivalence classes, groups, rings, fields, unique factorization domains.

MTH471 Directed Readings
1.00 - 3.00 credits  Offered By Announcement Only
Topics selected from algebra, geometry, analysis, topology.

MTH472 Directed Readings
1.00 - 3.00 credits  Offered By Announcement Only
Topics selected from algebra, geometry, analysis, topology.

MTH502 History of Mathematics
3.00 credits  Fall
The development of mathematics from its earliest beginnings through the first half of the twentieth century. Numeral systems, geometry, algebra, analysis and set theory.

MTH504 Foundations of Geometry
3.00 credits  Fall
Axiom systems and models of Euclidean and Non-Euclidean geometry.

MTH505 Theory of Numbers
3.00 credits  Spring
Divisibility, primes; congruences, quadratic residues and reciprocity; Diophantine equations. Applications to cryptography.

MTH510 Linear Algebra
3.00 credits  Spring
Abstract vector spaces, bases and dimensions, linear maps, eigenvalues and eigenvectors, inner product spaces, operators, spectral theorems, canonical forms.

MTH512 Elementary Complex Analysis
3.00 credits  Spring
Complex variables; conformal mapping, contour integration.

MTH513 Partial Differential Equations I
3.00 credits  Fall
Derivation, well posedness, and qualitative properties of initial value and boundary value problems for the heat, wave and Laplace equations. Energy methods, causality, maximum principles, heat kernels, Fourier series, and potential theory.
MTH514 Partial Differential Equations II
3.00 credits
Spring

MTH515 Ordinary Differential Equations
3.00 credits
Fall
Linear systems, equilibrium and periodic solutions, stability analysis, bifurcation, phase plane analysis, boundary value problems, applications to engineering and physics.

MTH516 Dynamics and Bifurcations
3.00 credits
Spring
Bifurcation of equilibrium and periodic solutions, global theory of planar systems, planar maps, nonlinear vibrations, forced oscillations, chaotic solutions, Hamiltonian systems, applications to engineering and physics.

MTH520 Numerical Analysis I
3.00 credits
Spring
Topics from numerical linear algebra including solving systems of equations, LU, QR, and SVD factorizations, eigenvalues and eigenvectors, interactive methods and applications.

MTH524 Introduction to Probability Theory
3.00 credits
Fall
Probability spaces, random variables, expectation, limit theorems.

MTH525 Introduction to Mathematical Statistics
3.00 credits
Spring
Probability distributions, theory of sampling and hypothesis testing.

MTH527 Theory of Computing
3.00 credits
Offered By Announcement Only
Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

MTH531 Topology I
3.00 credits
Fall
Set theory, topological spaces, compactness, connectedness, separation properties, quotient spaces, Tychonoff Theorem, compactification, Urysohn Lemma and Tietze Extension Theorem, function spaces.

MTH532 Topology II
3.00 credits
Spring
Differential and topological manifolds, classical groups and associated manifolds, tangent and tensor bundles, vector fields, differential forms, transversality, Sard's theorem, Stokes' Theorem.
MTH533 Introduction to Real Analysis I
3.00 credits
Fall
Sequences and series in Euclidean space; sequences and series of functions; Fourier series; continuity, differentiation, and integration of functions between Euclidean spaces; implicit and inverse function theorems.

MTH534 Introduction to Real Analysis II
3.00 credits
Spring
Continuation of MTH 533.

MTH542 Statistical Analysis
3.00 credits
Fall
Statistical inference about one or two populations from interval, ordinal and categorical data; analysis of variance; simple and multiple linear regression; designing research studies.

MTH547 Introduction to Mathematical Finance
3.00 credits
Offered By Announcement Only

MTH551 Introduction to Differential Geometry
3.00 credits
Fall
Geometry of curves and surfaces in Euclidean space. Local space curve theory, intrinsic and extrinsic curvature of surfaces, geodesics, parallelism, and differential forms.

MTH561 Abstract Algebra I
3.00 credits
Fall
Groups; rings; linear algebra; modules.

MTH562 Abstract Algebra II
3.00 credits
Spring
Continuation of MTH 561.

MTH571 Directed Readings in Mathematics
1.00 - 3.00 credits
Fall, Spring
Readings in special topics.

MTH591 Topics in Mathematics
1.00 - 3.00 credits
Offered By Announcement Only

MTH592 Topics in Mathematics
1.00 - 3.00 credits
Offered By Announcement Only

MTH593 Topics in Mathematics
1.00 - 3.00 credits
Offered By Announcement Only
MIC301 Introduction to Microbiology and Immunology  
0.00 - 5.00 credits  
Basic principles of microbiology and immunology, including laboratory exercises. Course is required for microbiology and immunology majors; recommended for biology, chemistry and biochemistry majors and those considering the Health sciences.

MIC302 Introduction to Microbiology and Immunology Honors Seminar  
1.00 credit  
Spring  
Special topics in Microbiology/Immunology requiring a term paper and/or an oral presentation.

MIC303 Part 1 of 2: Introductory Microbiology and Immunology (Lecture)  
3.00 credits  
Spring  
Basic principles of microbiology and immunology. This course is part one of a two part sequence. Course is required for MIC majors; recommended for BIL, CHM, BMB majors and those considering the health sciences.

MIC304 Part 2 of 2: Introductory Microbiology and Immunology (Lab)  
2.00 credits  
Fall  
Basic laboratory principles of microbiology and immunology. This course is part two of a two part sequence. Course is required for all students taking the MIC 303.

MIC320 Introduction to Microbiology and Immunology for Nurses  
3.00 credits  
Spring  
Course covers the basic principles of microbiology and immunology. Course cannot be used for MIC major or minor credit.

MIC321 Immunobiology  
3.00 credits  
Fall  
Mechanisms underlying the cooperation between T-cells, B-cells, and antigens leading to humoral and cell mediated responses. The significance of immune cells and their products pertaining to autoimmunity, transplantation, and the surveillance of neoplastic cells is covered.

MIC322 Medical Parasitology  
3.00 credits  
Spring  
Course discusses the biochemistry, physiology, pathogenicity, immunology, and mechanism of drug action and resistance of medically important parasitic protozoa, trematodes, nematodes, and cestodes.

MIC323 Principles of Microbial Pathogenesis  
3.00 credits  
Fall  
Course analyzes host-microbe relationships at the molecular and cellular levels with an emphasis on microbial virulence determinants and host cell defense responses.

MIC434 Microbial Genetics and Molecular Immunology  
3.00 credits  
Fall  
Course analyzes DNA replication, mutation, repair, recombination, jumping genes(transposons), infective hereditary mechanisms, gene regulation, protein synthesis, recombinant DNA technology, modern methods, and application of genetic engineering. Origin of antibody diversity, organization, and expression of antibody genes is included.
MIC436 Fundamental and Medical Virology
3.00 credits
Spring
The study of viruses as biological entities and etiological agents of disease. Virus-cell and virus-host interactions are also discussed.

MIC441 Microbiology and Immunology Colloquium
1.00 credit
Fall, Spring
External and internal faculty presentations as well as graduate presentations of recent advances in research. Course meets on hour per week.

MIC451 Special Projects in Immunobiology
2.00 - 6.00 credits
Fall, Spring
Laboratory research problems in major areas of immunobiology including literature search, experimental design, data gathering and evaluation of results.

MIC452 Special Projects in Parasitology
2.00 - 6.00 credits
Fall, Spring
Laboratory research problems in major areas of parasitology including literature search, experimental design, data gathering and evaluation of results.

MIC453 Special Projects in Pathogenic Bacteriology
2.00 - 6.00 credits
Fall, Spring
Laboratory research problems in major areas of pathogenic bacteriology including literature search, experimental design, data gathering and evaluation of results.

MIC454 Special Projects in Microbial Genetics
2.00 - 6.00 credits
Fall, Spring
Laboratory research problems in major areas of microbial genetics including literature search, experimental design, data gathering and evaluation of results.

MIC455 Special Projects in Immunogenetics
2.00 - 6.00 credits
Fall, Spring
Laboratory research problems in major areas of immunogenetics including literature search, experimental design, data gathering and evaluation of results.

MIC456 Special Projects in Virology
2.00 - 6.00 credits
Fall, Spring
Laboratory research problems in major areas of virology including literature search, experimental design, data gathering, and evaluation of results.

MIC523 Mechanisms of Microbial Virulence
2.00 credits
Spring
This course will focus on the mechanisms employed by bacterial and viral pathogens to produce disease in animals and humans. The course is divided into two 3 week modules. The first module will cover bacterial pathogens with an emphasis on the bacteria-host cell interaction. Specific topics will include: bacterial attachment and invasion of eukaryotic cells, virulence gene regulation, secretion of virulence factors, bacterial toxins and obligate intracellular bacterial pathogens. The second module will cover viruses and human viral diseases with an emphasis on viral replication, gene expression, virus-host cell interactions and viral oncology. Classes will consist of a mixture of lectures and discussions of recent or classic papers. There will be 2 exams.
MSL101 Basic Military Science  
0.00 - 2.00 credits  
Fall  
Introduction to Army organizations, military customs and courtesies, basic stationary and marching drills, basic map reading, land navigation, drown-proofing, rappelling, river crossing techniques, physical fitness training, and practical exercises in field discipline. Requires outdoor leadership laboratory and at least one weekend field training exercise.

MSL102 Basic Military Science  
0.00 - 2.00 credits  
Spring  
Introduction to basic leadership principles and traits, army command and staff officer duties, awards, decorations, individual military tactics, field discipline, patrolling techniques, radio telephone procedures, rappelling and river crossing. Requires outdoor leadership laboratory and at least one weekend field training exercise.

MSL201 Basic Military Science  
0.00 - 2.00 credits  
Fall  
Instruction to squad and platoon marching drills, development of physical fitness training programs, conduct on military training and inspections, leadership techniques, advanced map reading, rappelling and river crossing techniques. Requires outdoor leadership laboratory and at least one weekend field training exercise.

MSL202 Basic Military Science  
0.00 - 2.00 credits  
Spring  
Continued instruction in drill and ceremonies, radio/telephone procedures, nuclear, biological, and chemical warfare, practical land navigation, orienteering, and introduction to combat troop leading procedures. Requires outdoor leadership laboratory and at least one weekend field training exercise.

MSL301 Basic Military Science  
0.00 - 3.00 credits  
Fall  
Classroom and field experience in leading squads and platoons in both garrison and combat environments. Practical exercises in combat troop leading procedures. Advanced physical fitness training to include endurance runs and tactical road marches. Requires outdoor leadership laboratory and at least one weekend field training exercise.

MSL302 Advanced Military Science  
0.00 - 3.00 credits  
Spring  
Classroom instruction and field experience in combat troop leading procedures for offensive, defensive and patrolling missions. Advanced written and practical land navigation exercises. Company level drill and ceremonies to include manual of arms. Classroom and practical exercises on requests for artillery and mortar fires. Practical experience with training underclassmen in first aid and individual tactics.

MSL401 Advanced Military Science  
0.00 - 3.00 credits  
Fall  
Instruction instills an uncompromising commitment to the Army Ethic, enhances thought processes and decision-making skills, and relates officer behavior to cadet leadership roles. Students are primarily responsible for the command and control of the cadet battalion for training purposes. Student's role is principally one of officer leader at the platoon (30 or more under classmen) and higher levels and cadet instructor/evaluator. Rifle qualification. Company level drill and ceremonies to include manual of arms.
Military Science

MSL402 Advanced Military Science
0.00 - 3.00 credits
Spring
Capstone course in the preparation for a commission as a second lieutenant. The training is intended to solidify the commitment to officership, reinforce individual competencies, and afford maximum practical officer leader experiences through responsible leadership positions within the cadet battalion command and staff.

MSL440 Studies in Military History
1.00 - 3.00 credits
Fall, Spring
Supervised readings and independent study in military history.

MSL499 Independent Studies in U.S. Military History
3.00 credits
Fall, Spring
Supervised readings and independent study in United States Military History. Writing requirements.

Modern Language and Liter
MLL321 TOPICS IN COMPARATIVE LITERARY STUDIES
3.00 credits
Offered By Announcement Only
Comparative and/or interdisciplinary topics in the study of literature. Specific topics vary; may be repeated for credit if topics differ. Taught in English.

MLL322 TOPICS IN COMPARATIVE CULTURAL STUDIES
3.00 credits
Offered By Announcement Only
Cultural phenomena in various societies. Interdisciplinary analysis of the political dynamics of contemporary culture and its historical foundations with a focus on ideology, social class, nationality, ethnicity, sexuality and/or gender. Specific topics vary; may be repeated for credit if topics differ. Taught in English.

MLL325 WORLD CINEMA
3.00 credits
Offered By Announcement Only

MLL330 COMPARATIVE TOPICS IN GENDER AND SEXUALITY
3.00 credits
Offered By Announcement Only
Topics in gender and sexuality in a comparative perspective. May be repeated if topics vary. Taught in English.

MLL340 MIGRATION STUDIES
3.00 credits
Offered By Announcement Only
Topics within the literary and/or cultural dimensions of migration in a comparative framework. Writing Credit.

MLL345 FRANCO–MAHGREB STUDIES
3.00 credits
Offered By Announcement Only

MLL360 THE CARIBBEAN THROUGH LITERARY AND CULTURAL STUDIES
3.00 credits
Offered By Announcement Only

MLL404 Language in Society
3.00 credits
Fall
Overview of ideological, social, political, economic, and cultural issues of language in society, and the principle linguistic concepts and methodologies that guide research on those issues. Language variation, social dialectology, multilingualism, interaction and interpersonal communication, gender, language and power, language policy and planning, and globalization are highlighted. The main focus of the course (at least 80%) will be on non-English languages in particular, those taught in MLL.
MLL503 Introduction to Foreign Language Teaching: Theory and Practice
3.00 credits  
Spring
Current trends in foreign language teaching with emphasis on introductory language courses. Topics include: linguistic and psychological foundations, teaching methodologies, language skills development.

MLL597 Readings for the Ph.D. Examinations
1.00 - 3.00 credits  
Offered By Announcement Only
For Ph.D. students who are preparing for exams.

MLL599 Internship
1.00 credit  
Offered By Announcement Only
Students work in a community or business setting on issues related to language, culture, and/or teaching.

Neuroscience Program

NEU190 FACULTY OVERVIEW OF RESEARCH AND UNDERGRADUATE MENTORING (FORUM)
1.00 credit  
Spring
Critical discussion of research reports in neuroscience.

NEU200 INTRODUCTION TO PSYCHIATRY
3.00 credits  
Summer
The course will cover basic aspects of Psychiatry and behavioral sciences. We will emphasize the impact of evidence-based findings on the diagnosis, etiology, management and treatment of all major psychiatric disorders. Concepts such as history of psychiatry, evolution of the psychiatric nomenclature, childhood and adult development, brain circuitry, neurotransmitters, psychotherapies and pharmacological mechanisms of most commonly used medications will be discussed. We will utilize lectures, small group discussions as well as videos and live patient interviews. Students will be able to observe a patient interview by a faculty.

NEU280 INTRODUCTION TO RESEARCH PROJECTS I
1.00 - 3.00 credits  
Fall, Spring & Summer
Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

NEU342 Neural Mechanisms of Disease
3.00 credits  
Fall, Spring
Cellular and molecular mechanisms underlying nervous system dysfunction and mental illness. Biological bases, including clinical and therapeutic aspects, of specific neurological disorders.

NEU380 INTRODUCTION TO RESEARCH PROJECTS II
1.00 - 3.00 credits  
Fall, Spring & Summer
Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

NEU400 NEUROGENETICS
3.00 credits  
Offered By Announcement Only
NEU403 Neuroscience laboratory
4.00 credits Fall, Spring
Research methods and laboratory experiments in contemporary neuroscience from individual cells to behavior. Scientific report writing and computer applications in experimental design and analysis.

NEU440 NEURAL MECHANISMS OF PSYCHIATRIC DISORDERS
3.00 credits Fall, Spring
Analysis of different neuropsychiatric disorders including, but not limited to, schizophrenia, depression, post-traumatic stress disorder and autism spectrum disorders. Lectures are derived from current research articles looking at in depth mechanisms of these disorders. It is expected that students have a good understanding on neuroscience, molecular biology and abnormal psychology before registering for this course. Grades are based upon two take home exams that are designed to test the student's knowledge of the material presented in class. In addition, students are required to write a research paper on a topic agreed upon by both the professor and the student.

NEU465 Cellular and Molecular Neuroscience
3.00 credits Fall, Spring
Biophysical, biochemical, and structural features of nerve muscle and sensory cells. Basic cellular processes underlying function and development of nervous system.

NEU468 Developmental Neuroscience.
3.00 credits Spring
Cellular and molecular aspects of nervous system including neuronal differentiation.

NEU480 RESEARCH WITH WRITING CREDIT
1.00 - 3.00 credits Fall, Spring & Summer
Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

NEU580 SENIOR HONORS IN NEUROSCIENCE I
3.00 credits Fall, Spring & Summer
Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

NEU581 SENIOR HONORS IN NEUROSCIENCE II
3.00 credits Fall, Spring & Summer
Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Philosophy

PHI100 JOHN RAWLS POLITICAL PHILOSOPHY
3.00 credits Fall
The study of John Rawl's Theory of Justice, Political Liberalism and Law of People and discussion of the main criticisms that raised Rawl's theory.

PHI101 Introduction to Philosophy
3.00 credits Fall, Spring & Summer
Problems concerning knowledge, mind, freedom, religion, and morality. Reading and discussion of primary sources.
PHI110 Critical Thinking  
3.00 credits  
Fall, Spring  
Principles of sound reasoning; the construction and evaluation of arguments in everyday contexts and the assessment of evidence.

PHI115 Social and Ethical Issues in Computing  
3.00 credits  
Spring  
History, social context and methods and tools of analysis. Professional and ethical responsibilities. Intellectual property. Privacy and civil liberties.

PHI130 Contemporary Moral Issues  
3.00 credits  
Fall, Spring & Summer  
An examination of the philosophical problems which arise in connection with such moral and social issues as abortion, war, suicide, civil disobedience, racial discrimination, the death penalty, and the right to privacy.

PHI200 INTRODUCTION TO THE PHENOMENOLOGICAL MOVEMENT  
3.00 credits  
Fall  
The main goal of the class is to understand and evaluate the philosophical import of the method that characterize the Phenomenological Movement.

PHI210 Symbolic Logic  
3.00 credits  
Fall & Summer  
Introduction to symbolic logic and its methods.

PHI215 Logic and Law  
3.00 credits  
Spring  
Principles and techniques of logic applied to legal reasoning.

PHI236 Feminist Philosophy  
3.00 credits  
Fall, Spring  
This course is an introduction to issues in feminist philosophy, including its critique of Western philosophy and its contributions to major areas of philosophy such as ethics, social philosophy, theories of human nature, and theories of knowledge. Theories of oppression introduced at the beginning of the course inform analyses of sexism, heterosexism, racism, classism and ableism, and philosophizing about these issues is aided by sociocultural research. The emphasis is not only on what is contained in these topics, but also on how to think critically about them.

PHI271 Ancient Philosophy  
3.00 credits  
Fall  
This course will introduce students to Ancient Greek ideas by examining central philosophical themes, such as: Knowledge; Why Be Moral? Justice in the City/Justice in the Soul; Liberty and Social Engineering; Happiness; Friendship; Death. We will use primary texts (in translation) by Plato, Aristotle, Cicero, and Augustine of Hippo, supplemented by some selections from the Greek historian Thucydides. Some Greek vocabulary will be assigned. The final exam will consist of a 2-week-long role playing game, The Threshold of Democracy: Athens in 403 B.C. (Developed by the Classics department at Barnard College, and a core component of Ancient Philosophy courses at UT Austin). Students will be assigned different roles: Thrasybulus; a radical Democrat; an Oligarch; and a supporter of Socrates.

PHI272 Modern Philosophy  
3.00 credits  
Spring  
The Renaissance through Kant.
PHI330 Ethics
3.00 credits
Fall, Spring
The main ethical systems and ethical concepts, an analysis of important ethical readings, and an application of ethical concepts to the individual and to society.

PHI331 Social and Political Philosophy
3.00 credits
Offered By Announcement Only
Relations between morality and politics, the sources and the limits of political obligation, the function of the state, the nature of law, civil disobedience and revolution.

PHI332 Philosophy of Law
3.00 credits
Offered By Announcement Only
An examination of basic philosophical issues concerning the nature and function of law, with particular attention to the legal system of the United States.

PHI334 Biomedical Ethics
3.00 credits
Offered By Announcement Only
Fundamental issues including: the allocation of medical resources, behavior control, definition of death, experimentation with human subjects, euthanasia, and Abortion.

PHI335 Professional Ethics
3.00 credits
Offered By Announcement Only
Moral issues in business, engineering, law, and medicine. Development of moral principles to guide those in professional roles.

PHI336 Human Rights.
3.00 credits
Offered By Announcement Only
This course offers philosophical, legal, and political perspectives on human rights. After a short introduction to international human rights, it surveys international human rights treaties and institutions. Next it turns to topics in human rights theory, covering some contemporary philosophical theories of human rights. The final section explores some human rights problems and controversies.

PHI340 Theory of Knowledge
3.00 credits
Offered By Announcement Only
Analysis of the nature, sources and structure of knowledge. Possible topics include perception, skepticism, reason, truth, justification, and certainty.

PHI341 Philosophy of Language
3.00 credits
Offered By Announcement Only
Theories of meaning, reference, predication, nature of signs and symbols, types and functions of discourse.

PHI343 Philosophy of Science
3.00 credits
Offered By Announcement Only
Scientific theories and their relation to evidence; experimentation and its logic; explanation, the rationality of science and the growth of scientific knowledge.

PHI344 Philosophy of Mind
3.00 credits
Offered By Announcement Only
The nature of mind and mental acts, events, and states and their relations to physical states of the brain and body and to behavior.
PHI345 Metaphysics
3.00 credits
Offered By Announcement Only
The basic structure and kinds of constituents of the world.

PHI346 Philosophy of Mathematics
3.00 credits
Offered By Announcement Only
An examination of key philosophical issues concerning mathematics and the understanding of mathematical practice.

PHI349 Philosophy of Space and Time
3.00 credits
Fall, Spring
Time and space are notoriously difficult to think about. We seem to have an intuitive understanding of them, but it is surprisingly hard to express that understanding. To make matters worse, modern physics challenges what little grasp we thought we had on the concepts of space and time. We are told that space can be curved, and that there can fail to be an objective fact about which of two events occurred first. So we are left without even an intuitive grasp of two of the most fundamental concepts of experience.

PHI351 Philosophy of Religion
3.00 credits
Offered By Announcement Only
The nature of and grounds for religious beliefs; traditional arguments for and against the existence of God; God's attributes; reason vs. faith.

PHI352 Aesthetics
3.00 credits
Offered By Announcement Only
The philosophy of art, such as defining 'art', adjudicating among competing judgments or interpretations of works of art, and understanding the metaphysical status of art objects.

PHI353 Philosophy of Film
3.00 credits
Fall, Spring
Philosophical questions concerning the ontology and aesthetics of film.

PHI373 Nineteenth Century Philosophy
3.00 credits
Offered By Announcement Only
Fichte, Schelling, Hegel, Schopenhauer, Kierkegaard, Marx, Comte, Mill, Spencer, and Nietzsche.

PHI374 Twentieth Century Philosophy
3.00 credits
Offered By Announcement Only
Philosophy and philosophers in the twentieth century.

PHI381 Existentialism
3.00 credits
Offered By Announcement Only
Existentialist philosophy as seen in the works of such authors as Kierkegaard, Nietzsche, Heidegger, Sartre, Camus, and Dostoevsky.

PHI391 Special Studies
3.00 credits
Offered By Announcement Only
Study of selected problems, philosophers, or movements. May be repeated for credit.

PHI392 Special Studies
3.00 credits
Offered By Announcement Only
Study of selected problems, philosophers, or movements. May be repeated for credit.
PHI494 INDEPENDENT STUDY IN PHILOSOPHY
1.00 - 3.00 credits
Independent research conducted under the guidance of a faculty member. May be repeated for credit.

PHI495 Senior Honors Thesis
3.00 credits
Directed reading and a substantial and scholarly paper.

PHI496 Senior Honors Thesis
3.00 credits
Directed reading and a substantial and scholarly paper.

PHI510 Formal Logic
3.00 credits
First and second-order quantification theory; metalogic. Spring

PHI530 Ethical Theory
3.00 credits
G. E. Moore to the present. Offered By Announcement Only

PHI533 Political Philosophy
3.00 credits
A survey of some central issues and developments in political philosophy. Offered By Announcement Only

PHI540 Epistemology
3.00 credits
A survey of the basic topics and questions in epistemology: knowledge acquisition and justification, perception, fallibilism, and skepticism. Offered By Announcement Only

PHI541 Mind and Language
3.00 credits
Philosophical problems about signs, linguistic and mental representations, intentionality, action, and consciousness. Offered By Announcement Only

PHI543 Induction, Probability, and Scientific Method
3.00 credits
Foundations of inductive reasoning and role of experiment in science. Offered By Announcement Only

PHI545 Metaphysics
3.00 credits
A selection of topics dealing with the main problems of metaphysics: existence, modality, universals, identity and persistence through time, causation, the self and physicalism. Offered By Announcement Only

PHI546 Evidence and Knowledge in Medicine
3.00 credits
Basic methodologies in medicine in the context of philosophical theories of evidence. Spring

PHI560 History of Logic
3.00 credits
Aristotle, the Stoics, the Scholastics, Leibniz, Boole, DeMorgan, Peirce, Frege, and Russell and Whitehead. Fall, Spring
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Philosophy

PHI562 History of Ethics
3.00 credits
Offered By Announcement Only
A selection of ethical theories from Aristotle to Rawls.

PHI573 Early Modern Philosophy
3.00 credits
Offered By Announcement Only
An examination of early modern philosophy from Hobbes and Descartes to Hume.

PHI575 Kant
3.00 credits
Offered By Announcement Only
An examination of selected issues in Kant's theoretical or practical philosophy.

PHI581 Pragmatism
3.00 credits
Offered By Announcement Only
Peirce, James, Dewey, and others.

PHI582 History of Analytic Philosophy
3.00 credits
Offered By Announcement Only
The development of analytic philosophy from its beginnings in the work of Frege and Russell through logical positivism to contemporary philosophy.

PHI583 The Phenomenological Tradition
3.00 credits
Offered By Announcement Only
An examination of the phenomenological movement (Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and others) and of its impact on contemporary thought.

PHI591 Special Topics
3.00 credits
Offered By Announcement Only
A selected philosopher or philosophical problem. May be repeated for credit.

PHI592 Special Topics
3.00 credits
Offered By Announcement Only
A selected philosopher or philosophical problem. May be repeated for credit.

PHI593 Special Topics
3.00 credits
Offered By Announcement Only
A selected philosopher or philosophical problem. May be repeated for credit.
PREREQUISITE: Six credits in Philosophy and junior standing.

PHI594 Independent Study in Philosophy
1.00 - 3.00 credits
Offered By Announcement Only
Directed reading on a topic or philosopher. May be repeated for credit.

Physics

PHY101 College Physics I
0.00 - 4.00 credits
Fall, Spring & Summer
Elementary mechanics, thermal phenomena, fluids, waves. Courses 101-102-106-108 provide a ten credit 'physics with lab' sequence for premedical students and others.

PHY102 College Physics II
0.00 - 4.00 credits
Fall, Spring & Summer
Electromagnetism, optics, and modern physics.

PHY103 General Physics
3.00 credits
Spring
Mechanics, waves, electromagnetism.
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Physics

PHY106 College Physics Laboratory I
1.00 credit
Laboratory course to accompany PHY 101.

PHY108 College Physics Laboratory II
1.00 credit
Laboratory course to accompany PHY 102.

PHY110 Descriptive Astronomy
3.00 credits
Fall, Spring
For students not majoring in Mathematics or a Physical Science. Brief non-technical treatment of the universe and its contents. Mathematical requirements are minimal with emphasis on our present knowledge about energy and matter in space. Not for major or minor.

PHY160 Physics of the Arts
3.00 credits
Spring
Newtonian mechanics, energy, wave motion, atoms, and electricity. Applications to music, art and communications.

PHY201 University Physics I - Life Sciences
0.00 - 4.00 credits
Fall
Calculus based introductory physics: mechanics, heat, fluids, waves, with applications from the life sciences.

PHY202 University Physics II - Life Sciences.
0.00 - 4.00 credits
Fall & Summer
Calculus based introductory physics: electromagnetism, optics, modern physics, with applications from the life sciences.

PHY205 University Physics I
0.00 - 3.00 credits
Fall, Spring & Summer
Mechanics through gravity and harmonic motion, intended for science and engineering students.

PHY206 University Physics II
0.00 - 3.00 credits
Fall, Spring & Summer
Fluids, waves, optics, thermal phenomena.

PHY207 University Physics III
0.00 - 3.00 credits
Fall, Spring & Summer
Electromagnetism through Maxwell's equations.

PHY208 University Physics II Lab
1.00 credit
Fall, Spring & Summer
Laboratory to accompany PHY 206.

PHY209 University Physics III Lab
1.00 credit
Fall, Spring & Summer
Lab to accompany PHY 207.

PHY210 Honors University Physics II-III
5.00 - 6.00 credits
Fall, Spring
Fluids, waves, optics, thermal phenomena, electromagnetism. Combines PHY 206 and 207.
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College of Arts and Sciences
Physics

PHY315 Mathematical Tools for Physics
3.00 credits  
Spring
How to use mathematics. Series, complex algebra, vector analysis, differential equations, etc.

PHY321 Thermodynamics and Kinetic Theory
3.00 credits  
Spring
An intermediate course in thermal phenomena, from both macroscopic and microscopic points of view.

PHY340 Classical Mechanics I
3.00 credits  
Fall
Includes harmonic motion, orbit theory, coupled oscillations, rigid body motions.

PHY350 Intermediate Electricity and Magnetism
3.00 credits  
Fall
Includes the integral and differential forms of Maxwell's equations, circuit theory, and boundary value problems.

PHY351 Intermediate Electricity and Magnetism II
3.00 credits  
Spring
A continuation of PHY 350. Includes further application of Maxwell's equations with emphasis on radiation theory.

PHY360 Introduction to Modern Physics
3.00 credits  
Fall, Spring
Emphasis on the experimental foundations of modern physics. Relativity, quantization, atomic structure, radiation, nuclei.

PHY362 Modern Physics Honors Seminar
1.00 credit  
Fall, Spring
Special Topics to accompany PHY 360. Co-requisite: PHY 360.

PHY401 Senior Thesis
3.00 credits  
Offered By Announcement Only

PHY402 Senior Thesis
3.00 credits  
Offered By Announcement Only

PHY500 Research
1.00 - 3.00 credits  
Offered By Announcement Only
Project course introducing methods of research, individual investigation of current problems.

PHY506 Advanced Laboratory
1.00 - 2.00 credits  
Spring
Advanced experiments such as properties of the electron, optical spectra, electrical measurements, radioactive decay, absorption, etc.

PHY515 Mathematical Techniques in Physics
3.00 credits  
Spring
Complex variables and applications. Infinite series and their uses, particularly in differential equations. Multiple integrals and Fourier series.
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Physics

PHY516 Readings in Physics
1.00 - 3.00 credits                                                    Fall, Spring

PHY517 Readings in Physics
1.00 - 3.00 credits                                                          Spring

PHY518 Readings in Physics
1.00 - 3.00 credits                                    Offered By Announcement Only

PHY520 Solid State Physics
3.00 credits                                           Offered By Announcement Only
Crystal structure, quantum theory of the electronic structure of solids, mechanical, electric, magnetic and optical properties of solids.

PHY530 Plasma Physics I
3.00 credits                                           Offered By Announcement Only
Kinetic theory of plasmas, adiabatic motion of charged particles magneto fluid dynamics, transport properties of plasmas in electromagnetic fields.

PHY540 Classical Mechanics II
3.00 credits                                                                   Fall
Lagrangian formulation, rigid body dynamics. Topics selected from fluid dynamics, non-linear oscillations, normal modes, phase plane analysis.

PHY545 Introduction to Astrophysics
3.00 credits                                                                 Spring
Celestial mechanics, solar models, galaxies, distance scales, instruments.

PHY552 Optical Physics
3.00 credits                                           Offered By Announcement Only
Geometric optics, interference and diffraction, polarized light, optical pumping, coherence phenomena, applications to modern physical research.

PHY560 Quantum Mechanics and Modern Physics I
3.00 credits                                                                   Fall
Introductory theory with applications to simple systems. Perturbation theory and atomic structure.

PHY561 Quantum Mechanics and Modern Physics II
3.00 credits                                                                 Spring
Applications of quantum mechanics to atomic and molecular spectroscopy, quantum statistical mechanics, and nuclear physics.

Portuguese

POR100 Business Portuguese for Spanish Speakers
3.00 credits                                                                 Spring
Introduction to commercial vocabulary, economic, technical, and diplomatic terminology in Portuguese for Spanish Speakers. Composition based on models of business correspondence directed to Portuguese-speaking countries or firms.

POR101 Elementary Portuguese I
3.00 credits                                           Offered By Announcement Only
Drill in pronunciation, fundamental grammatical principles, simple reading and translation, oral and written exercises. Normally, not open to students who have completed two years of Portuguese. Closed to native speakers.
### Portuguese

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Offered By</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POR102</td>
<td>Elementary Portuguese II</td>
<td>3.00</td>
<td>Announcement Only</td>
<td>Continuation of POR 101. Closed to native speakers.</td>
</tr>
<tr>
<td>POR105</td>
<td>Accelerated Elementary Portuguese</td>
<td>3.00</td>
<td>Fall, Spring</td>
<td>Intensive study of material covered in 101 and 102. Specifically intended for students who have completed three or more than years of high school Spanish or beginning Spanish at another university. Also intended for heritage speakers of Romance Languages other than Portuguese, or students with at least two years of college study of Spanish, Italian, or French. Closed to native speakers.</td>
</tr>
<tr>
<td>POR211</td>
<td>Intermediate Portuguese I</td>
<td>3.00</td>
<td>Fall, Spring</td>
<td>Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Portuguese. Not open to native speakers.</td>
</tr>
<tr>
<td>POR212</td>
<td>Intermediate Portuguese II</td>
<td>3.00</td>
<td>Fall, Spring</td>
<td>Intensive preparation for 300-level work through various genres (portraits, descriptions, short stories, film reviews, magazines, a novel). Workshop format, the course also develops conversational skills. Students complete a number of written projects (including an analytic paper). Class conducted in Portuguese. Closed to native speakers.</td>
</tr>
<tr>
<td>POR300</td>
<td>Brincar de Indio: Race and Representation in Brazil</td>
<td>3.00</td>
<td>Spring</td>
<td>The history of indigeneity in Brazil from colonialism to the present with a focus on indigenous cultural production (including literature and film) and its intersection with contemporary social and political movements.</td>
</tr>
<tr>
<td>POR301</td>
<td>INTERPRETING LITERARY AND CULTURAL TEXTS IN PORTUGUESE</td>
<td>3.00</td>
<td>Announcement Only</td>
<td>Tools for the interpretation and analysis of literary and cultural materials from the Portuguese-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in Portuguese.</td>
</tr>
<tr>
<td>POR310</td>
<td>Brazilian Women Writers in Translation</td>
<td>3.00</td>
<td>Announcement Only</td>
<td>Selected contemporary Brazilian women writers. Conducted in English. Emphasis on representations of nationality, race, class, ethnicity, gender, and sexuality. May be used to fulfill the humanities literature requirement; writing credit.</td>
</tr>
<tr>
<td>POR321</td>
<td>Studies in Luso-Brazilian Literary Themes</td>
<td>3.00</td>
<td>Announcement Only</td>
<td>The study of literature through thematic readings. Writing credit. May be repeated for credit if topics vary.</td>
</tr>
</tbody>
</table>
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POR322 Topics in Luso-Brazilian Cultures
3.00 credits Offered By Announcement Only
Cultural issues in the Portuguese-speaking world. Topics include media, religion, language in society, popular and mass culture, the arts, immigration, social movements, race, ethnicity, and gender. Writing credit. May be repeated for credit if topics vary.

POR363 Contemporary Lusophone Film
3.00 credits Offered By Announcement Only
Portuguese, Brazilian, and Lusophone African cinema from the 1950s to the present. POR minors must complete all written assignments in Portuguese; Others may opt to write in English, Portuguese, or Spanish. Conducted in Portuguese. Fulfills Humanities literature requirement; writing credit.

POR364 The Brazilian Short Story
3.00 credits Offered By Announcement Only
The Brazilian short story since 1890. Conducted in Portuguese. POR minors must complete all written assignments in Portuguese. Others may opt to write in English, Portuguese, or Spanish. Fulfills Humanities literature requirement; writing credit.

POR391 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only
Individual work on a topic not covered in the regular curriculum. May be repeated on a different topic.

POR591 Directed Readings in Portuguese
1.00 - 3.00 credits Offered By Announcement Only

POR592 Directed Readings in Portuguese
1.00 - 3.00 credits Offered By Announcement Only

Psychology

PSY106 FRESHMAN ADVISING CONTACT TERM (FACT)
1.00 credit Fall
Educates students about the structure and function of a research university, introduces them to the academic rules and regulations of the University of Miami and the Department of Psychology, enables them to think critically about their own graduation plan, and prepares them to enter the professional world.

PSY110 Introduction to Psychology
3.00 credits Fall, Spring & Summer
A survey of modern scientific psychology. Topics include learning, memory, perception, cognition, personality, motivation, emotion, development, abnormal psychology, and social psychology. Participation in a small number of experiments is required to ensure that students become acquainted first hand with the experimental laboratory methods used in Psychology. Students may choose to satisfy this requirement by writing a small number of methodology papers instead.

PSY120 BIOLOGICAL FOUNDATION OF PSYCHOLOGY
1.00 credit Summer
PSY 120 deals with mental processes and behavior viewed from a biological perspective. Topics include biological factors underlying neural and hormonal communication and control, development and plasticity, sensation and perception, homeostasis and motivational states (e.g., hunger), consciousness, sleep, and other states, emotion and stress, learning and memory, and psychological disorders and treatment.
Psychology

PSY175 SPECIAL TOPICS
1.00 - 3.00 credits Offered By Announcement Only

PSY190 FACULTY OVERVIEW OF RESEARCH AND UNDERGRADUATE MENTORING (FORUM)
1.00 credit Spring
Critical discussion of research reports in psychology.

PSY201 SOCIAL PSYCHOLOGY: PSYCHOLOGICAL PERSPECTIVE
3.00 credits Summer
The major theories, methods and research findings in social psychology. Attitude formation and change, person perception, interpersonal attraction, aggression, group structure, leadership, conformity and mass phenomena. Emphasizes the individual as the basic unit of analysis (compare SOC 302).

PSY203 Child and Adolescent Development
3.00 credits Summer
Survey of significant aspects of growth and development throughout the lifespan. Emphasis placed on childhood and adolescence.

PSY204 Introductory Biobehavioral Statistics
4.00 credits Summer
Application of descriptive and inferential statistics to behavioral data. Principles and methods of summarizing data. Correlation and regression. Basic concepts of probability, hypothesis testing, and decision making. Tests of significance, confidence intervals, and analysis of variance. Examples and problems from biology, education, medicine, nursing, psychology, sociology.

PSY206 TRANSFER TO THE UNIVERSITY OF MIAMI (TUMS)
1.00 credit Fall, Spring
Educates students about the structure and function of a research university, introduces them to the academic rules and regulations of the University of Miami and the Department of Psychology, enables them to think critically about their own graduation plan, integrates them into the social atmosphere of the University, and prepares them to enter the professional world.

PSY207 Introduction to Cognition
3.00 credits Fall, Spring
Survey of theory and research on human information processing and cognitive processes.

PSY209 Introduction to Personality
3.00 credits Fall, Spring
A survey of the area of personality, including the relation of Personality to general psychology, history of theory and research in the field, definition, assessment, and research findings in major substantive areas.

PSY210 SOCIAL PSYCHOLOGY
3.00 credits Fall, Spring
The major theories, methods and research findings in social psychology. Attitude formation and change, person perception, interpersonal attraction, aggression, group structure, leadership, conformity and mass phenomena. Emphasizes the individual as the basic unit of analysis (compare SOC 302).
PSY215 Stress Management
3.00 credits
Fall, Spring & Summer
Physiology and psychology of stress, with emphasis on mind-body (stress-health) connection. Integrates scientific knowledge with practice techniques such as muscle relaxation, cognitive restructuring, meditation, anger management, yoga, exercise, assertiveness training, and social support.

PSY220 PSYCHOBIOLOGY
3.00 credits
Fall, Spring
Behavior viewed from a biological perspective. Survey of biological factors subserving sensation, perception, sleep, emotions, motivation, learning, memory, and development.

PSY230 CHILD AND ADOLESCENT DEVELOPMENT
3.00 credits
Fall, Spring & Summer
Survey of significant aspects of growth and development throughout the lifespan. Emphasis placed on childhood and adolescence.

PSY240 ABNORMAL PSYCHOLOGY
3.00 credits
Fall, Spring
Diagnostic formulations of the clinical syndromes; theories of psychopathological states.

PSY250 COGNITIVE PSYCHOLOGY
3.00 credits
Fall, Spring
Survey of theory and research on human information processing and cognitive processes.

PSY260 PERSONALITY PSYCHOLOGY
3.00 credits
Fall, Spring
A survey of the area of personality, including the relation of personality to general psychology, history of theory and research in the field, definition, assessment, and research findings in major substantive areas.

PSY270 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
3.00 credits
Fall, Spring
Applications of psychology in business, industry, and to organizational effectiveness in general. Supervisory, leadership, morale, personnel selection, training, human factors engineering, and consumer psychology.

PSY271 STRESS MANAGEMENT
3.00 credits
Fall, Spring & Summer
Physiology and psychology of stress, with emphasis on mind-body (stress-health) connection. Integrates scientific knowledge with practice techniques such as muscle relaxation, cognitive restructuring, meditation, anger management, yoga, exercise, assertiveness training, and social support.

PSY275 SPECIAL TOPICS
1.00 - 3.00 credits
Offered By Announcement Only

PSY280 INTRODUCTION TO RESEARCH PROJECTS I
1.00 - 3.00 credits
Fall, Spring & Summer
Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.
PSY290 INTRODUCTION TO RESEARCH METHODS
3.00 credits                                    Fall, Spring
An introduction to research methods in psychology. We will discuss the scientific concepts, principles, and ways of thinking that are central to the study of psychology. Topics to be covered include the goals of psychological research, ethical issues in the design and implementation of research studies, research design strategies and types of measurement, and methods of presenting data. A variety of in-class assignments will provide students with the opportunity to reflect upon the ways in which research is conducted, presented, and interpreted.

PSY291 INTRODUCTION TO BIOBEHAVIORAL STATISTICS
3.00 credits                                    Fall, Spring & Summer
The basics of descriptive and inferential statistics, but the focus will be on the latter. We will cover only enough descriptive statistics to enable us to introduce the inferential concepts of regression, t-tests ANOVA and Chi Square.

PSY292 INTRODUCTION TO BIOBEHAVIORAL STATISTICS FOR NON-MAJORS
3.00 credits                                    Fall, Spring & Summer
The basics of descriptive and inferential statistics, but the focus will be on the latter. Descriptive statistics to introduce the inferential concepts of regression, t-tests ANOVA and Chi Square.

PSY301 Psychology of Gender
3.00 credits                                    Fall, Spring & Summer
Psychological theories and research related to understanding issues of gender across the lifespan.

PSY310 ATTITUDES AND PERSUASION
3.00 credits                                    Offered By Announcement Only
An analysis of the major theories and research findings relating to attitude formation and change, including a review of widely used persuasion techniques.

PSY311 EMOTION
3.00 credits                                    Fall, Spring
Theory and research concerning the development, arousal, and expression of emotional reaction.

PSY312 PSYCHOLOGY OF GENDER
3.00 credits                                    Fall, Spring & Summer
Psychological theories and research related to understanding issues of gender across the lifespan.

PSY313 ROMANTIC RELATIONS
3.00 credits                                    Offered By Announcement Only
An introduction to how social scientists think about, study, and intervene with romantic relationships.

PSY320 PSYCHOLOGY OF DRUGS AND BEHAVIOR
3.00 credits                                    Spring
The psychological and physiological effects of drugs. Includes psychosocial aspects of drug use and the treatment and prevention of abuse. An introduction to psychopharmacology.
PSY330 PSYCHOLOGY OF LANGUAGE DEVELOPMENT
3.00 credits Offered By Announcement Only
Developmental sequences in the acquisition of language; the scientific endeavor to understand language learning.

PSY331 PSYCHOLOGY OF ADULTHOOD AND AGING
3.00 credits Spring
Major developments during the middle and later years of adulthood including changes in family and peer relationships, cognitive changes, physical changes, psychological aspects of death and dying.

PSY345 ABNORMAL CHILD PSYCHOLOGY
3.00 credits Fall, Spring & Summer
Reviews definitions, theories, and causes of mental and cognitive disorders in youth, including anxiety, depression, conduct problems, and learning and intellectual disabilities.

PSY350 Psychology of Human Sexual Behavior
3.00 credits Offered By Announcement Only
Interaction of biological and social factors in normal sexual development, and behavior patterns; etiologies of dysfunctions, paraphilias and gender-identity disorders; assessment and intervention procedures.

PSY351 PSYCHOLOGY OF INTELLECTUAL AND DEVELOPMENTAL DISABILITIES
3.00 credits Offered By Announcement Only
The etiological, social, and psychological aspects of intellectual and developmental disabilities.

PSY352 Abnormal Psychology
3.00 credits Fall, Spring
Diagnostic formulations of the clinical syndromes; theories of psychopathological states.

PSY355 PSYCHOLOGY OF THINKING AND LEARNING IN CHILDREN
3.00 credits Fall, Spring
Development of perceptions, thought, and language processes throughout the lifespan with an emphasis on early and middle childhood.

PSY360 PERSONALITY THEORY
3.00 credits Fall, Spring
The role of structure, development, dynamics, individual differences, assessments, and deviations.

PSY367 Introduction to Research Projects
1.00 - 3.00 credits Fall, Spring & Summer
Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

PSY368 Introduction to Research Projects
1.00 - 3.00 credits Fall, Spring & Summer
Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.
PSY370 PSYCHOLOGY OF HUMAN SEXUAL BEHAVIOR
3.00 credits  Offered By Announcement Only
Interaction of biological and social factors in normal sexual development, and behavior patterns; etiologies of dysfunctions, paraphilias and gender-identity disorders; assessment and intervention procedures.

PSY375 SPECIAL TOPICS
1.00 - 3.00 credits  Offered By Announcement Only

PSY380 INTRODUCTION TO RESEARCH PROJECTS II
1.00 - 3.00 credits  Fall, Spring & Summer
Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

PSY390 INTERMEDIATE RESEARCH METHODS AND BIOBEHAVIORAL STATISTICS
3.00 credits  Fall, Spring
Students will conduct two (or more) pre-planned experiments. For each experiment, students will analyze the data and write up the components of a research report. In addition, students will receive detailed feedback on the assignments they submit, as an aid to improving their writing skills, reinforcing and reviewing their knowledge of research design and methodology, and expanding their understanding of statistical analyses as well as their interpretation and presentation.

PSY391 TESTS AND MEASUREMENTS
3.00 credits  Offered By Announcement Only
Theory and principles of construction, use, evaluation, and interpretation of psychological tests and testing procedures.

PSY410 SOCIAL INTERACTION PROCESSES
3.00 credits  Offered By Announcement Only
An in-depth analysis of variables leading to, and processes involved in, human social interactions ranging from superficial encounters to intimate relationships.

PSY411 RELATIONSHIPS AND Health
3.00 credits  Offered By Announcement Only
Interpersonal processes that play out in the course of chronic physical illnesses. An integrated foundation on theories and concepts of interpersonal relationships in psychology and a comprehensive introduction to how these theories and concepts can be applied to relationships among family members dealing with physical illnesses. Students will be introduced to diverse perspectives on interpersonal relationships and to a broad perspective on physical illnesses as ?family? diseases, across the illness trajectory.

PSY421 Health PSYCHOLOGY
3.00 credits  Offered By Announcement Only
The psychosomatic and biopsychosocial models of illness.

PSY425 PSYCHOBIOLOGY
3.00 credits  Fall, Spring
Basic neuroanatomy, neurophysiology, and neurochemistry followed by an introduction to the physiological bases of sensation, motor systems, motivation, emotion, learning and memory.
PSY430 PSYCHOLOGY OF INFANCY
3.00 credits
Offered By Announcement Only
Perceptual, motor, cognitive and social development during the first two years of life. Specialized research methods and assessment procedures.

PSY431 PSYCHOLOGY OF SOCIAL AND EMOTIONAL DEVELOPMENT
3.00 credits
Fall, Spring
Social and emotional growth; topics include family and peer relationships, sex roles, self-control, and moral development.

PSY432 PRENATAL DEVELOPMENT
3.00 credits
Offered By Announcement Only
A detailed understanding of prenatal development including conception, embryonic and fetal development, and birth. The effects and interplay of genetic and environmental factors on the health and well-being of the developing baby will be discussed throughout the course. The important role of preconception and prenatal care will also be discussed.

PSY455 EVOLUTION AND SEX
3.00 credits
Offered By Announcement Only
A biological/evolutionary approach to the study of human sexuality and cognition. The evolution of sexual reproduction and the evolution of the two sexes. Initial discussions will introduce the theory of evolution by natural selection and address the different levels at which selection operates. Building on this foundation, the class will focus on why sex evolved and the myriad physiological and psychological adaptations that evolved as a consequence. Topics to be covered include sexual selection, mate selection, pregnancy, and parent-offspring conflict.

PSY460 PSYCHOLOGY OF RELIGION
3.00 credits
Offered By Announcement Only
Contemporary psychological theory and research on religious belief, experience, and behavior. Topics include the biological bases of religion, religious development, and the links of religion to health and well-being.

PSY461 MOTIVATION
3.00 credits
Offered By Announcement Only
Experimental evidence relating to theories of motivation.

PSY470 HISTORY AND SYSTEMS OF PSYCHOLOGY
3.00 credits
Offered By Announcement Only
Development of psychology as a science.

PSY474 SPECIAL TOPICS
1.00 - 3.00 credits
Offered By Announcement Only

PSY480 RESEARCH WITH WRITING CREDIT
1.00 - 3.00 credits
Fall, Spring & Summer
Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings. Students are also expected to complete a writing component that fulfills the University's criteria to receive writing credit.
PSY490 ADVANCED RESEARCH METHODS

3.00 credits
Fall, Spring

Students will develop, conduct and write up two research projects: (i) a project that uses descriptive methods and associated statistical techniques and (ii) a project that uses experimental methods and associated statistical techniques. These projects will integrate the concepts and skills learned in the Introductory and Intermediate Methods courses as well as the Introductory and Intermediate Statistics courses. Students will be asked to select a research topic and first develop a survey to examine the relationship between two predictor variables and an outcome variable. They will collect and analyze their data using correlational techniques (e.g., regression analyses) and will write up a methods and results section. Next, students will turn their descriptive study into an experiment. They will collect and analyze their data and write up a publishable research report that includes the findings from both the descriptive and experimental studies. The project will serve as a capstone, requiring them to find and critically evaluate relevant literature on their topic of choice, design a study taking into account time demands, sample characteristics and their effect on the hypotheses they are able to test, decide on instrument selection, consider potential extraneous and confounding variables (and how they will handle them if at all), select appropriate analyses for their data and hypotheses, and then present the results of their work in both poster and research report format.

PSY491 ADVANCED BIOBEHAVIORAL STATISTICS

3.00 credits
Spring

This course builds upon the material covered in PSY 390. After a brief review, analysis of variance and multiple regression will be covered using a general linear model (GLM) approach. The goal is to prepare students for graduate level work in applied statistics.

PSY498 Senior Honors in Psychology I

3.00 credits
Fall, Spring

Independent research project.

PSY499 Senior Honors in Psychology II

3.00 credits
Fall, Spring

Independent research project.

PSY502 Culture, Values, Religiosity, and Mental Illness

3.00 credits
Offered By Announcement Only

Cultural differences in the manifestation, course, and outcome of serious mental disorders; the relationship between chronic mental disorders and ethnicity, religious values, family cohesion, attributions of control, and world view; cultural differences in societies’ reactions to and treatment of mentally ill patients.

PSY580 SENIOR HONORS IN PSYCHOLOGY I

3.00 credits
Fall, Spring & Summer

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

PSY581 SENIOR HONORS IN PSYCHOLOGY II

3.00 credits
Fall, Spring & Summer

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.
PSY590 Special Topics  
1.00 - 3.00 credits  
Offered By Announcement Only

Physical Science

PSC101 Physical Science  
3.00 credits  
Fall, Spring  
An interdisciplinary course to provide the non-science major with an understanding of some of the methods, ideas and accomplishments of Physics, Astronomy, Chemistry, Geology, and their role in the development of civilization.

Quechua

QUE101 ELEMENTARY QUECHUA I  
3.00 credits  
Spring  
A course that enables students to communicate at a basic level with Quechua speakers. Offered only on location through the UCusco study abroad program in Peru.

Religious Studies

REL101 Introduction to Religion  
3.00 credits  
Fall, Spring & Summer  
An overview of religious perspectives concerning ultimate reality, humankind, and the world, with special attention to major Asian and Abrahamic religions.

REL102 Problem of God  
3.00 credits  
Fall  
Contemporary religious issues related to the concept of God. Foundational to this course is an examination of the religious dimension of human experience and consciousness in relation to a number of historical and contemporary problems and challenges. This course approaches 'the problem of God?' from the angle of human experience, focusing on the various historical, social, and existential determinants of belief. Topics include: globalized religion, the challenge of atheism and humanism, the impact of secularization on religion, and an exploration of the historical, social, and theological images of creation and the divine.

REL103 One God: Judaism, Christianity, Islam  
3.00 credits  
Offered By Announcement Only

REL111 Introduction to the Hebrew Bible (Old Testament)  
3.00 credits  
Fall, Spring & Summer  
The history and literature of ancient Israel and early Judaism.

REL121 Introduction to the New Testament  
3.00 credits  
Fall, Spring  
The history and literature of the early Christian movement.

REL131 Religion in American Life  
3.00 credits  
Fall, Spring & Summer  
The history of religion in the U.S. from the pre-colonial period to the present. Includes study of the religion of Native Americans, African Americans, Asian Americans, women, Protestants, Catholics, Jews, and cults.

REL151 Religion and Moral Choices  
3.00 credits  
Fall, Spring  
Religious responses to dilemmas raised by issues such as capital punishment, biotechnology, abortion, euthanasia, and war.
REL171 Introduction to Islam
3.00 credits  Offered By Announcement Only
History of Islam, the Qur’an, and the systematization of Islamic law. Emergence of
the theological schools, the mystical and philosophical traditions, and the spread
of Islamic civilization.

REL231 Jewish Civilization: Society, Culture and Religion
3.00 credits  Fall, Spring
Introduction to Jewish Civilization from Abraham to present.

REL232 History of Christianity
3.00 credits  Fall, Spring & Summer
A survey of the historical development of Christianity from the first century to
the present, focusing on the major theological and institutional issues considered
in their social and cultural contexts.

REL236 Cults and New Religious Movements in America
3.00 credits  Fall, Spring

REL238 Holy War and Toleration in Western Religious Traditions
3.00 credits  Spring
An exploration of concepts of Holy War and Just War and of traditions of tolerance
and intolerance in Judaism, Christianity, and Islam, from ancient times to the
present.

REL252 Religion and Human Sexuality
3.00 credits  Fall
The relationship between religious concepts and sexual values as the religious
traditions of the United States confront contemporary sexual ethics and behavior.

REL300 Race and Religion
3.00 credits  Spring
This course will examine the role of race and ethnicity within the discipline of
religious studies. We will emphasize the manner in which racial and ethnic
identity have contributed to religious identity, and the way in which religion has
functioned within the struggles of racially and ethnically marginalized peoples.
This course will focus on the Americas and draw from diverse racial, ethnic,
and religious traditions.

REL301 Ancient Greece
3.00 credits  Fall
Greek civilization from the Late Bronze Age to the end of Greek independence at the
battle of Chaeronea in 338 B.C.E.

REL302 The Hellenistic Age
3.00 credits  Spring
Conquests of Alexander the Great and the spread of Greek culture in the Near East
under Alexander's successors until the death of Cleopatra in 31 B.C.E.

REL303 The Roman Republic
3.00 credits  Fall
Roman civilization from the establishment of the Republic until the Battle of Actium
in 31 B.C.E.
REL304 The Roman Empire
3.00 credits
Roman civilization from the reign of Augustus in 27 B.C.E. to the Fall of Rome in 476 C.E.

REL305 The Ancient Near East: Religion and Culture
3.00 credits
Historical and cultural forces in the major religions of the ancient Near East, from 3000 to 300 B.C.E. Cultural achievements such as the Epic of Gilgamesh, the pyramids and the Bible.

REL307 Religion and Culture in Pre-Islamic Arabia
3.00 credits
A survey of religion and culture in Arabia from prehistory to the coming of Islam.

REL308 The Greco-Roman Context of Early Christianity
3.00 credits
The Greco-Roman world in which the first Christians lived, with particular emphasis given to the historical, moral, political, religious, rhetorical, and social contexts of early Christianity.

REL311 Prophecy and Prophetic Literature in the Hebrew Bible
3.00 credits
Prophecy in ancient Israel and Judah and the prophetic literature of the Hebrew Bible in relation to its ancient near-eastern historical, religious, and social context.

REL312 The Five Books of Moses
3.00 credits
The first five books of the Hebrew Bible (Genesis, Exodus, Leviticus, Numbers, Deuteronomy) in relation to their ancient Near Eastern historical, cultural, and religious context.

REL314 The Rise of Judaism
3.00 credits
The history and literature of early Judaism, covering the period from the fall of Jerusalem in 587/586 BCE to the beginnings of rabbinic Judaism and the formation of the Mishnah (ca.200 CE).

REL321 Jesus and the Gospels
3.00 credits
An examination of the Jesus tradition, focusing on the formative period of the first two centuries. Special emphasis on the four New Testament Gospels, with a survey of the treatment of Jesus in other documents, both Christian and non-Christian.

REL322 St. Paul: His Letters and Controversies
3.00 credits
The heritage, writings, and legacy of the apostle Paul. Careful analysis of the Pauline corpus (especially Romans), with particular attention given to the radically different interpretations of Paul in both ancient and modern thought.

REL324 The Bible and Modern Film
3.00 credits
The diverse ways in which contemporary cinematic arts interpret and depict narratives from the Bible and the ancient Mediterranean world.
REL325 Jesus in Myth and History
3.00 credits  Fall, Spring
Changing concepts of Jesus in Western culture, as they emerge in literature, art, and films.

REL326 The Bible in History
3.00 credits  Fall, Spring

REL330 Caribbean Religion
3.00 credits  Fall
Caribbean Religion with an emphasis on African Diaspora and Creole religions. The religious traditions we will cover include: Rastafarianism, Regla de Ocha (Santeria), Voodoo, Espiritismo, Regla de Palo, and Obeah.

REL331 Religions of Asia
3.00 credits  Offered By Announcement Only
The major religions of South and East Asia including Hinduism, Buddhism, Confucianism, Taoism, and Shinto.

REL334 The American Jewish Experience: Hollywood and Popular Culture
3.00 credits  Spring
Analysis and interpretation of the image of the Jew and the Jewish experience in American cinema, with emphasis on how the experience and attitudes of Americans in general and the American Jewish community in particular have been reflected on the screen from the pre-World War II period until the present and on the tension between maintaining an ethnic identity and assimilating.

REL335 American Religion in Modern Film
3.00 credits  Fall, Spring

REL338 Latin American and U.S. Latino/a Religion
3.00 credits  Fall
The roots of Latino/a religion in Indigenous, African, and Spanish culture and religiosity. Issues of race, identity, politics, and culture will feature prominently throughout the course.

REL343 Catholic Life and Thought
3.00 credits  Fall, Spring
This course considers contemporary forms of Catholic piety, social ethics, political action, and theology.

REL345 Religion and Gender
3.00 credits  Fall, Spring
The influence of Western religion on the status and role of women.

REL347 Experiencing Religion: Conversion
3.00 credits  Fall, Spring

REL348 Reformation Europe
3.00 credits  Offered By Announcement Only
The religious, political, cultural, social, and economic forces that produced schism in 16th-century Western Christendom. Note: May be taken for credit in only one department as REL 348 or HIS 328.
REL349 ALL ROADS LEAD TO ROME: A MULTI-DISCIPLINARY APPROACH TO RELIGION AND ROME
3.00 credits  Spring
This course examines Rome's role as importer, exporter, cultivator, and transformer of religion and the religious life, giving attention to both the past and the present. Students will increase their awareness of the important elements of the major religions discussed in class?their myths, symbols, rituals, doctrines, moral codes, and artistic expressions?and the ways in which Rome has influenced them.

REL350 Current Issues in Religion
3.00 credits  Fall, Spring
Individual study and group discussion of the relevance of religion to contemporary issues such as race conflict, women's rights, intermarriage, refugees, media, prejudice, and counter culture groups.

REL351 Religious Issues in Death and Dying
3.00 credits  Fall
Major religious perspectives on the experience of death and the nature of the dying process.

REL352 Religion and Science
3.00 credits  Offered By Announcement Only
The religious and ethical issues created by modern science and technology.

REL353 Religion and American Politics
3.00 credits  Fall, Spring
Religious and ethical issues at debate in the American political scene.

REL354 Religion and the Problem of Evil
3.00 credits  Offered By Announcement Only
Major religious perspectives on the origin and nature of evil and human suffering.

REL355 Religion and Its Interpreters
3.00 credits  Offered By Announcement Only
Nineteenth and twentieth century Western interpretations of religion including anthropological, sociological, psychological, theological, literary, and feminist approaches.

REL356 Myth and Religion
3.00 credits  Spring
How humans use language to form and communicate conceptions of reality, focusing on the highly elusive concept myth; special attention to the concept's usefulness for thinking about religion.

REL358 Race and Religion
3.00 credits  Offered By Announcement Only

REL360 Religion and Bioethics
3.00 credits  Fall, Spring
The implications of religious thought for contemporary problems of biomedical ethics.

REL361 Religion and Youth in Contemporary America
3.00 credits  Spring
An interdisciplinary examination of the role of religion in the lives of teenagers and college students in contemporary America.
REL362 THE SANCTITY OF LIFE: SELECTED THEMES FROM THE ANCIENT WORLD TO THE PRESENT  
3.00 credits                                                                 Spring  
This course examines the religious foundation of the idea that human life is ?sacred? and considers a wide range of historical and ethical issues associated with this central concept of Western thought. It explores the meaning of the multi-faceted phrase ?sanctity of life,? including its implications for such ethical and legal concerns as conception, birth, and termination of life; human dignity and human rights; the quality of life; and social justice. Some of the issues considered will include bigotry and prejudice; economic and social injustice; euthanasia, infanticide, and suicide; genocide, holy war, jihad, terrorism, and violence; Health care and its cost; human trafficking and slavery; martyrdom and self-martyrdom; social-stratification; aging, death, disposal of the body; and the afterlife, especially in Dante??s Inferno. We will examine how ?life? is defined and described in different cultures at different times in history, and how various religions have influenced these matters.

REL370 Islam in Modern Times  
3.00 credits                                           Offered By Announcement Only  
Islam’s encounter with the west, the impact of modernization on the Muslim World, and the rise of Islamic Fundamentalism. Islam in America and the Afro-American Islamic movements will also be discussed.

REL371 ISLAM AND GENDER  
3.00 credits                                                                 Spring  
Gender issues such as homosexuality, masculinity, femininity, modesty, virginity, sexuality and its control, and veiling in Islam.

REL375 Religion and Democracy in Israel  
3.00 credits                                                                 Fall  
Israel’s evolution as a nation and a society by focusing on the impact of religion on ethnicity, culture, and democracy.

REL376 Shi‘ism: Religion, Culture, and History  
3.00 credits                                           Offered By Announcement Only  
The religious, cultural, and historical aspects of Twelver Shi‘ism. The course has a film component.

REL378 Religion and Civic Engagement  
3.00 credits                                           Offered By Announcement Only

REL380 Archaeology of Palestine from Prehistory to Islam  
3.00 credits                                           Offered By Announcement Only  
A survey and analysis of the major archaeological excavations and surveys of Palestine.

REL401 Supervised Reading in Religious Literature or Texts  
1.00 - 3.00 credits                                           Fall, Spring & Summer  
Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

REL402 Supervised Reading in Religious or Historical Traditions  
1.00 - 3.00 credits                                           Fall, Spring & Summer  
Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.
REL403 Supervised Reading in Religious Issues or Problems
1.00 - 3.00 credits  Spring
Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

REL404 Special Topics in Religious Literature or Texts
3.00 credits  Offered By Announcement Only

REL405 Special Topics in Religious or Historical Traditions
3.00 credits  Offered By Announcement Only

REL406 Special Topics in Religious Issues or Problems
3.00 credits  Offered By Announcement Only

REL408 Special Projects in Religious or Historical Traditions
3.00 credits  Offered By Announcement Only

REL409 Special Projects in Religious Issues or Problems
3.00 credits  Offered By Announcement Only

REL451 Ethics and Genetics
3.00 credits  Offered By Announcement Only
Pressing social, ethical, and legal issues raised by our constantly increasing knowledge of genetics, and the applications of this knowledge already available or being proposed. Access to and use of personal genetic information; race and genetics; the diagnosis and treatment of inherited diseases; new modalities of healthcare delivery becoming available through genetics; the current state of stem cell research; genetically modified animals and plants as sources of food, medicines, and fuel; and the use of genomics.

REL491 Sr. Honors Thesis
3.00 credits  Offered By Announcement Only

REL492 Sr. Honors Thesis II
3.00 credits  Fall, Spring

REL499 Method and Theory in the Study of Religion
3.00 credits  Offered By Announcement Only
An examination of central issues and texts in the academic study of religion, with special focus on the rise of the discipline, its axioms, and its several schools of interpretation.

REL501 Supervised Reading in Religious Literature or Texts
1.00 - 3.00 credits  Offered By Announcement Only
Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

REL502 Supervised Reading in Religious or Historical Traditions
1.00 - 3.00 credits  Offered By Announcement Only
Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.
REL503 Supervised Reading in Religious Issues or Problems  
1.00 - 3.00 credits Offered By Announcement Only  
Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

REL505 Seminar in Ancient Studies  
3.00 credits Offered By Announcement Only  
Various topics in Greek and Roman Studies.

REL510 Seminar in Hebrew Bible and Ancient Judaism  
3.00 credits Offered By Announcement Only  
Selected topics in Hebrew Bible and Ancient Judaism.

REL530 Seminar in Religious or Historical Traditions  
1.00 - 3.00 credits Offered By Announcement Only  
Selected topics in religious or historical traditions.

REL560 Seminar in Contemporary Religious Issues  
1.00 - 3.00 credits Offered By Announcement Only  
Selected topics in contemporary religious issues.

Sociology  
SOC101 Introduction to Sociology  
3.00 credits Fall, Spring & Summer  
Organization of human society, processes of change, and society's influence on individual behavior.

SOC103 Social Problems  
3.00 credits Offered By Announcement Only  
Causes, scope, and possible solutions of social problems in human society.

SOC210 Introduction to Social Research  
3.00 credits Fall, Spring & Summer  
Purposes, methods, and techniques of social investigation.

SOC211 Quantitative Methods for Sociologists  
3.00 credits Fall, Spring  
Data analytic techniques to analyze sociological topics. Emphasis is on basic graphic displays, measures of center and variation, chi-square, ANOVA, correlations, and regression.

SOC212 Quantitative Methods Lab  
1.00 credit Fall, Spring  
Statistical lab associated with SOC 211 introduces the use of computer statistical packages for analyzing quantitative data. Corequisite: SOC 211.

SOC270 Deviant Behavior  
3.00 credits Offered By Announcement Only  
General deviance concepts, theories of deviance and non-criminal deviance.

SOC271 Criminal Justice  
3.00 credits Offered By Announcement Only  
A survey of the criminal justice system in the United States with an emphasis on the interrelationships between law enforcement, the courts, and corrections.
Sociology

**SOC291 Special Topics**
3.00 credits  
Fall, Spring

**SOC292 Special Topics**
3.00 credits  
Offered By Announcement Only

**SOC301 Social Organization**
3.00 credits  
Offered By Announcement Only
Roles, organization, personality and values as components of formal and informal groups.

**SOC302 Social Psychology: Sociological Perspective**
3.00 credits  
Offered By Announcement Only
The influence of human groups and social processes on individual behavior, and personality.

**SOC303 Social Inequalities**
3.00 credits  
Offered By Announcement Only
Social ranking by class, status, and power. Stratification by age, sex or minority group membership.

**SOC304 Dynamics of Poverty in the United States**
3.00 credits  
Offered By Announcement Only
Examines trends in the incidence and causes of major types of poverty among the urban underclass, the homeless, migrant laborers, the working poor. Also explores policy-related solutions.

**SOC320 Social Epidemiology: Illness and Death in Society**
3.00 credits  
Fall
Theories, issues and methods of study pertinent to illness and death in society. Social factors implicated in patterns of mental and physical health and mortality.

**SOC332 Collective Behavior**
3.00 credits  
Offered By Announcement Only
Classical theories, issues, and research on fads, fashions, riots, crowd behavior, social movements and other forms of collective behavior.

**SOC335 LGBTQ Communities**
3.00 credits  
Fall
Sociology of Lesbian, Gay, Bisexual, Transgendered and Queer communities and identities. This course examines the history, methods, theory and concepts of social science research on these topics over the last half century and examines contemporary issues.

**SOC340 Sociology of Religion**
3.00 credits  
Offered By Announcement Only
Social foundations of religion, growth and change within religious institutions and relationships of religion to other institutions.

**SOC341 Social and Cultural Change**
3.00 credits  
Offered By Announcement Only
Survey of major theories of change; analysis of the processes and mechanisms of change. Contemporary transitions in the underdeveloped regions of the world.
SOC345 Population and Society
3.00 credits
Offered By Announcement Only
Demographic analysis of fertility, mortality, sex-age structure, migration, urbanization and population control.

SOC350 Sociology of the Family
3.00 credits
Offered By Announcement Only
Examines definitions, history and larger social structures in which family relations are embedded.

SOC351 Business and Society
3.00 credits
Offered By Announcement Only
This course explores the influence of business objectives, values, and ethics on American culture, moral standards, and societal institutions.

SOC352 Sport and Society
3.00 credits
Offered By Announcement Only
Sport as an expression of, and shaper of U.S. society; cross cultural and historical comparisons; specialization, player rights, violence, and the winning psychology.

SOC359 The Sociology of Human Sexuality
3.00 credits
Offered By Announcement Only
A socio-historical survey of sexual ideologies, attitudes and behavior in human societies, with emphasis on social and biological factors.

SOC365 Internship
3.00 credits
Fall, Spring
Prescribed study and supervised work in various types of organizations and institutions.

SOC368 Violence in America
3.00 credits
Offered By Announcement Only
Violence in historical, international and situational contexts, including the major explanations of violence, and factors associated with violent crime.

SOC370 Juvenile Delinquency
3.00 credits
Fall, Spring
The extent and nature of juvenile delinquency. The juvenile justice system, correctional institutions for delinquents, community treatment and prevention programs.

SOC371 Criminology
3.00 credits
Fall, Spring
Social, cultural and individual factors in the etiology of crime; the consequences of criminal behavior.

SOC372 Criminology: Police and Community
3.00 credits
Spring
The police in U.S. society. Interaction with groups and institutions.

SOC373 Criminology: Courts and Society
3.00 credits
Offered By Announcement Only
The courts and judicial functions in U.S. society.
Sociology

SOC375 Sociology of Mental Health and Illness
3.00 credits                                           Offered By Announcement Only
An introduction to sociological theories and research regarding the definition, experience, and treatment of mental illness.

SOC377 Sociology of Drug Abuse
3.00 credits                                           Offered By Announcement Only
The epidemiology and etiology of drug abuse, treatment and prevention, societal reaction.

SOC378 Criminology: Law and Society
3.00 credits                                           Offered By Announcement Only
Function of law in a complex social structure.

SOC380 Sociology of Gender
3.00 credits                                           Offered By Announcement Only
Social and historical construction of gender. Discussion of gender and various social institutions and categories.

SOC381 Aging in Society
3.00 credits                                           Offered By Announcement Only
Basis for understanding the social aspects of aging, diversity in the lives of older adults (e.g., family, health, work and retirement, wealth and poverty, death and dying), and public policy that affects us all.

SOC383 Sociology of Education
3.00 credits                                           Offered By Announcement Only
Course focuses on the institution of education. Assesses its structure, processes, and interaction patterns within it. Also examines its impact on socioeconomic inequality along race, class, and gender lines.

SOC384 Medical Sociology
3.00 credits                                           Offered By Announcement Only
Sociological aspects of health care, patient behavior, medical institutions.

SOC386 U. S. Immigration
3.00 credits                                           Offered By Announcement Only
The major sociological debates in the field of immigration with an emphasis on recent immigrants to the U.S.

SOC387 Race and Ethnic Relations
3.00 credits                                           Fall, Spring
The influence of racial distinctions on individual and social behavior.

SOC388 The Black Ghetto in Urban Society
3.00 credits                                           Fall
This course examines the origin and evolution of the ghetto as a concept and the social and historical significance of the ghetto in understanding the development of black community life in urban America.

SOC390 Directed Studies
1.00 - 3.00 credits                                           Offered By Announcement Only
Individually supervised readings or research on special topics offered by arrangement with instructor.
SOC391 Special Topics
3.00 credits
Fall, Spring

SOC401 Sociological Theory
3.00 credits
Fall, Spring
Classical sociological concepts and theory from the eighteenth century to the present.

SOC470 Theories of Deviant Behavior
3.00 credits
Fall, Spring & Summer
Social, cultural, and individual factors involved in the etiology of deviance and crime. Strain and control theories, learning theory, conflict and interaction theories.

SOC487 Race, Ethnicity, and Criminal Justice
3.00 credits
Spring
Discussion of race and ethnicity, crime and justice. Examination and evaluation of theory, research and the justice system.

SOC488 Gender and Crime
3.00 credits
Offered By Announcement Only
Examination of gender, power, and crime, including feminist theories and the criminal justice system.

SOC490 Directed Studies in Sociology
1.00 - 3.00 credits
Fall, Spring
Supervised independent study on special topics. Arrangement with individual faculty.

SOC491 Special Topics
3.00 credits
Offered By Announcement Only

SOC492 Special Topics
3.00 credits
Offered By Announcement Only

SOC493 Special Topics
3.00 credits
Offered By Announcement Only

SOC498 Senior Honors Thesis in Sociology or Criminology I
3.00 - 6.00 credits
Fall, Spring
Independent research project.

SOC499 Senior Honors Thesis in Sociology or Criminology II
3.00 - 6.00 credits
Fall, Spring
Independent research project.

SOC511 SOCIOMETRICAL STATISTICS
3.00 credits
Offered By Announcement Only
Probability theory, descriptive statistics and tests of independence.
Spanish

SPA101 Elementary Spanish I
3.00 credits  
Fall, Spring & Summer
For students with no background or previous study of Spanish. The focus of SPA 101 is the development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: university life, family, leisure activities, and professions. Includes both oral and written assignments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish. Not open to students who have completed 2 or more years of high school Spanish. Closed to heritage and native speakers of Spanish.

SPA102 Elementary Spanish II
3.00 credits  
Fall, Spring & Summer
Continuation of SPA 101. The development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: childhood and adolescence, university life, home and community, food and lifestyle, and environmental issues. Includes both oral and written assessments of grammatical structure and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

SPA105 Accelerated Elementary Spanish
3.00 credits  
Fall, Spring
For students with previous study of Spanish desiring to review material covered in SPA 101 and 102 in preparation for continued study of Spanish at the intermediate level. The focus of SPA 105 is the continued development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: university life, family, leisure activities, and professions, childhood and adolescence, university life, home and community, food and lifestyle, and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

SPA143 Basic Spanish for Heritage Learners
3.00 credits  
Fall, Spring
Designed for students with little or no prior instruction in Spanish who, because of family background or social experience, can understand some casual spoken Spanish and have a passive knowledge of the language, but do not speak the language themselves. Focus on developing basic speaking, reading, and writing abilities.

SPA211 Intermediate Spanish I
3.00 credits  
Fall, Spring & Summer
For students with previous study of Elementary-level Spanish. The focus of SPA 211 is the continued development of communicative abilities in speaking, reading, writing and comprehension of Spanish and as an introduction to the cultural practices, family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.
SPA212 Intermediate Spanish II
3.00 credits
Fall, Spring
For students with some previous study of Spanish at the intermediate level, who are familiar with all tenses and with vocabulary related to the topics covered in SPA 101-211. SPA 212 is the first semester of a two-semester sequence ending with SPA 214. The continued development of skills in reading, writing, speaking and listening in Spanish with an additional emphasis on cultural competence in the Spanish-speaking cultures of the world. Themes on: relationships, cultural values, different historical perspectives, and current politics. These themes will be explored through articles, films, and literary texts. The course will develop writing and reading strategies, providing students with the tools to think, read, and write critically and analytically in papers of 1-3 pages. Progress will also be accessed through quizzes and exams. Course conducted entirely in Spanish.

SPA214 Advanced Spanish
3.00 credits
Fall, Spring
Continuation of SPA 212. This class will prepare students for advanced literature, linguistics and culture courses. The class will use films, literary works, and other cultural texts. Students will write analytic essays of 3-5 pages to develop style, vocabulary, and syntax. Course conducted entirely in Spanish.

SPA243 Intermediate Spanish for Heritage Learners
3.00 credits
Fall, Spring
Designed for students with some prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have some functional communication abilities in the language. Focus on developing basic speaking, reading, and writing abilities.

SPA244 Advanced Spanish for Heritage Learners
3.00 credits
Fall, Spring
This course is designed for those students who, because of family background or social experience and prior instruction in Spanish, posses functional communication abilities in the language. Focus is on developing formal speaking, reading and writing abilities.

SPA280 Special Topics
3.00 credits
Summer
Awarded for 200 level study abroad course led by UM faculty.

SPA301 INTERPRETING LITERARY AND CULTURAL TEXTS IN SPANISH
3.00 credits
Fall, Spring
Tools for the interpretation and analysis of literary and cultural materials from the Spanish-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to heritage/native speakers. Students may not receive credit for both 301 and 343.

SPA302 The Culture of Spain
3.00 credits
Offered By Announcement Only
Historical survey of the arts, science, letters, and political and social institutions in Spain.
SPA303 The Cultures of Spanish America
3.00 credits
Offered By Announcement Only
Historical survey of the arts, letters, science, and political and social institutions in Spanish-speaking Americas.

SPA310 Topics in Spanish and Spanish American Studies in Translation
3.00 credits
Offered By Announcement Only
Topics in the literatures and/or cultures of the Spanish-speaking world. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Writing Credit. Does not fulfill foreign language requirement. Maybe be repeated when the topic varies. Maybe used toward the Spanish major in accordance with Department of Modern Languages and Literature stipulations.

SPA318 CINEMA FROM THE SPANISH-SPEAKING WORLD IN TRANSLATION
3.00 credits
Offered By Announcement Only
Topics in the cinema of the Spanish-speaking world. Analysis of films in their cultural context. This course is taught in English and does not fulfill the CAS foreign language requirement. Maybe be repeated for credit if topics vary. WRITING CREDIT

SPA321 Introduction to Literary Themes
3.00 credits
Fall, Spring
The study of literature through thematic readings. Writing credit. May be repeated for credit if topics vary.

SPA322 Cultural Topics
0.00 - 3.00 credits
Offered By Announcement Only
Issues related to the cultures in the Spanish-speaking world. Topics may include film, journalism, religion, language in society, popular and mass culture, visual arts, immigration, slavery, mestizaje. May be repeated for credit if topics vary.

SPA325 TOPICS IN SPANISH-LANGUAGE CINEMA
3.00 credits
Offered By Announcement Only
Cinema of the Spanish-speaking world. Analysis of films in their cultural context. May be repeated for credit if topics vary.

SPA330 TOPICS IN GENDER AND SEXUALITY
3.00 credits
Offered By Announcement Only
The study of gender and sexuality as developed in the Hispanic context. Writing Credit. May be repeated if topics vary.

SPA340 MIGRATION STUDIES
3.00 credits
Offered By Announcement Only
Topics within the literary and/or cultural dimensions of migration in the Spanish-speaking world. Writing Credit.

SPA343 INTERPRETING LITERARY And CULTURAL TEXTS In SPANISH For Heritage/Native Speaker
3.00 credits
Fall, Spring
Tools for the interpretation and analysis of literary and cultural materials from the Spanish-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Special attention to characteristics of heritage/native speaker expression. Students may not receive credit for both 301 and 343.
SPA353 COLONIAL SPANISH AMERICAN TOPICS
3.00 credits Offered By Announcement Only
Topics within Latin American literatures and cultures from the colonial centuries. May be repeated for credit if topics vary.

SPA354 19th-CENTURY SPANISH AMERICAN TOPICS
3.00 credits Offered By Announcement Only
Topics within Latin American literature and cultures from independence to the end of the nineteenth century. May be repeated for credit if topics vary.

SPA355 Studies in 20th and 21st Century Latin American Literatures and Cultures
3.00 credits Fall, Spring
Latin American literature and cultures from the beginning of the 20th century to the present. May be used to fulfill the humanities literature requirement. Writing Credit.

SPA360 THE CARIBBEAN THROUGH LITERARY AND CULTURAL STUDIES
3.00 credits Spring
The study of the Spanish Caribbean through literary and cultural studies. Writing Credit. May be repeated if topics vary.

SPA362 CARIBBEAN CULTURE STUDIES
3.00 credits Offered By Announcement Only
Cultural Topics within the Spanish-speaking Caribbean. May be repeated for credit when topics vary.

SPA363 MEDIEVAL AND EARLY MODERN PENINSULAR TOPICS
3.00 credits Offered By Announcement Only
Topics within Spanish peninsular literature and cultures from the earliest literary forms through the seventeenth century. May be repeated for credit if topics vary.

SPA364 18th and 19th CENTURY PENINSULAR TOPICS
3.00 credits Offered By Announcement Only
Topics within Spanish peninsular literatures and cultures from the eighteenth and nineteenth centuries. May be repeated for credit if topics vary.

SPA365 Studies in 20th and 21st Century Spanish literatures and Cultures
3.00 credits Fall, Spring
Spanish peninsular literatures and cultures from the twentieth century to the present. May be used to fulfill the humanities literature requirement. Writing Credit.

SPA394 Internship
1.00 - 3.00 credits Offered By Announcement Only

SPA401 Introduction to Hispanic Linguistics
3.00 credits Offered By Announcement Only
Survey of principal areas of inquiry in Hispanic linguistics, including phonetics/phonology, morphology, syntax, pragmatics, historical, social and dialectal variations. Writing credit.

SPA402 SPANISH SECOND LANGUAGE ACQUISITION.
3.00 credits Offered By Announcement Only
The linguistic contrast between Spanish and English and the pedagogical and practical implications of understanding language, especially grammar, from a foreign/second language perspective.
SPA422 Topics in Hispanic Linguistics
3.00 credits Offered By Announcement Only
Special topics in the study of Hispanic linguistics. Possibilities include phonetics/phonology, pragmatics/discourse analysis, sociolinguistics, sociocultural theory, bilingualism.

SPA432 Business and Diplomatic Spanish
3.00 credits Offered By Announcement Only
Commercial vocabulary, economic, technical, and diplomatic terminology in Spanish. Composition based on models of business correspondence directed to Spanish-speaking countries or firms.

SPA433 Spanish for Health Care Professions
3.00 credits Offered By Announcement Only
Medical vocabulary, technical and practical terminology in Spanish. Composition based on models of the documents, letters, medical history cases required in health care professions.

SPA442 Stylistics and Composition
3.00 credits Offered By Announcement Only

SPA444 Introduction to Translation
3.00 credits Offered By Announcement Only
Problems in translation: Spanish to English; English to Spanish. Writing Credit.

SPA446 CULTURAL DEBATES: PUBLIC SPEAKING ON SOCIETAL ISSUES
3.00 credits Offered By Announcement Only
Practice and development of interpreting skills: Spanish to English; English to Spanish. PREREQUISITE: One course on the 300-level or permission of the instructor; native or near native bi-lingual ability.

SPA501 CAPSTONE
3.00 credits Fall, Spring
Course with a broad-based topic designed to integrate all the high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study towards the major. Topics vary. Open only to undergraduates completing their Spanish major. Writing Credit. To be taken in the last semester of the major.

SPA591 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only

SPA592 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only

SPA594 Senior Honors Thesis I
3.00 credits Fall, Spring
Directed research for honors thesis.

SPA595 Senior Honors Thesis II
3.00 credits Fall, Spring
Directed writing of honors thesis.
THA101 Introduction to Theatre

3.00 credits  
Summer

Intro survey course in theatre--what it is now, how it works, its practitioners and the relationship of theatre to the contemporary world. Attendance at Ring Theatre productions is required.

THA105 Introduction to Acting

3.00 credits  
Summer

Basic tools of acting craft including analysis, physical action and reacting in the moment explored through exercises, scripted work and readings. A doing class, making attendance essential.

THA106 Introduction to Acting for Theatre Arts Majors

3.00 credits  
Fall, Spring

Basic tools of acting craft including analysis, physical action and reacting in the moment explored through exercises, scripted work and readings. A participating class, making attendance essential.

THA111 Acting I-A

2.00 credits  
Fall

Introduction to the elements of drama and theatre, and to the basic tools of acting craft.

THA112 Acting I-B (Script Analysis)

2.00 credits  
Spring

Continued work on basic tools of craft including script analysis.

THA113 Movement I-A

2.00 credits  
Fall

Basic movement for the actor (self-use training): physical awareness and correct habits, mind/body connections, muscle tension release, body alignment, coordination, balance, flexibility and strength. Begin study of the Alexander Technique.

THA114 Movement I-B

2.00 credits  
Spring

Advanced movement for the actor; study physical/emotional choices for characters through physical centers, develop process for character's physical development through observations, explore spatial awareness, rhythm, kinesthetic body, and sensory awareness. Continued study of the Alexander Technique.

THA116 Dance I-A

2.00 credits  
Fall

Beginning ballet and jazz for Musical Theatre with strong focus on technique and terminology. Can be taken up to three times for credit.

THA117 Dance I-B

2.00 credits  
Spring

Continuation of THA 116. Can be taken up to three times for credit.

THA120 Freshman Studio I

1.00 - 2.00 credits  
Fall

First year theatre laboratory with strong focus on ensemble, rehearsal, and performance skills.
Theatre Arts

THA121 Freshman Studio II
1.00 - 2.00 credits  Spring
A continuation of THA 120.

THA131 Musical Theatre Skills I
2.00 credits  Fall
First semester of a two semester practical course sequence designed to teach musical skills, techniques and theory relevant to the contemporary musical theater actor.

THA132 Musical Theatre Skills II
2.00 credits  Spring
Second semester of a two semester practical course sequence designed to teach musical skills, techniques and theory relevant to the contemporary musical theater actor.

THA140 Introduction to Dance
1.00 - 3.00 credits  Fall
Beginning dance skills and stylistic elements of theatrical forms of dance (repeatable).

THA141 Introduction to Scene Design/Stagecraft I (Lecture)
2.00 credits  Fall
Introduction to scene design and construction. Corequisite: THA 143.

THA142 Introduction to Costume Design/Stagecraft II (Lecture)
2.00 credits  Spring
Introduction to stage lighting and costume design. Corequisite: THA 144.

THA143 Introduction to Theatre Crafts I (Lab)
1.00 credit  Fall, Spring
Students will be assigned to run crew positions on the backstage crew for actual theatre productions in the Jerry Herman Ring Theatre or Hecht Studio Theatre. Working evenings and weekends will be required for this lab.

THA144 Introduction to Theatre Crafts II (Lab)
1.00 credit  Fall, Spring
Students will participate in the completion of the technical elements of Jerry Herman Ring Theatre productions. Students will be assigned to work in one of technical shops including costumes, sets, lights, props or publicity.

THA150 Musical Theater Vocal Techniques
1.00 credit  Fall
Fundamentals of Vocal Productions explored through group lessons. Enrollment limited to first-year BFA students. May be taken twice for credit.

THA160 Dance Styles
1.00 - 3.00 credits  Fall, Spring
Presents a variety of dance forms that will vary from one semester to the next. Styles such as tap, modern, ethnic and contemporary (among others) will be offered on a rotating basis. Can be repeated for up to 6 credits.

THA191 Introductory Applied Music Theatre Voice I
2.00 credits  Fall
One-half hour individual lessons tailored to the individual needs of the students. Enrollment is limited to first-year BFA music theater students.
THA192 Introductory Applied Music Theatre Voice II
1.00 credit Spring
One-half hour individual lessons tailored to the individual needs of the student. Enrollment is limited to first-year BFA music theater students.

THA194 Singing for Actors
1.00 - 2.00 credits Offered By Announcement Only
Fundamentals of singing to include breath control, tone production, articulation. An ensemble approach to exploring and gain self-confidence in the skill of singing for the American musical stage.

THA196 Singing for the Stage I-A
1.00 - 2.00 credits Fall
The selection of learning process and performance of Musical Theatre Songs with emphasis on lyrics.

THA197 Singing for the Stage I-B
1.00 - 2.00 credits Spring Continuation of THA 196.

THA198 Voice and Speech I-A
2.00 credits Fall
Fundamentals of relaxation and breath management, alignment, tone production, pitch and resonance. Anatomy and physiology of the vocal structures. Introduction to the International Phonetic Alphabet (IPA).

THA199 Voice and Speech I-B
2.00 credits Spring Development of General American speech production and articulation skills through further phonetic study. Explorations in range, inflection, resonance, tempo and rhythm within the application of voice to text.

THA200 ADVANCE MUSICAL SKILLS I
2.00 credits Fall
THA 200 is the first half of a two semester practical course sequence designed to integrate the disciplines of music theory, script analysis and acting techniques. Emphasis will be on the incorporation of all aspects of a musical theatre score by the actor.

THA211 Acting II-A
2.00 credits Fall Intensive scene study for sophomore conservatory actors. Basic tools of craft developed through use of contemporary plays, script analysis, and rehearsal techniques.

THA212 Acting II-B
2.00 credits Spring A continuation of THA 211.

THA216 Dance II-A
1.00 credit Fall Intermediate Musical Theatre dance taught through ballet and jazz, with an emphasis on technique and style. Can be taken up to three times for credit.
THA217 Dance II-B  
2.00 credits  
Spring  
A continuation of THA 216 incorporating characterization and additional style. Can be taken up to three times for credit.

THA240 Introduction to Dance II  
1.00 - 3.00 credits  
Spring  
Continuation of THA 140 (repeatable).

THA241 BASIC COSTUME SEWING AND SCENIC PAINTING  
3.00 credits  
Fall  
Basic scenic painting and costume construction techniques. Scenic painting includes fundamentals in wood, marbles, brick, stones, lights and shadows. Costume construction includes fundamentals in hand/machine sewing, dyeing, distressing and pattern reading.

THA242 Drafting for the Theatre  
3.00 credits  
Spring  
Drafting standards and techniques used for the theatre to produce scenic and lighting plans. Hand drafting and computer aided drafting.

THA243 Introduction to Drawing for the Theatre  
3.00 credits  
Fall  
Basic sketching, mechanical drawing and rendering techniques used for costume and scenic design. Basic black and white figure drawing, lights and shadows and perspective elevations.

THA244 Advance Drawing for the Theatre  
3.00 credits  
Spring  
Advanced training in drawing and rendering used for costume and scenic design for the theatre. Color costume plates and scenic renderings.

THA246 Survey of Design for Theatre and Live Entertainment  
3.00 credits  
Offered By Announcement Only  
Principles and procedures of the design and technical production aspects of theatre and live entertainment.

THA251 Intermediate Acting I  
3.00 credits  
Summer  
Basic tools of the actor's craft are developed through script work, scene study, and improvisational techniques.

THA252 Intermediate Acting II  
3.00 credits  
Spring  
A continuation of THA 251 focusing on script analysis and choice making for scene work.

THA253 Voice for the Stage  
3.00 credits  
Fall  
Fundamentals in voice and speech skills developed through vocal warm-ups, alignment, relaxation, breathing, tone production, resonance, sound focus, and articulation.

THA254 Movement for Actors  
3.00 credits  
Spring  
Physical range and control, physicalization and condition of character, and stage violence.
THA281 History of Western Theatre Architecture
3.00 credits  Offered By Announcement Only
Covers the evolution of performance spaces in Europe and the United States, from Ancient Greek structures to modern-day multi-venue Performing Arts complexes.

THA291 Beginning Applied Music Theatre Voice I
1.00 credit  Fall
One-Hour individual lessons tailored to the individual needs of the students. Enrollment is limited to second-year BFA music theater students.

THA292 Beginning Applied Music Theatre Voice II
1.00 credit  Spring
One-hour Individual lessons tailored to the Individual needs of the student. Enrollment is limited to second-year BFA music theater students.

THA294 Singing for Actors II-A
2.00 credits  Offered By Announcement Only
Development of musical theatre singing technique for BFA Acting majors. Skills to be developed include proper breathing, tone, articulation, lyric interpretation, and physical presentation. Course is repeatable.

THA296 Singing for the Stage II-A
1.00 credit  Fall
A continuation of ideas presented in THA 196 and 197.

THA297 Singing for the Stage II-B
1.00 credit  Spring
Instruction in preparing vocal material for musical scenes drawn from American musical theatre as well as other challenging musical material.

THA298 Voice and Speech II-A
1.00 credit  Fall
Improvement of individual voice and speech skills: through in-depth examination of habitual speech formation and vocal patterns. Application of the IPA within American accent study.

THA299 Voice and Speech II-B
2.00 credits  Spring
Strengthening the connection between the acting impulse and speaking voice. Extended voice production within scene work. Introduction to Shakespeare's verse structure.

THA311 Acting III-A
2.00 credits  Fall
A scene study class focusing on plays with elevated language, with an emphasis on Shakespeare. May include Restoration and Greek drama as well.

THA312 Acting III-B
2.00 credits  Spring
A continuation of THA 311 with focus on high style and Comedy of Manners. May include Shaw, Wilde, and Coward.
THA313 Movement II-A  
1.00 credit  
**Fall**  
Period Movement: special movement requirements and techniques for four different periods of history - 16th, 17th, 18th and 19th centuries, including manners, etiquette, social mores, history and costume.

THA314 Movement II-B  
1.00 credit  
**Spring**
Fundamentals of mask work through the study of a personal clown; the character mask and/or an in-depth study of Commedia dell’Arte masks and character types.

THA315 AUDITIONING I  
2.00 credits  
**Spring**
First semester of a two semester sequence designed to aid BFA students in the development of material and techniques necessary for professional audition circumstances.

THA316 DANCE III-A  
2.00 credits  
**Fall**
Advanced Musical Theatre Dance incorporating high technical proficiency for expression, characterization and style. Can be taken up to three times for credit.

THA317 DANCE III-B  
2.00 credits  
**Spring**
A continuation of THA 316. Can be taken up to three times for credit.

THA341 Sound for the Theatre  
3.00 credits  
**Offered By Announcement Only**
A basic sound design class to develop an ear for music and sound.

THA342 Scenic Design  
3.00 credits  
**Offered By Announcement Only**
Techniques for analyzing, planning and designing stage scenery, executing color rendering and stage models.

THA343 Costume Design  
3.00 credits  
**Fall**
Techniques for analyzing, planning, and designing theatrical costumes. Executing color rendering plates.

THA344 Lighting Design  
3.00 credits  
**Spring**
Techniques for analyzing, planning and designing theatrical lighting. Executing light plots and corresponding paperwork.

THA345 SCENIC MATERIALS AND STRUCTURES  
3.00 credits  
**Fall**
Materials used in scenic construction and advantages of each. Students will perform basic structural analysis on scenery built with these materials and will study rigging systems and knots used in backstage work.

THA347 STAGE MAKE-UP  
3.00 credits  
**Fall & Summer**
A lecture-laboratory course in make-up for the stage, television and motion picture.
THA350 Musical Theatre Vocal Techniques II
1.00 credit  Fall, Spring
Advanced Musical Theatre Vocal Techniques explored through group or private lessons.

THA351 Auditioning and Preparing for the Profession
3.00 credits  Fall
How to succeed in the theatre profession. Students will prepare audition pieces and learn resume preparation, headshots, interviewing, and other aspects of searching for and obtaining work. Not for BFA Students.

THA352 Singing for the Musical Theater
3.00 credits  Offered By Announcement Only
The process of acting and singing a song for a musical play or review. Song selection, technical and acting mechanics, and how to deliver the song using 16 and 32 bar material.

THA356 Improvisational Acting
3.00 credits  Offered By Announcement Only
Exploration of the unique skills involved in Improvisational Acting.

THA364 The Theatre Industry
3.00 credits  Fall, Spring
Producing trends on Broadway, the Road, and Regional Theatre. The basics of producing, managing, and marketing a play from securing the performance rights to closing night.

THA365 Principles of Stage Management
3.00 credits  Fall
The art and craft of Stage Management from pre-production through post-production.

THA366 Theatre Management Practicum I
3.00 credits  Fall
Practical experience on the annual season ticket campaign, marketing, finances, house management, and facilities management at the Jerry Herman Ring Theater. Open only to Theatre Management majors.

THA367 Theatre Management Practicum II
3.00 credits  Spring
Practical experience on the annual season ticket campaign, marketing, finances, house management, and facilities management at the Jerry Herman Ring Theatre. Open only to Theatre Management majors.

THA375 Introduction to Playwriting
3.00 credits  Offered By Announcement Only
Understanding of the basic principles involved in play construction.

THA376 BEG, BORROW AND STEAL: ADAPTING FOR THE STAGE
3.00 credits  Offered By Announcement Only
How to turn narrative description into stage action; how to research for devised projects and how to refine a specific point of view that makes clear the original impetus for adaptation. Students will complete a series of short adaptation exercises and a longer self-directed adaptation project. Primarily a writing workshop, however information will also be presented through readings and discussion.
THA381 Play Analysis I
3.00 credits
Offered By Announcement Only
Play structure from the viewpoints of the actor, director, designer, and audience.
Understanding the play and making production choices.

THA382 Play Analysis II
3.00 credits
Spring
A continuation of THA 381. Emphasis on non-realistic theatre.

THA385 History of Decor
3.00 credits
Fall
A History of interior decor and furniture. To provide a research background for theatrical
design. Classical Greece through the present.

THA386 History of Fashion
3.00 credits
Spring
A history of clothing and other visual elements that provide a research background
for theatrical design, prehistoric through present.

THA391 INTERMEDIATE APPLIED MUSIC THEATRE VOICE I
1.00 credit
Fall
One-hour individual lessons tailored to the individual needs of the student. Enrollment
is limited to third-year BFA music theater students.

THA392 INTERMEDIATE APPLIED MUSIC THEATRE VOICE II
1.00 credit
Spring
One-hour individual lessons tailored to the individual needs of the student. Enrollment
is limited to third-year BFA music theater students.

THA396 Singing for the Stage III-A
1.00 - 2.00 credits
Fall
Instruction and coaching of advanced vocal and audition material drawn from American
musical theatre.

THA398 Voice and Speech III-A
1.00 credit
Fall
Application of voice and speech in classic texts-particularly that of Shakespeare
and translation plays. Accent monologues and scenes.

THA399 Voice and Speech III-B
1.00 credit
Spring
Accent monologues and scenes. Independent accent study culminating in student presentations.
Compilation of monologue rep book.

THA400 Acting for Motion Pictures
2.00 credits
Fall
This course is designed to build an advanced set of professional skills and practices
for motion picture acting through scene work, shooting, cutting and creative collaboration.
Upon completion of this class each actor will have performed in staging and shooting
exercises and a variety of shot scenes. They will learn non-linear editing, cut
their own acting reels, collaborate with a variety of directors, learn how camera
and editing affects performance and learn to work efficiently and optimally on
a professional film set.
THA401 Internship
1.00 - 3.00 credits
Fall, Spring
Prescribed work and study at a theatre, opera, or dance company as it pertains to the major's concentration of study. Collateral reports, readings, conferences with faculty supervisor.

THA402 Internship
3.00 credits
Fall, Spring
Continuation of THA 401.

THA403 Internship
3.00 credits
Fall, Spring
Continuation of THA 402.

THA404 Internship
3.00 credits
Fall, Spring
Continuation of THA 403.

THA410 Independent Study
1.00 - 3.00 credits
Offered By Announcement Only
Individualized instruction on special topics.

THA411 Acting IV-A
2.00 credits
Fall
Scene study focusing on early modern European playwrights that may include Ibsen, Chekhov, Strindberg, and others.

THA412 Acting IV-B
2.00 credits
Spring
Scene study focusing on contemporary playwrights who use elevated language. May include Pinter, Stoppard, Mamet, Anouilh, Churchill, and others.

THA413 Movement III-A
2.00 credits
Offered By Announcement Only
Unarmed combat for the stage: basic and advanced techniques including punches, slaps, kicks, rolls and fight choreography. As sanctioned by the Society of American Fight Directors (SAFD).

THA414 Movement III-B
2.00 credits
Offered By Announcement Only
Weapons for the stage: basic and advanced techniques of armed combat including rapier, rapier and dagger, broadsword and/or quarterstaff as sanctioned by the Society of American Fight Directors (SAFD).

THA415 Auditioning-I
2.00 credits
Fall
A course dedicated to the business of theatre for actors. Students will prepare three to five audition pieces. Covers headshots, resumes, income tax situations, unions, and methods of searching for and obtaining work.

THA416 Auditioning-II
2.00 credits
Spring
Continuation of THA 415.
THA420 Senior Studio  
3.00 credits  
Spring  
Rehearsal and production of a showcase culminating in a New York performance for agents and casting directors.

THA431 Musical Theatre Styles I  
2.00 - 3.00 credits  
Fall  
Focus on the preparation of a professional musical theatre audition book. Emphasis on all current musical theatre song styles. 16 and 32 bar audition cuts, full songs and appropriate monologues.

THA432 Musical Theatre Styles II  
2.00 - 3.00 credits  
Spring  
Musical scene study class exploring scenes from various styles and genres of musical theatre. Scenes will consist of spoken dialogue and singing. Continuation of THA 431.

THA441 Design Studio I  
3.00 credits  
Fall  
Hands on practicum training working as a designer or technical craftsperson for a mainstage or studio production; or as an assistant designer or assistant technical craftsperson for a mainstage production. Repeatable once for credit toward major.

THA442 Design Studio II  
3.00 credits  
Spring  
Hands on practicum training working as a designer or technical craftsperson for a mainstage or studio production; or as an assistant designer or assistant technical craftsperson for a mainstage production. Repeatable once for credit toward major.

THA451 Advanced Acting: Classical Poetic Text  
3.00 credits  
Fall  
An introduction to styles focusing on the Greeks, Shakespeare, Restoration and other plays on poetic language.

THA452 Advanced Acting: Contemporary Poetic Text  
3.00 credits  
Spring  
Acting and scene study focusing on contemporary playwrights who use poetic language, such as Mamet, Stoppard, Pinter, Shepard, Vogel, and Churchill.

THA459 Stage Management Practicum  
3.00 credits  
Fall, Spring  
Practical experience as a stage manager for a production. Weekly individual meetings with instructor for analysis of performance and evaluation.

THA461 Play Direction I  
3.00 credits  
Fall  
The art and craft of stage direction.

THA462 Play Direction II  
3.00 credits  
Spring  
A continuation of THA 461 in which the student directs a one act play. Enrollment limited.
THA463 Advanced Stage Management I
3.00 credits Offered By Announcement Only
In-depth look at AEA rules as stated in the LORT rulebook. Detailed work of the theatrical stage manager: people management skills, leadership, communication and organization techniques.

THA464 Advanced Stage Management II
3.00 credits Offered By Announcement Only
A study of calling techniques, including Dance Eights. Advancing a production and the use of Riders.

THA465 Theatre Management I
3.00 credits Offered By Announcement Only
History of producing on Broadway along with the evolution of contemporary producers and producing organizations. Copyright Law, securing property rights, budgeting and financing the production, business structure and current developments and trends in both Broadway and commercial Broadway tours.

THA466 Theatrical Unions
3.00 credits Offered By Announcement Only
History of theatrical unions in America. Major unions and their contracts: actors, directors and choreographers, playwrights, composers and lyricists, designers and non-union personnel management and organizational structure.

THA467 Producing for Regional Theatre
3.00 credits Offered By Announcement Only
History of American Regional Theatre. Forming the non-profit corporation; the mission statement; the Board of Directors; legal and tax requirements; budgeting and record keeping; staffing and organizational management.

THA468 Theatrical Fundraising and Marketing
3.00 credits Offered By Announcement Only
Marketing and fundraising for the non-profit, professional theatre. Detailed instruction in single ticket and subscription sales; other sources of earned revenue; marketing and public relations; research for fundraising and grant writing.

THA469 Producing Musical Theatre II
3.00 credits Offered By Announcement Only
Designed to develop, refine, rehearse, mount, and present a new musical.

THA471 Directing the Actor for Film
3.00 credits Offered By Announcement Only
The craft of directing actors for work before a camera.

THA481 Theatre History I
3.00 credits Fall & Summer
Theatre history from the Greeks through European Renaissance.

THA482 Theatre History II
3.00 credits Fall, Spring
Theatre history from the 17th century to the present.
Theatre Arts

THA485 Playwriting II
3.00 credits Spring
Further examination of dramatic writing techniques including Hero's Journey model, adaptation and experimental structures.

THA487 Advanced Projects
3.00 credits Fall, Spring
Advanced practical projects in directing, dramatic writing or dramaturgy. Repeatable up to four times for credit towards major.

THA491 ADVANCED APPLIED MUSIC THEATRE VOICE I
1.00 credit Fall
One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to fourth-year BFA music theater students.

THA492 ADVANCED APPLIED MUSIC THEATRE VOICE II
1.00 credit Spring
One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to fourth-year BFA music theater students.

Urban Studies

URB201 Metropolitan Miami
3.00 credits Fall
This course provides interdisciplinary perspectives on the urbanization of South Florida and on Miami's urban milieu. The course uses the case of Metropolitan Miami to introduce and illustrate a range of basic concepts in urban studies.

URB301 Cities in Time and Space
3.00 credits Spring
This course provides interdisciplinary perspectives on the city, urbanity, and urbanization through a series of wide-ranging historical-geographical contexts.

Womens and Gender Studies

WGS201 Introduction to Women's and Gender Studies
3.00 credits Fall, Spring
Conceptions of masculinity and femininity; gender relations; gender inequalities; the intersections of gender with other categories of identity such as class, race, sexuality, and stages in the life cycle; and the broad impact of gender on society.
WGS202 Introduction to LGBTQ Studies
3.00 credits  
Introduction to the Lesbian, Gay, Bisexual, Transgender and Queer Studies minor. The LGBTQ Studies program is designed to allow students to explore sexuality and sexual minorities from a variety of perspectives. The course will provide students with an introduction to a broad array of LGBTQ issues including visual and performing arts, literature, languages, history, social science, various theories, public policy and the law, families and other types of intimate relationships, crime, popular culture, and LGBTQ identities and communities. It will be a core to the LGBTQ minor. The history of LGBTQ Studies extends to the beginnings of the LGBTQ movements of the last third of the previous century. Today, the field addresses work in a broad range of scholarly disciplines including biological and cultural studies, in literature and anthropology, in the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of popular culture to investigations into the development and social construction of sexual identity. Students are usually only exposed to these studies at the upper division levels of the curriculum in disparate departments. An introductory course will make these upper division courses more accessible and meaningful, as well as serve as the basic core to the minor in LGBTQ studies.

WGS210 Popular representations of Queer sexualities
3.00 credits  
Critical analysis of queer subjects in popular culture.

WGS220 European Sexualities
3.00 credits  
The history of European sexuality from the Greeks to present day.

WGS301 Feminist Inquiries
3.00 credits  
A history of feminist thought, central issues in contemporary feminist theory, the emergence of feminist methodologies across a range of disciplines, and the ways in which feminist inquiry transforms our understanding of key issues across the curriculum. Writing Credit.

WGS305 Queer Studies
3.00 credits  
Gay, lesbian, bisexual, transgender, transexual, and queer identities; alternative family structures; queer theory; and current debates over the meaning and validity of sexuality as a way of understanding human sexual desire, emotions and behavior.

WGS315 Gender, Race, and Class
3.00 credits  
Conceptions and intersections of gender, race, and class in historical and contemporary cultures; the impact of these experiences on individuals and society as a whole.

WGS320 Comparative Perspectives on Gender and Sexuality
3.00 credits  
A comparative study of gender identities, gender relations, and sexualities in different cultures and societies. Writing Credit.
WGS335 LGBTQ Communities
3.00 credits Offered By Announcement Only
Sociology of Lesbian, Gay, Bisexual Transgendered and Queer communities and identities. The history, methods, theory and concepts of social science research on these topics over the last half century and examines contemporary issues.

WGS344 Gender and Politics
3.00 credits Fall
Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

WGS345 Religion and Gender
3.00 credits Offered By Announcement Only
Religious constructions of gender identity within Christianity, with some attention to Judaism and Islam. The second Genesis creation account, which focuses on the figures of Adam and Eve, will be the focal point of our studies. An emphasis will be placed on the manner in which sexism functions within historical and present-day religious thought and practice, as well as alternative understandings of male and female identity.

WGS350 Special Topics in Women's and Gender Studies
3.00 credits Offered By Announcement Only
Content varies by semester.

WGS361 Gender and Language
3.00 credits Offered By Announcement Only
The ways in which language is used in the constitution of gender, from a cross-linguistic and cross-cultural perspective.

WGS405 Gender and Sexuality in Cultural Context
3.00 credits Offered By Announcement Only
How cultural values shape our understanding and experience of gender and sexuality; how those values are produced and policed; and the impact of codes of conduct for gender relations on individuals and society as a whole within a specific cultural milieu. Writing Credit.

WGS410 Gender, Sex, and the Law
3.00 credits Spring
The impact of legal institutions and laws in shaping and regulating gender relations and sexual practices; the evolving relationship between legal codes and social values for women and men. Writing Credit.

WGS420 Interpreting Bodies
3.00 credits Spring
Perceptions, representations, and regulation of the physical body as a gendered and sexual site, as a source of pleasure, as a means of social validation, and as an object of coercion. Writing Credit.

WGS450 Special Topics in Women's and Gender Studies
3.00 credits Offered By Announcement Only
Content varies by semester.
WGS499 Independent Study
1.00 - 3.00 credits  
By arrangement with instructor; content varies.  

WGS501 Senior Research Project
3.00 credits  
A student initiated research project with a faculty member of the student's choice and approved by the Program director. Writing Credit.

WGS505 Senior Thesis
3.00 credits  
Women’s and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing an honors thesis instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. Most students will take this course twice, for a total of six credits. Writing Credit.
ACC211 Principles of Financial Accounting
3.00 credits  Fall, Spring & Summer
Course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from a user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows.

ACC212 Managerial Accounting
3.00 credits  Fall, Spring & Summer
Introduction to managerial accounting. Topics include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information to solve problems. The course is taught from a managerial perspective.

ACC301 Cost Accounting
3.00 credits  Fall, Spring & Summer
Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. Course is designed to provide students with the necessary skills to perform basic cost accounting.

ACC306 Accounting Systems
3.00 credits  Fall, Spring & Summer
Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool.

ACC311 Intermediate Accounting I
3.00 credits  Fall, Spring & Summer
The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows.

ACC312 Intermediate Accounting II
3.00 credits  Fall, Spring & Summer
A continuation of ACC 311. Course focuses on more complex accounting applications such as leases, postretirement benefits, accounting for income taxes, and other topics. Additionally, the course includes coverage of the statement of cash flows.

ACC315 Accounting for Health Care Organizations.
3.00 credits  Spring
This course focuses on the financial accounting and reporting processes in health care, service industry, and governmental organizations. Practice problem solving techniques related to health care organizations. This will not count as an accounting course for accounting majors and will not satisfy any accounting requirements needed to sit for the CPA exam in Florida.
ACC402 Auditing
3.00 credits
Fall, Spring & Summer
Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports.

ACC403 Fundamentals of Taxation
3.00 credits
Fall, Spring & Summer
Basic concepts of federal income taxation applicable to all taxpayers. The principles of individual income taxation, the tax consequences of property transactions, and an introduction to the impact of income taxes on corporations and partnerships are discussed. Emphasis is placed on study of the basic income tax formula including income exclusions, inclusions, statutory deductions, exemptions and credits. The fundamentals of tax research are also introduced. For students who need to take ACC 303, this course satisfies that requirement. PREREQUISITE: ACC 311

ACC404 Advanced Taxation
3.00 credits
Fall, Spring & Summer
Study of Federal income tax laws and regulations as they affect corporations, partnerships, their owners, and employees. Emphasis is placed on tax planning aspects of formation, operation, reorganization, distribution, and liquidation of corporations and partnerships. Also includes an introduction to estate and gift taxation.

ACC406 Accounting Systems
3.00 credits
Fall, Spring & Summer
Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool.

ACC411 Advanced Accounting
3.00 credits
Fall, Spring & Summer
The primary focus of the course is on business combinations and preparing consolidated financial statements. Additionally, there is coverage of the accounting principles and practices applied to foreign operations and partnerships. For Accounting majors who need to take a 500-level accounting course, this course satisfies that requirement. PREREQUISITE: ACC 312

ACC501 Advanced Cost Accounting
3.00 credits
Offered By Announcement Only
The latest developments in cost and managerial accounting are studied. Using case studies, the course focuses on activity based product cost allocation methodology in terms of: (1) basic concepts and rationale, (2) applicability in both manufacturing and service industries, (3) strategic cost analyses, and (4) applicability in total quality management programs. Other topics include cost pools, two stage costing methodologies, and the behavioral aspects of cost systems. Finally, students implement an activity based cost system using commercially developed software.
ACC505 Accounting Controls in Information Technology
3.00 credits Offered By Announcement Only
Course develops a student's understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting system elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

ACC511 Advanced Accounting
3.00 credits Fall, Spring
The primary focus on the course is on business combinations and preparing consolidated financial statements. Additionally, there is coverage of the accounting principles and practices applied to foreign operations and partnerships. This meets the requirement for accounting students who are required to take Accounting 411.

ACC522 Advanced Issues in Auditing
3.00 credits Fall
Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact on audit practice.

ACC523 International Accounting and Taxation
3.00 credits Offered By Announcement Only
Course covers tax accounting and business considerations in the global business environment. U.S. issues involved in international transactions, working across national borders, the Foreign Corrupt Practices Act, money laundering, and uses of accounting information in managing an international business.

ACC524 Accounting for Governmental and Not-for-Profit Entities
2.00 credits Fall
The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities.

ACC530 International Financial Reporting Standards
1.00 credit Fall
This course provides an overview of International Financial Reporting Standards (IFRS). The course will begin with a study of IFRS Framework and will then examine a number of the major topics covered in the Intermediate Accounting courses. The perspective will be a comparison between IFRS and U.S. generally accepted accounting principles (U.S. GAAP).

ACC550 Accounting Internship
0.00 - 3.00 credits Fall, Spring & Summer
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Approval of chairman is required at time of registration.

ACC555 Accounting Honors Research Project
0.00 - 3.00 credits Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors Accounting.
ACC 599 Directed Readings
1.00 - 3.00 credits  Fall, Spring & Summer
Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project is required at time of registration.

Business Law

BSL 212 Introduction to Business Law
3.00 credits  Fall, Spring & Summer
Introduction to business law and ethics for the undergraduate student. Topics include business ethics, contracts (the nature and requisites, formation, interpretation, performance and breach, and remedies), and sales (Uniform Commercial Code, Convention on the International Sale of Goods, transfer of title, warranties, and rights and remedies of buyers and sellers).

BSL 304 Corporate Law
3.00 credits  Fall, Spring & Summer
Introduction to the law and regulation of corporations and other business entities. Topics include: tort and other business liabilities, agency and fiduciary duty, partnerships, limited liability companies, corporations (including the legal relationships underpinning their financial structure, director and officer liability, and laws relative to change of control), securities regulation, and antitrust law.

BSL 305 Legal and Social Aspects of Business Regulation
3.00 credits  Offered By Announcement Only
An introduction to the legal and ethical issues arising out of business and the regulatory environment. Topics include business ethics and subjects as environmental law antitrust, securities, administrative process, consumer protection, and employment regulation.

BSL 313 Coastal Law
3.00 credits  Fall
Basic doctrines and public policy related to the use and regulation of the United States coast zone and seabed.
PREREQUISITE: BSL 212 OR EQUIVALENT. Not available for credit toward either the major in Legal Studies or the minor in Business Law.

BSL 314 Ocean Law
3.00 credits  Spring
The principles of international ocean law regarding ocean management. Topics include ocean delimitation and issues of environmental ocean regulation within international legal framework.
PREREQUISITE: BSL 212 OR EQUIVALENT. Not available for credit toward either the major in Legal Studies or the minor in Business Law.

BSL 333 Legal Aspects of Real Estate Transactions
3.00 credits  Fall, Spring & Summer
Legal principles controlling the acquisition, ownership, financing, and development of real property. Topics include nature and acquisition of rights in real property, theory of estates, co-ownership, fixtures, easements, legal descriptions, evidence of title, title insurance, deeds, mortgages, closing the sales and mortgage transactions, condominiums and cooperatives, brokers, and land use.
BSL401 The Law of Financial Transactions
3.00 credits Fall, Spring & Summer
Overview of the law of commercial finance as it relates to existing and emergent payment systems, secured credit, and bankruptcy. Topics include: negotiable instruments, bank deposits and collections, secured transactions, personal and commercial bankruptcies, and accountant liability.

BSL412 International Business Law
3.00 credits Fall, Spring & Summer
International law and organizations, international sales, credits and commercial transactions, U.S. trade law, and the regulation of the international market place are discussed.

BSL424 Intellectual Property Law
3.00 credits Spring
This course is designed to acquaint the business student with the general framework of laws that regulate innovation, marketing, competition, and business development in the U.S. Special emphasis will be placed on discussion of ethical issues in information property, unfair competition, and management of intellectual property across various industries.

BSL460 Health Care Law and Ethics
3.00 credits Fall, Spring
This course is designed to offer the business student an appreciation of the legal foundations and ethical considerations in health care administration in the United States.

BSL476 THE LAW OF RISK
3.00 credits Spring

BSL485 Managing the Legal Factor
3.00 credits Fall, Spring
This course offers the business manager a frank and analytical view of law and legal practice as they affect business decision-making. It addresses both the issues of cost containment and relationships between counsel and the company with the objective of achieving a more effective management of the legal function in business.

BSL499 Special Topics
1.00 - 3.00 credits Offered By Announcement Only
Independent investigation of special subjects. Approval of supervising professor as to topic and evaluation of project required at time of registration.

BSL555 Business Law Honors Research Project.
0.00 - 3.00 credits Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Business Law.

BSL575 Advanced Business Law
3.00 credits Spring
Legal problems encountered by Certified Public Accountants, Finance, Management and Marketing Executives, including agency, commercial paper, bank deposits and collections, secured transactions, surety ship, bankruptcy, partnership, corporations, contracts, anti-trust, insurance, property, wills and estates, SEC law, and accountants' legal responsibility. Special attention is given to the commercial law segment of the Uniform Public Accountant Examination.
BUS155 Exploration of Faculty Research in SBA
1.00 credit Offered By Announcement Only
Students will be exposed to some of the SBA's top faculty researchers to learn more about research opportunities and styles of research methodologies within business.

BUS200 INTRODUCTION TO BUSINESS
3.00 credits Fall, Spring & Summer
Businesses today operate in an exceedingly complex environment. Such factors as commodity prices, labor and capital markets, as well as trends in tastes and preferences are constantly changing. This course will explore many of the key issues facing business decision makers in the contemporary environment, including an introduction to business ethics and corporate social responsibility. The course will take an interdisciplinary perspective, touching on essentially all of the business functions including economics, finance, accounting, marketing, management, and business communications. Using approaches from different business disciplines, students will gain insight into the structures and systems of business, as well as the strategies that firms use to compete effectively in the global business environment. BUS200 serves as the foundational course for the Business Cognate in People & Society, and it is offered for Gen Ed credit only.

BUS255 Business & Society: Inquiry + Discourse
3.00 credits Fall
This seminar will explore the relationships between business firms and their regulatory, ethical, political, cultural, and social environments. Students will be exposed to a wide range of source materials and academic activities, with the objective of developing their capacity for principled professionalism.

BUS300 Critical Thinking & Persuasion for Business
3.00 credits Fall, Spring
The modern businessperson faces a constantly evolving environment and must be able to confront and respond to an array of business issues. At the heart of an effective response is a critical, comprehensive analysis coupled with the ability to meaningfully and persuasively communicate that assessment and recommendations to a variety of constituencies. This course prepares business students for this by exposing them to a three-step process of problem solving in which they critically analyze the problem, and then communicate their analysis both in writing and orally.

Computer Information System
CIS120 Introduction to Computer Information Systems
3.00 credits Offered By Announcement Only
An introduction to computers and information processing, with emphasis on application software. The course material includes: spreadsheet design and analysis, as well as the use of spreadsheet tools in facilitating decision making; relational database design and the development of database management tools; basic Internet terminology and Web design; development of team-work, presentation, and communication skills through presentation software; and the use of advanced word processing features to create a more efficient and productive working environment, as well as software application integration.
CIS150 Business Analytics
3.00 credits Fall, Spring
The primary purpose of this course is to build skills in learning and using software
technologies to support business-oriented problem solving and decision making.
Specifically, you will develop the ability to solve problems, to organize and analyze
data using spreadsheet and database software, and to learn to distribute information
to others through the effective use of collaborative technologies and the Web.
Case problems will cover areas such as accounting, finance, marketing, statistics
and operations management. Professors from several business school departments
will discuss how their disciplines use spreadsheets to solve problems.

CIS151 CIS 150 Discussion Section
0.00 credit Fall, Spring
This is a required discussion section for CIS 150.

CIS320 Introduction to Programming
3.00 credits Fall, Spring
Course covers the fundamentals of programming logic and structured programming
principles including problem solving, algorithm design, and program development using
Visual Basic.

CIS324 Object-Oriented Programming in Java
3.00 credits Spring
This course introduces the fundamental concepts of JAVA programming language and
the techniques of Object-Orientation. Topics include data abstraction, encapsulation,
inheritance, polymorphism, Java class library, graphics/GUI, exception handling,
multithreading, multimedia, files and streams, Internet applets, application development,
tegrated development environment, and interactive program debugging.

CIS360 Systems Analysis and Design
3.00 credits Fall, Spring
Overview of the systems development life cycle (SDLC). Topics include concepts,
tools, techniques of systems analysis, data modeling, process modeling, CASE tools,
and the role of the system analyst in the organization. Students work in groups
to analyze an application system for a business related problem.

CIS361 Design of Information Systems
3.00 credits Fall
Continuation of CIS 360. Topics include concepts, tools, and techniques of systems
design, prototyping, file/database design, and physical process modeling. Students
work in groups to design an application system for a business related problem.

CIS410 Information Systems and Technology
3.00 credits Fall, Spring & Summer
Course develops an understanding of the role of information technology within an
organizational perspective. The course focuses upon the basic building blocks of
information technology architectures and examines the issues facing a Chief Technology
Officer in developing systems solutions. Topics include enterprise systems, database,
decision support, intelligent systems, the Internet and e-business, as well as
the ethical policy issues that affect systems architectures and their use.
CIS423 Database Management Systems  
3.00 credits  
Fall  
Course covers the fundamental concepts of database management systems using the Oracle DBMS. Topics include database theory and terminology, logical modeling, normalization, SQL language, database design and implementation, database administration, data security, database transaction/concurrency, and data backup.

CIS430 Business Telecommunications  
3.00 credits  
Spring  
This course introduces the subject of voice and computer networks and their use in business applications. Topics include the local and long distance telephone networks, client-server networks, network hardware and software, distributed computing, key issues in network management, and the fundamentals of data communication.

CIS450 Introduction to Health Informatics  
3.00 credits  
Spring  
The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

CIS465 Applied Software Project Development  
3.00 credits  
Spring  
Advanced concepts and techniques in application project development. Topics include project management, project development, testing, implementation, documentation, and maintenance. Students work on a group project to fully understand the skills required in the development of complete production quality applications.

CIS490 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS491 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS493 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS494 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS495 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS496 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.
CIS497 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS498 Topics in Computer Information Systems  
3.00 credits  
Offered By Announcement Only  
Topics in selected areas of specialization.

CIS499 Directed Study in Computer Information Systems  
1.00 - 3.00 credits  
Offered By Announcement Only  
Individually supervised investigation or research project in selected topics. Offered by special arrangement only. Approval of supervising professor as to topic and evaluation of project required at time of registration.

CIS550 Computer Information Systems Internship  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Student is individually assigned to operating business firm or other organization to gain insight in information technology practice in the area of career interest. Periodic reports and conferences are required.

Economics  
ECO211 Economic Principles and Problems  
3.00 credits  
Fall, Spring & Summer  
Fundamental course devoted to development and application of basic analytical tools and principles required for an understanding of major economic problems and policy alternatives available for their solution. Particular emphasis on microeconomic analysis. Topics include the study of markets under varying conditions of competition, including market deficiencies such as pollution, prices, and resource allocation distribution of income, including poverty problems, the economics of the firm and the government, and international economic relations.

ECO212 Economic Principles and Problems  
3.00 credits  
Fall, Spring & Summer  
Continuation of ECO 211. Course emphasis is placed on macroeconomic analysis. Areas covered include national income and employment analysis, money and banking, economic growth, and comparison of different economic systems, including the problems of developing the less developed world.

ECO301 Macro Economic Theory  
3.00 credits  
Fall, Spring & Summer  
Intermediate level analysis of the measurement, determination, and control of aggregate economic activity.

ECO302 Micro Economic Theory  
3.00 credits  
Fall, Spring & Summer  
Intermediate level analysis of the role of price in resource allocation in markets of varying degrees of competition, as well as in the determination of wages, rent, interest, profits, and public policy.

ECO307 Public Finance and Fiscal Policy  
3.00 credits  
Offered By Announcement Only  
The role of local, state, and federal government in attaining an efficient allocation of resources and an equitable distribution of income. Emphasis on criteria for the selection and evaluation of public expenditure and tax programs including the problems of coordinating federal, state, and local finance. Special attention is given to current policy issues.
ECO311 Labor Economics (I)  
3.00 credits  
Fall  
Course surveys the structure and functioning of labor markets. Topics include determinants of labor supply and labor demand, economics of wage differentials, economic impact of labor unions, discrimination in labor markets, and the labor market effects of various government policies such as payroll and income taxes, educational subsidies, and minimum wage laws. The central goal of the course is to provide the student with a framework for analyzing diverse issues related to the labor sector of the economy.

ECO345 Environmental Economics  
3.00 credits  
Fall  
This course determines the appropriate way to regulate economic activity so as to achieve an optimal balance between competing environmental and economic goals. Economic reasoning is used to evaluate causes and consequences of environmental problems. The course rigorously evaluates various types of environmental regulation, including cap-and-trade, command and control mandates, and pollution taxes. Other specific topics include public goods, externalities, cost benefit analysis, non-market valuation, and international trade and development and the environment.

ECO371 Economic Problems of Latin America  
3.00 credits  
Spring  
An analysis of the historical growth of major Latin American countries, with emphasis on the post World War II period. Topics include industrialization, foreign investment, international trade and regional integration, agrarian reform, inflation, and development strategies and planning within the context of Latin America.

ECO386 Health Economics  
3.00 credits  
Offered By Announcement Only  
The course applies the tools of microeconomic analysis to the health care sector. By examining the actors and issues in this market, students are able to discuss policy issues from an economic perspective.

ECO403 Contemporary Issues in Monetary Economics  
3.00 credits  
Fall  
Analysis of the role of money in economic affairs. Topics include the determinants of the money supply and interest rates, money and prices, money and stability, and growth. Emphasis is placed on current problems and policies.

ECO420 Economic Growth  
3.00 credits  
Offered By Announcement Only  
Course covers selected topics in economic growth. Topics include stylized facts associated with economic growth, the theoretical study of economic growth, and empirical tests of those theories. Course work is supplemented by case studies of individual countries, particularly developing countries.

ECO430 Applied Econometrics  
3.00 credits  
Fall, Spring  
This course introduces basic econometric techniques for analyzing economic data. The goal is to make students sophisticated consumers and skilled producers of empirical analysis, which will be attained by extensive work on a variety of real-world data like students' test scores, CEO wages, mortgage applications, cigarette demand, stock market capitalization, inflation, GDP and interest rates. Learning how to use econometric analysis software is an integral part of the course.
ECO441 International Trade Theory
3.00 credits Fall
Study of the principles of comparative advantage and the gains from international trade. Analysis of tariffs, quotas, and protectionism is included.

ECO442 International Monetary Economics
3.00 credits Spring
Analysis of models of the exchange rate, the balance of payments, and monetary policy in an open economy.

ECO444 Game Theory in Economic Applications.
3.00 credits Fall, Spring
This course is an introduction to the techniques and questions of modern microeconomics. The course will expose you to the techniques of game theory, the workhorse of modern microeconomics, and will apply those techniques to the analysis of a variety of economics situations and institutions.

ECO460 Industrial Organization
3.00 credits Offered By Announcement Only
This course shows how microeconomic theory can be used to understand the diverse practices encountered in real-world markets between the extreme cases of perfect competition and monopoly. Topics to be covered include strategic pricing behavior, collusion, advertising and information, vertical integration, vertical restraints, regulation and a review of empirical literature.

ECO499 Special Topics
1.00 - 3.00 credits Fall, Spring & Summer
Topics in area of specialization. Approval of department required at time of registration.

ECO510 Mathematical Economics
3.00 credits Fall
Introduction to mathematical techniques commonly employed in economic analysis. Topics include simultaneous linear equation systems, linear algebra, expansions of polynomials, logarithmic and exponential equations, differential calculus, and optimization theory. A substantial part of the course focuses on the comparative static analysis of both macroeconomic and microeconomic problems.

ECO511 Labor Economics (II)
3.00 credits Spring
A theoretical and empirical analysis of how labor markets operate. A survey of the literature, problems, and methodology of modern labor economics. Human capital analysis, the wage structure, job search and job-matching models, time-allocation models, the economic impact of labor unions, labor market discrimination, the determinants of labor demand and supply, and the factors affecting government policy relating to the labor sector is also included.

ECO512 Mathematical Economics (II)
3.00 credits Spring
Economics 512 will be sequential to the introductory Mathematical Economics I (ECO 510). Topics include integral calculus, differential equations, difference equations, Kuhn-Tucker conditions, solutions of general equilibrium systems, optimization under uncertainty, and an introduction to dynamic optimization. Applications of mathematical techniques to economic analysis will be stressed.
ECO520 Econometrics  
3.00 credits  
Fall  
Statistical methods of estimating and testing mathematical model of economic relationships.

ECO521 Graduate Macroeconomic Theory  
3.00 credits  
Fall  
The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

ECO532 History of Economic Thought  
3.00 credits  
Offered By Announcement Only  
Historical development of economic doctrines and theory. Topics and individuals discussed include mercantilism, physiocracy, Adam Smith, Thomas Malthus, David Ricardo, J. S. Mill, Karl Marx, marginal analysis, Alfred Marshall, and J. M. Keynes. Special emphasis is placed on the effect of historical insights upon the contemporary core of economic theory.

ECO533 Advanced Microeconomic Theory  
3.00 credits  
Fall  
An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

ECO555 Economics Honors Research Project  
0.00 - 3.00 credits  
Offered By Announcement Only  
Research project to fulfill requirements for Departmental Honors in Economics.

Executive and Special Pro  
ESP500 Review Module  
0.00 credit  
Fall  
A non-credit review session to provide students with the skills necessary to prepare for the successful completion of the common body of knowledge courses.

ESP560 Fundamentals of Marketing  
3.00 credits  
Fall  
Marketing problems experienced by top executives are examined. Fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Finance Bus Admin  
FIN306 Finance for Non-Business Majors  
3.00 credits  
Fall, Spring  
This course provides an overview of modern finance for non-business majors. Topics include: how financial markets work, understanding financial pages in newspapers and the Internet, how stock and bond prices are determined, how investment portfolios are structured, concepts of risk and return, how companies manage their cash and investments and international finance. Not for credit for business students.
FIN302 Fundamentals of Finance
3.00 credits  Fall, Spring & Summer
Introduction to the basic tools and concepts in finance. This is the core class in finance for our undergraduate program. Topics include the financial framework of a business entity, taxes, the time value of money, capital market theory, financial risk measures, and capital budgeting. Note: to be eligible to major in finance, a student must earn a grade of B or higher in this class (a grade of B- does not qualify).

FIN303 Intermediate Financial Management
3.00 credits  Fall, Spring & Summer
This course provides an overview of financial decision-making by corporations. Building on topics covered in the introductory finance classes, this course develops the foundations of optimal financial policy and applies these principles to corporate financial decision-making including capital structure, capital budgeting, dividend policy, leasing, securities issuance and the role of investment banks, and mergers and acquisitions. Note: a student must have obtained a B or higher grade in FIN302 to major in Finance. Earning an A in this class or any other class or classes does not eliminate that requirement.

FIN308 Intermediate Financial Management for Entrepreneurs
3.00 credits  Spring
This course is primarily for students majoring in entrepreneurship. It provides an overview of financial decision-making by entrepreneurs. Building on topics covered in the introductory finance classes, this course develops the foundations of optimal financial policy and applies these principles to entrepreneurial financial decision-making involved with such things as capital structure, working capital budgeting, leasing, hedging and risk management, securities issuance and the role of investment banks, and mergers and acquisitions. Note: Students cannot take both FIN 308 and FIN 303, so this class is not open to students who have taken FIN 303.

FIN320 Investment and Security Markets
3.00 credits  Fall, Spring & Summer
This course introduces students to both practical and theoretical aspects of investment with an emphasis on financial markets. Topics include valuation of financial securities such as stocks, bonds and options; modern portfolio theory; the process and institutional characteristics of investing. Note that this course does not address the details of individual security valuation and selection, i.e., this course is not about stock picking or about how to get rich by investing in the markets. Instead, this course attempts to help you develop a lasting conceptual framework in which to view the investment process and to analyze future ideas and changes in investment environment. This class is essential to any student considering a finance concentration. Note: A student must have obtained a B or higher in FIN302 to major in Finance. Earning an A in this class or any other class or classes does not eliminate this requirement.

FIN330 International Finance
3.00 credits  Fall, Spring & Summer
This course applies the principles of finance to international business decisions. Topics include the analysis of foreign exchange rates, balance of payments, characteristics and use of international financial institutions and instruments, the analysis and management of financial risk in the international environment, and financing multinational corporations. Note: a student must have a B or higher in FIN 302 to major in International Finance and Marketing (or Finance). Earning an A in this class or any other class or classes does not eliminate this requirement.
FIN340 Real Estate Principles  
3.00 credits  
Fall, Spring  
This course provides an introduction to basic principles and fundamental practices in the real estate industry. Students learn how to apply the principles of finance to the real estate industry. Topics include common institutional aspects, brokerage, contracting, financing, ownership, management, valuation, appraisal, and investment analysis.

FIN355 SMIF FUND ANALYST I  
1.00 credit  
Fall, Spring  
The course is designed to introduce the student to the investment management process, including valuation of publicly traded equities. The course is one credit and meets once a week each semester; students must commit to and enroll in the follow-up class. Admission to the course is through a competitive application process.

FIN356 SMIF FUND ANALYST II  
1.00 credit  
Fall, Spring  
This course is designed to introduce the student to the investment management process, including valuation of publicly traded equities. The course is one credit and meets once a week each semester. Enrollment in the course is limited.

FIN404 Applications in Corporate Finance  
3.00 credits  
Spring  
An application of the concepts and tools of corporate finance. Primary emphasis on analyzing real-world cases dealing with liquidity issues, capital budgeting, firm valuation, advanced corporate financing, hedging with options and futures, corporate financial strategy, and other current issues in corporate finance.

FIN405 Financial Modeling  
3.00 credits  
Fall, Spring & Summer  
This course takes a variety of finance topics, which have been covered in the prerequisite courses, and implements them using practical spreadsheet models. Students will use the internet and financial databases to obtain input data for their models. Students will use Visual Basic for Applications (VBA) and design functions and macros to enhance their models. Students must have a solid working knowledge of Windows and Excel, as well as a good understanding of the material taught in the prerequisite finance classes. Students are required to also take FIN406, a co-requisite (zero credit) laboratory class, which provides hands-on instruction. Students must have a mobile (?lap-top?) computer with the capability to run Windows-based software.

FIN406 Financial Modeling Lab  
0.00 credit  
Fall, Spring & Summer  
This is the lab component for FIN 405. Students must have a mobile computer with capability to run Windows based software.

FIN410 Financial Institutions and Markets  
3.00 credits  
Fall  
This course examines financial institutions, such as banks (commercial, investment, mortgage, savings), credit unions, insurance companies, pension funds, and mutual funds and the money markets in which they operate, and focuses on why they exist and how to manage them. Topics include financial intermediation and transmutation, monetary theory and policy, Federal Reserve management of the money supply, velocity of money, fiscal theory and policy, interest rates, and immunization.
FIN411 Commercial Bank Management  
3.00 credits  
Spring  
This course introduces the theory and practice of asset-liability management by large publicly traded commercial banks, including the fundamental principles of structuring loans into balance sheets. A major objective of this class is to provide students sufficient background to enter the credit department in the executive development program of major money center bank.

FIN421 Investment Portfolio Management  
3.00 credits  
Fall, Spring  
This course covers the techniques of institutional and individual portfolio management. Topics include: Portfolio theory, diversification, asset allocation strategies, equity indexing, equity style management: value versus growth, mutual funds, basics of hedge funds and fund of funds, ETF basics, introduction to private equity, equity and bond portfolio management strategies.

FIN422 Speculative Markets and Derivatives  
3.00 credits  
Fall, Spring  
This course is an introduction to derivative securities, and examines the nature of derivatives and applications of such instruments in investment and corporate settings. The emphasis is on derivatives of equity-based securities (such as stocks and stock indices), but coverage includes derivatives of debt-based securities (such as Treasury and Eurodollar securities). Topics include options, futures, forwards, and other derivatives, such as options on futures, foreign currency derivatives, swaps, exotic options, real options, as well as financial engineering using derivatives.

FIN425 Business and Security Valuation  
3.00 credits  
Fall, Spring  
Applications of finance theory to the problem of valuing public and non-public companies. Multiplier models, discounted cash flow analysis, and the strengths and weaknesses of traditional security valuation methods are addressed in detail. Financial spreadsheet programs and data sources are an integral part of the course.

FIN427 Fixed Income Markets and Analysis  
3.00 credits  
Fall  
This course examines financial markets that trade fixed income securities. A fixed income security is based primarily on a debt contract, such as a bond, debenture, note or Treasury bill. Topics include the valuation, computation of return, and computation of various measures of risk for fixed income securities, as well as the analysis of the term structure of interest rates and various option features commonly included in debt contracts and fixed income securities. Students must have a solid working knowledge of Excel to take this class.

FIN431 International Financial Management  
3.00 credits  
Fall, Spring  
This is an advanced class in international finance from the viewpoint of multi-national organizations, including corporations, investment banks, and commercial banks. Topics include managing the various sources of risk, such as economic, political, and currency; cash receivables, inventory, and payables management: financing; transfer pricing; taxation; currency netting; capital budgeting; and hedging.
FIN444 Real Estate Investment Analysis
3.00 credits  Spring
This course introduces the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market. Each student will complete a written evaluation and investment analysis of an existing or proposed commercial real estate project in Miami-Dade, Broward or Monroe County.

FIN445 Real Estate Finance
3.00 credits  Fall
This course introduces the theoretical concepts and analytical techniques used to make a decision to finance the purchase or development of a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market. Students are also encouraged to use their semester projects to apply for one of the numerous case competitions.

FIN446 Practical Training in ARGUS Real Estate Software
0.00 credit  Offered By Announcement Only
Practical training in the use of ARGUS software for the financial analysis of real estate projects.

FIN457 SMIF Fund Portfolio of Instructor
1.00 credit  Fall, Spring
The course is designed to introduce the student to the investment management process, including the tools used to compose a diversified portfolio that covers each of the major industrial sectors. The course is one credit and meets once a week each semester. Enrollment in the course is limited.

FIN458 SMIF Fund Portfolio Manager II
1.00 credit  Fall, Spring
The course is designed to introduce the student to the investment management process, including the management of an investment organization and the evaluation of portfolio performance. The course is one credit and meets once a week. Enrollment in the course is limited.

FIN499 Special Topics in Finance
0.00 - 3.00 credits  Offered By Announcement Only
Topics in selected areas of specialization.

FIN546 Introduction to ARGUS for Real Estate Analysis
1.00 credit  Fall
Introduction to real estate ownership analysis using proprietary ARGUS assumptions for different property types, purchase and resale assumptions and preparing reports for buyers and investors.

FIN555 Finance Honors Research Project
0.00 - 3.00 credits  Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Finance.
FIN590 Internship
1.00 credit  Offered By Announcement Only
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Approval of department is required at time of registration. Note: FIN 590 is an elective and is not for credit toward the major.

FIN599 Directed Study
3.00 credits  Offered By Announcement Only
Individually supervised research projects in selected finance topics. Approval of the Chairperson and advisor is required prior to registration.

Management
MGT100 First Step (Freshman Integrity, Responsibility, and Success through teamwork)
3.00 credits  Fall
This course is designed to provide entering freshman business majors an enriched curriculum that examines key issues in the global business environment and emphasizes the importance of ethical business practices. The course culminates with a team project that encourages students to address real world problems and encourages a lifelong commitment to civic engagement.

MGT251 Nature and Foundations of Entrepreneurship
3.00 credits  Spring
This course seeks to understand some of the basic social, legal, cultural, and economic infrastructure that enables and sustains the creation of new enterprises. Although conventional perspectives on entrepreneurship often overlook political or religious activists whose products are not sold in traditional markets, a more expansive view considers actions that transform idea into enterprises that generate intellectual, social, cultural, religious, or economic value. Theory, data, and case study will be covered to help students to think both broadly and deeply about what it means - and what it takes - to be an entrepreneur, and what characterizes the entrepreneurial society.

MGT270 Introduction to Health Sector Administration
3.00 credits  Fall, Spring
This course provides a basic understanding of the components of the health care sector and their interrelationships. The role of hospitals, ambulatory care (including physicians), long-term care, mental health care, hospice care, and pharmaceuticals will be examined. The role of government financed (Medicare and Medicaid) and private health insurance in affecting decision making by health care consumers and providers will be examined as well. A historical context will be used.

MGT302 Human Resource Management
3.00 credits  Fall, Spring
Theory and practice of modern personnel management related to the other management functions in the conduct of the enterprise. Attention is focused on the needs of the line executive as well as those intending to pursue a staff career.

MGT303 Operations Management
3.00 credits  Fall, Spring
Problems and methods of planning the efficient utilization of capital, labor, equipment, and materials. Sales forecasting, production planning, production control, scheduling, routing, dispatching, expediting, materials planning, inventory control, capital budgets, and costing are discussed. The application of quantitative techniques in problem solving and decision making are included as well as case problems.
MGT304 Organizational Behavior  
3.00 credits  
Fall, Spring & Summer  
First professional course in management. Concepts of organization, motivation, leadership, dynamics of the group, personality, organizational development strategies, and other behavioral aspects involved in the effective management of an organization are discussed.

MGT307 Advanced Organizational Behavior  
3.00 credits  
Fall, Spring  
Continuation of MGT 304--primarily for, but not limited to, BMO majors. Through case analysis and other relevant exercises, theories are applied to specific situations in organizational settings.

MGT308 Training and Development  
3.00 credits  
Fall, Spring & Summer  
An examination of key issues in designing training and development programs. Topics include organizational needs analysis, training design and implementation, evaluation techniques, and understanding of how such programs interact with other human resource functions.

MGT349 INTERNATIONAL BUSINESS  
3.00 credits  
Fall, Spring  
This course is designed to introduce students to the study of international business. Through discussions and analyses of the unique challenges and opportunities faced by multinational corporations (MNCs) and their managers, students gain an understanding of how to conduct business across different cultural, political, economic, and legal environments, as well as how to function effectively and succeed in MNCs. The course work and usage of teaching methods such as case analyses, experiential learning exercises, and debates seek to help students develop a global mindset and skills for effective global management (e.g., conceptual, analytical, cross-cultural communication, negotiation, and presentation skills).

MGT353 Introduction to Entrepreneurship  
3.00 credits  
Fall, Spring  
The opportunities for the organization and operation of the small business. Organization, location, financial planning, records, unit costs, merchandising, credits, and personnel are discussed. Opportunities in various other fields are also considered.

MGT359 Comparative Management  
3.00 credits  
Offered By Announcement Only  
Analysis of professional management as affected by the cultural environments in which it operates in major industrial nations. The problems of trans-cultural managers in multinational structures is examined.

MGT360 Effective Leadership  
3.00 credits  
Fall, Spring  
This course covers the key theories, models, and frameworks about the effective leadership of people in organizations. A multimedia approach is taken, using readings, films, lecture, discussion, and case analyses. The emphasis is on building a sound grasp of good practice, and on developing the ability to apply such knowledge to everyday leadership situations.
MGT401 Strategic Management
3.00 credits                                           Fall, Spring
An integrative approach to strategy formulation and implementation, from a domestic and international perspective, is the focus of this core capstone course. All the primary areas of business are emphasized using cases and readings. Course is required of all graduating seniors in Business.

MGT422 Leading Teams
3.00 credits                                           Offered By Announcement Only
The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and exercise leadership in teams. Topics include team development, decision making, and managing conflict.

MGT428 Compensation and Benefits Design
3.00 credits                                           Fall, Spring
Examines techniques and theories related to the design and management of compensation and benefits programs within organizations. Compensation includes cash compensation, such as base pay, merit pay, seniority pay, individual, group and organization-wide incentive plans, skills-based pay, and pay-for-knowledge. Benefits include health care plans, pension and profit-sharing plans, life and disability plans, and paid time off.

MGT445 Supply Chain Modeling and Analysis
3.00 credits                                           Fall, Spring
This course will introduce students to managerial decision problems in modern supply chains, and will develop structured mathematical tools to model and solve these problems. Students will also learn to apply these tools through problem-solving exercises, experiential games, and spreadsheet-based case studies.

MGT446 Supply Chain Strategy
3.00 credits                                           Fall, Spring
This course will deal with issues such as inventory management, supply chain design/coordination, revenue management, and sourcing. Each module discusses how a real company practices some aspect of supply chain strategy, and then reviews the concepts behind that practice. Tools are provided to analyze the concepts, distill their principles, and suggest guidelines for implementation and improvement.

MGT454 Business Planning for Entrepreneurs
3.00 credits                                           Fall
The basics of starting a business for aspiring entrepreneurs. Topics include sources of capital, market choices, division of the equity pie, choice of distribution channels, choosing an accountant and a legal advisor, preparation of a business plan, and product design. Teams of students develop business plans to start new enterprises.

MGT455 Entrepreneurial Consulting
3.00 credits                                           Spring
Students review techniques, methods, and organizational forms of management consultants. Emphasis on small business problems, particularly start-ups, is provided through preparation of consulting reports on written cases, guest speakers, and actual business firms or start-ups.
MGT459 International and Multinational Management  
3.00 credits  
Fall, Spring  
Foreign environment for overseas operations with a survey involving economics, political, and social constraints. The effects of overseas investments on foreign economies with emphasis on the emerging managerial structures is included.

MGT480 Organizational Development and Change  
3.00 credits  
Fall, Spring  
Course is intended for students who are interested in learning about how to manage, plan, and implement large-scale change efforts within organizations. Part of the course is devoted to organizational analysis techniques and the remainder addresses behavioral intervention strategies (including survey feedback, technostructural interventions, and team building).

MGT498 Selected Topics  
3.00 credits  
Fall, Spring & Summer  
Topics in selected areas of specialization.

MGT540 Behavioral Aspects of Productivity  
3.00 credits  
Offered By Announcement Only  
Productivity management impacts organizational strategy, efficiency, quality, and survival. Course examines these varied impacts and discusses the managerial issues related to productivity measurement, organizational values, incentives, gain sharing, motivation, organizational change, gain sharing, motivation, organizational change, and organizational politics. Course is taught from behavioral and systems theory viewpoints, focusing on how behavioral change impacts system productivity. Course is multidisciplinary and supplemented with examples of corporate applications.

MGT550 MGT Internship  
1.00 credit  
Fall, Spring & Summer  
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Cannot be used toward major requirements.

MGT598 Selected Topics  
3.00 credits  
Fall, Spring & Summer  
Topics in selected areas of specialization.

MGT599 Directed Study  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration. Only open to undergraduate students.

Management Science  
MAS105 Quantitative Methods in Business I  
3.00 credits  
Offered By Announcement Only  
This course provides a background in algebra, linear equations, matrices, quadratic, exponential, and logarithmic functions appropriate for the successful understanding, interpretation, and use of these concepts and their application to business and economics within the Business School curriculum and in career endeavors. The course also provides an introduction to the mathematics of finance, interest rates, discounting of future returns, and linear programming.
MAS110 Quantitative Applications in Business
3.00 credits  
Fall, Spring & Summer
Review of algebra emphasizing its application to supply and demand functions, market equilibrium, compound interest, and amortization. Differential calculus emphasizing its applications to marginal cost and revenue functions, maximization, taxation in competitive markets, and elasticity of demand are discussed. The application of integral calculus to total cost and profit of demand, to total cost and profit functions, consumer's and producer's surplus, computation of present value, and constrained optimization using partial differentiation are also included.

MAS201 Introduction to Business Statistics
3.00 credits  
Fall, Spring & Summer
Data analysis and presentation, cross tabulations, descriptive statistical measures, probability, sampling, statistical inference, hypothesis testing for one and two populations, covariance and correlation analysis. Utilization of microcomputer statistical packages is also included.

MAS202 Intermediate Business Statistics
3.00 credits  
Fall, Spring & Summer
Chi-squared goodness of fit tests, and contingency tables, analysis of variance, simple linear regression, multiple regression, time series, forecasting, statistical methods of quality. Utilization of microcomputer statistical packages, case analyses, and presentations are also included.

MAS311 Applied Probability and Statistics
3.00 credits  
Fall, Spring
Descriptive statistics, basic probability, distribution theory, point and interval estimation, testing hypotheses, simple linear regression, correlation, and quality control charts are discussed. Examples are drawn from various disciplines. Lecture, 3 hours.

MAS312 Statistical Methods and Quality Control
3.00 credits  
Fall, Spring
Analysis of variance, multiple regression, and statistical quality control methodology, including reliability are discussed.

MAS441 Deterministic Models in Operations Research
3.00 credits  
Fall
Introduction to deterministic mathematical models with applications to business problems. Topics include the methodology of operations research, linear, integer, and dynamic programming, project management, networks, multi-objective optimization and heuristics. Software packages are used for programming applications. Lecture, 3 hours.

MAS442 Stochastic Models in Operations Research
3.00 credits  
Spring
Introduction to probabilistic models and their applications. Topics include inventory theory, stochastic processes (queueing systems, Markov chains), and computer simulation. Lecture, 3 hours.

MAS452 Systems Analysis Methodology and Applications
3.00 credits  
Spring
Solution of problems from the general systems point of view. Case studies are used with emphasis on report writing. The preparation of a project proposal and the conduct of the proposed study are also required.
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School of Business Admin
Management Science

MAS499 Directed Study
1.00 - 3.00 credits  Fall, Spring & Summer
Independent investigation of special problems. Offered by special arrangement only. Approval of supervising professor as to topic and evaluation of project required at time of registration.

MAS547 Computer Simulation Systems
3.00 credits  Fall
Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and output analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

MAS548 Data Mining and Knowledge Acquisition
3.00 credits  Spring
This course provides an introduction to the principles and techniques of data mining. Topics covered include the data mining process, data preprocessing, data mining techniques and data mining evaluation. The course will involve a combination of lectures, labs, projects and case studies.

MAS550 Management Science Internship
1.00 - 3.00 credits  Fall, Spring & Summer
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

MAS555 Management Science Honors Research Project.
0.00 - 3.00 credits  Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Management Science.

MAS595 Topics in Management Science
1.00 - 3.00 credits  Fall, Spring & Summer
Topics in selected areas of specialization.

MAS596 Topics in Management Science
1.00 - 3.00 credits  Fall, Spring & Summer
Topics in selected areas of specialization.

Marketing

MKT201 Foundations of Marketing
3.00 credits  Fall, Spring
Understanding and satisfying consumer need through product planning, pricing, promotion, and distribution. Students identify and analyze marketing problems. Discovery and application of marketing skills are developed by marketing planning assignments, computer simulations, and case analysis.

MKT301 Marketing Foundations
3.00 credits  Fall, Spring & Summer
Understanding and satisfying consumer needs through product planning, pricing, promotion, and distribution. Students identify and analyze marketing problems. Discovery and application of marketing skills are developed by marketing planning assignments, computer simulation, and case analysis.
MKT302 Marketing Research and Market Analysis
3.00 credits
Fall, Spring
Examination of the process, role, and function of marketing research, including research problem formation, research methods and procedures, data acquisition, sampling theory and practice, data analysis, presentation of results, ethical issues, and application for each of the above.

MKT310 Consumer Behavior and Marketing Strategy
3.00 credits
Fall, Spring
The study of behavioral science research findings, principles, and theories, especially those from psychology and sociology, as they relate to the determinants of consumer buying behavior. The case approach is utilized to stimulate the development of creative marketing strategy.

MKT320 Retailing
3.00 credits
Fall, Spring & Summer
Retail store management, location, buying, merchandise control, policies, services, pricing, expenses, profits, training and supervision of retail sales force, and administrative problems are discussed.

MKT340 Professional Selling
3.00 credits
Fall, Spring & Summer
Nature of the professional selling function and its relationship and contribution to the marketing strategy of organizations. Special emphasis is placed on broadly applicable principles and effective personal communication skills during the sales process.

MKT360 International Marketing
3.00 credits
Fall, Spring & Summer
The major current factors affecting international marketing. Course is designed to acquaint students with the growing importance of world marketing in the U.S. and the strategic issues involved.

MKT380 New Product Development
3.00 credits
Fall, Spring
This course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are inculcated through two assignments and one class project.

MKT385 Marketing for Entrepreneurs
3.00 credits
Fall, Spring
This course is focused on the study and practice of marketing all aspects of an entrepreneurial venture: the new company itself as well as its products or services. Topics will include: branding, pricing and costing, buying behavior, market segmentation, channel management, as well as exploring issues such as intellectual property, customer service, corporate versus product web sites, media exposure and PR, and maintaining an integrated plan for building the venture's brand.

MKT386 Advertising Management
3.00 credits
Fall, Spring
In this course, students learn about the components involved in researching, planning, creating, and executing advertising strategies. The class gives students a better understanding of how advertising can be effectively used in a marketing strategy. Students also learn how advertising both influences and is influenced by cultural trends. Implications of this to both marketers and society as a whole are discussed.
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Undergraduate Course Listing
School of Business Admin
Marketing

MKT387 Internet Marketing
3.00 credits Fall, Spring
This course will introduce students to the principles of Internet marketing from both perspectives of theory and practice. On the theory side, students will learn foundations and recent research and development of Internet marketing. Main contemporary Internet marketing issues will be extensively discussed in class, including social media marketing, search engine marketing, e-commerce, online advertising, mass customization, and others. Students will also learn how to form an appropriate strategy for an Internet marketing campaign and use quantitative skills to analyze the effectiveness of such a campaign. On the practice side, students will collaborate in teams and participate in a real-world Google online marketing challenge. Students will grasp critical concepts of search engine optimization by working with a local business client, laying out a suitable pre-campaign strategy, implementing and modifying the campaign in real time, and summarizing the campaign results in a meaningful and concise manner when it is over.

MKT388 Health Care Marketing
3.00 credits Fall, Spring
This course is devoted to the study of health care marketing and the health care system involved with the task of marketing products and services. As health care reform continues to evolve current market conditions and transform existing organizations into new practices, this course will focus on how managed care providers, hospitals, physicians, federal government, device and pharmaceutical companies will embrace the new patient-centered market in their marketing strategies. Key learning objectives include: Health Care System Interaction, Consumer Driven Market Research & Segmentation, Health Network Channel Partner Marketing Services vs. Good Marketing Variation, Health Care Service Selection Drivers, Patient & Community-Oriented Marketing Technology, Social Media & Advertising Impact on Health Marketing, Cause & Global Marketing Platforms in Health Care and Integrated Marketing & Marketing Variation between health care Segments.

MKT389 UNDERSTANDING MEDIA METRICS IN THE DIGITAL WORLD
3.00 credits Fall, Spring
This course introduces the student to the basics of evolving new media business metrics and corresponding forms of audience and competitive marketplace analysis. Students will research and evaluate business models for multipractical new media products that use any combination of print, radio, television, internet, or mobile technologies. Product evaluations will be set within the context of comparative media economics, new media market dynamics, and advertising revenue projections. The goal will be to evaluate whether an existing or a current media product has the critical mass required for profitable advertiser metrics. Students will be exposed to developing new media usage patterns, cross platform media support strategies, new models of entertainment and news gathering, and corporate media acquisitions and mergers. Local media executives, and entrepreneurs will be invited to class to review current trends and discuss strategies for success.

MKT403 Marketing Management
3.00 credits Fall, Spring
Marketing Management is a capstone course that examines new concepts and insights regarding marketing management. Through case analysis the course covers important aspects of marketing management. The students also participate in a simulation in which they manage multi-segment markets.
MKT450 Marketing internship
1.00 credit  Offered By Announcement Only
The student is individually assigned to an operating business firm or other organization
to gain insight into management practices in the area of their career interest.
The internship cannot be used to satisfy course requirements for marketing majors
or minors and periodic reports and conferences are required. May be taken only
for CR credit, based on a C grade average or better - NC no credit, based on a
course average below a grade of C.

MKT451 Marketing Internship
1.00 credit  Offered By Announcement Only
The student is individually assigned to an operating business firm or other organization
to gain insight into management practices in the area of their career interest.
The internship cannot be used to satisfy course requirements for marketing majors
or minors and periodic reports and conferences are required. May be taken only
for CR credit, based on a C grade average or better - NC no credit, based on a
course average below a grade of C.

MKT469 International Marketing Management
3.00 credits  Fall, Spring
International Marketing Management is a capstone course that examines new concepts
and insights regarding international marketing management. Through case analysis
the course covers important aspects of international marketing management. The students
also participate in a simulation in which they manage multi-country markets.

MKT498 Topics in Marketing
3.00 credits  Offered By Announcement Only
Topics in selected areas of Marketing.

MKT499 Undergraduate Directed Study
1.00 credit  Offered By Announcement Only
Individually supervised readings or research projects. Restricted to students with
superior academic records. Approval of supervising professor as to topic and evaluation
of project required at time of registration.

MKT555 Marketing Honors Research Project
3.00 credits  Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Marketing.
POL100 JOHN RAWLS' POLITICAL PHILOSOPHY
3.00 credits Summer
As one of the most influential intellectuals of the 20th century, John Rawls has become a point of reference in debates in philosophy, international relations, and political science. We will study Rawls' major works, and critiques of those writings.

POL199 UMinDC Introduction to American National Government
6.00 credits Fall
Introduction to American national government taught in Washington DC as part of the UM in DC program. Includes excursions and guest speakers active in politics.

POL200 Introduction to World Politics
3.00 credits Summer
Evolution of the state system. Comparative analysis of political and economic systems; introduction to major theories of governance. Forces of integration and disintegration; the global political economy; and environmental considerations.

POL201 Introduction to American National Government
3.00 credits Fall, Spring & Summer
Examination of the principles, structures, and processes of the national government of the United States. Frequent comparisons made with others countries.

POL202 INTRODUCTION TO COMPARATIVE POLITICS
3.00 credits Fall, Spring & Summer
This course introduces students to study of comparative and international politics by examining how conflicts over these issues have played out in several different countries around the world.

POL203 Introduction to International Relations
0.00 - 3.00 credits Fall, Spring & Summer
Introduction to the theory and practice of international relations. Analyses the modern state system; globalization; diplomacy and negotiation, balance of power considerations.

POL213 Government and Society
3.00 credits Offered By Announcement Only
Examination of such key issues as the role of business in society, the nature of corporate responsibility, business ethics practices, and the interactive roles of government and business in a global society. Not for major or minor credit.

POL300 The Politics of Growth Management
3.00 credits Fall, Spring & Summer
An analysis of growth management policies and techniques. Topics include urban environmental issues, development of growth management policies, and growth management planning techniques.

POL305 INTRODUCTION TO POLITICAL THEORY
3.00 credits Offered By Announcement Only
Politics is organized behavior shaped by power. This brief, stripped-down, and pragmatic definition is what we will use in gaining access to the political philosophers we will study in this course. Students will have a greater understanding of arguments and texts in political philosophy.
POL306 Positive Political Theory
3.00 credits
Offered By Announcement Only
Introduction to positive political theory as a study of politics using quantitative methods such as game theory, laboratory experiments, and computer simulation. The political agents involved in a given interaction are modeled as rational players guided by self-interest whose behavior can be formally explained or predicted.

POL307 Political Ideologies
3.00 credits
Offered By Announcement Only
Covers modern and contemporary political ideologies, such as Liberalism, Conservativism, and Marxism.

3.00 credits
Offered By Announcement Only
Tracks the roles of power and morality in the political cultures of Great Britain, including the use of force in national security policies, the moral and political framing of global terrorism, the deployment of human rights to address recent global issues (like genocide), and the influence of religion in contemporary British politics.

POL309 American Political Thought
3.00 credits
Offered By Announcement Only
This class traces the evolution of democratic thinking in America. Topics include the meaning of representation, citizenship, equality and liberty.

POL310 God, Science, and Politics
3.00 credits
Fall
A study of morality and religion that addresses the competing influences of material and spiritual discourses on political regimes and practices. The talking points for the course include the various proofs and refutations offered throughout history of God's existence, the differences and similarities of scientific and religious approaches to experience, and the ways in which moral and religious principles enlighten politics as they fold into the vocabularies of natural law and right, and contaminate the political with religious violence in the name of God.

POL311 CONSPIRACY THEORIES AND THE PUBLIC
3.00 credits
Spring
Why do people believe in conspiracy theories? This inter-disciplinary course examines a variety of explanations for conspiratorial beliefs.

POL313 THE CONSTITUTION
3.00 credits
Fall
This course examines the US Constitution from a political and historical perspective. This is a writing intensive course.

POL314 Legislative Processes
3.00 credits
Spring
Examination and analysis of the United States Congress. Emphasis on internal structure and operations, congressional roles and procedures, party leadership, external influences on congress, and incentives for congressional behavior.

POL315 American Presidency
3.00 credits
Offered By Announcement Only
Historic development of presidential power; sources of the powers of the modern presidency, institutional decision-making; how and to what degree presidential power should be controlled.
POL 321 Public Policy and Administration
3.00 credits
Fall, Spring
The purpose of this course is to instruct students in the problems and processes in the implementation of public policy at an introductory level.

POL 322 Environmental Politics and Policy
3.00 credits
Fall & Summer
Examines the federal government's policies toward the National Forests and public grasslands; water supply policies and politics of the Everglade and Far West; global warming; U.S. air and water pollution policies and politics as well as those related to waste management; U.S. energy policies; and trade and the environment.

POL 323 Global Warming, Politics and the European Union
6.00 credits
Summer
The European Union (EU), and especially France to ecologically modernize their advanced economies. The course will treat the EU effort to fashion an international agreement on climate change. This class in conducted in Paris, France.

POL 332 Mass Media and Politics
3.00 credits
Offered By Announcement Only
Role of media in American politics. Historical development of the media from newspapers, through radio, to television and new media such as the internet. Changing norms of news media reportage. The growth of political advertising both during and between elections; the effects of these developments on American government and on the public.

POL 334 Campaigns
3.00 credits
Offered By Announcement Only
Students learn about political campaigns by becoming involved in an active campaign and studying the academic literature about elections and campaigns. Topics are media, campaign organization, voters, issues, political parties, elections, and the five elements of every campaign.

POL 335 Local Government
3.00 credits
Offered By Announcement Only
Examination of city and county governments and politics. Focuses on structures, leadership, taxing and spending, the influence of state and federal governments, and hot-button issues of importance to South Florida communities.

POL 337 International Law and Organizations
3.00 credits
Offered By Announcement Only
This course focuses on the interaction of states through various legal regimes. We will consider the role of international law and organizations in politics, and the political implications of both criminal and civil international law from the perspective of the state, the individual, and non-governmental actors. Readings, lectures, class discussions, and examinations will familiarize the students with the parameters and limitations as well as the policy and practice of international law.

POL 342 State and Local Government and Politics
3.00 credits
Spring
State constitutions, political parties, legislatures, executives court systems, administrative systems and services, financial problems, city and county governments, local-state, federal-state and interstate relations. Special emphasis on governments in Florida.
POL343 GOVERNMENT IN METROPOLITAN AREAS
3.00 credits                                           Offered By Announcement Only
This course will introduce the student to the organization and functions of counties and municipalities in the United States. On occasion guest speakers will be featured. We will examine Miami-Dade County as a concrete example of the course content.

POL344 Gender and Politics
3.00 credits                                           Fall
Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

POL346 U.S.-Latin American Relations
3.00 credits                                           Fall
Systematic survey of U.S.-Latin American relations highlighting contending paradigms in the study of hemispheric relations. Examines issues in East-West and North-South relations and political economy of Brazil, Mexico, and Argentina. Considers alternative U.S. foreign policies.

POL347 AMERICAN FOREIGN POLICY
3.00 credits                                           Offered By Announcement Only
This course investigates how American primacy came to be, what its consequences are, and what will drive American foreign policy in the future. Students use social science to evaluate claims and understand the world, improve their ability to advance and defend arguments, and develop a broad base of knowledge about American foreign policy history and issues.

POL348 United States Relations with the Middle East
3.00 credits                                           Offered By Announcement Only
Evolution of American relations with the Middle East. Analysis of the motivations and calculations, including domestic and external sources of policy-making and implementation. Emphasis on post-World War II period, with particular attention to the current administration.

POL349 U. S. Defense Policy
3.00 credits                                           Spring
Examination of key problems of national security in the post-Cold War environment. Emphasis on the structure and functioning of the US defense establishment and its interactions with its most probable adversaries and allies. Consideration of the constraints on, and options open to, policy planners, and with the institutional elements of the decision making process.

POL351 Public Opinion
3.00 credits                                           Fall
Political functions of public opinion; opinion dynamics in the U.S.A.; quantitative analysis of elements in opinion change; principles of political control via mass media in the U.S.A.

POL352 Political Parties
3.00 credits                                           Offered By Announcement Only
Analysis of political organizations and electoral processes in the United States: their history, current status, and present trends. Consideration of the organization, control, and finances of political parties and pressure groups, their characteristic practices, and their relationship to political democracy.
POL353 Interest Groups and Lobbying  
3.00 credits  
Offered By Announcement Only  
Analysis of lobbying and political interest groups in the United States; history, current status, and present trends. The organizations, control, and finances of pressure groups, their characteristic practices, and their relationship to democracy. Also, lobbying by citizens and groups more broadly, including the role of campaign contributions.

POL354 The CIA and the World of Intelligence  
3.00 credits  
Fall  
What the CIA does, how it does it, and the ways in which the CIA works with other intelligence agencies. Topics explored include: notable intelligence successes and failures, key intelligence issues, and ethical debates about intelligence activities including covert action.

POL360 Congressional Representation  
3.00 credits  
Fall  
Examination of how and when citizens influence legislators' behavior. How legislators' floor behavior reflects citizens' preferences and how these preferences influence the formation of electoral coalitions.

POL372 Introduction to Criminal Justice  
3.00 credits  
Spring  
Selected topics in criminal law with an emphasis on constitutional criminal procedure and post 9/11 developments in federal criminal law: constitutional principles covering investigation and arrest, racial profiling, warrant-less searches, controversial interrogation techniques, rights of enemy combatants and the imposition of capital punishment.

POL373 Constitutional Law I  
3.00 credits  
Fall  
A study of the development of the principles of American Constitutional Law, with a course focus upon those constitutional principles developed from the original document. Areas of study include judicial review, separation of powers, the Commerce Clause, the Contract Clause, and the Due Process Clauses.

POL380 Comparative Political Analysis  
3.00 credits  
Spring  
An introduction to the techniques of comparative political analysis by applying major social scientific arguments to the question: Why do some countries develop stable democracies and others do not? Students will pursue their own research projects seeking to answer this question in the context of a country or countries of their choice.

POL381 West European Politics (Previous Title: European Politics and Government)  
3.00 credits  
Fall  
Examination of political and economic developments in western European countries.

POL382 Government and Politics of the Federal Republic of Germany  
3.00 credits  
Offered By Announcement Only  
An examination of Germany's political system, its political parties, and the country's economic, social and foreign policies.
POL384 Postcommunist Russian Politics
3.00 credits
Fall
Examines the demise of the USSR and the tumultuous post-communist transition in Russia from Gorbachev to Putin and Medvedev. The foundations of state power, the political party system, civil society, petro-state capitalism, endemic corruption, current politics, and Russian nationalism are examined through the lens of western and Russian political science theories.

POL385 Politics and Society in Latin America
3.00 credits
Fall, Spring
Introduction to the politics of Latin American countries focusing on 20th century history, the impact of the Cold War and home-grown social struggles, economic development models, the difficulties of democratic consolidation, U.S- Latin America relations, the emergence of new political actors such as women's and indigenous movements, and current political constellations. The course combines a study of thematic issues with case studies.

POL386 Democratic Consolidation
3.00 credits
Offered By Announcement Only
Explore the general concept of democratic consolidation which has become a timely topic in the discourse of today's foreign policy. We will examine the central theoretical concepts that frame the discourse and then examine several case studies.

POL387 Politics of the Middle East
3.00 credits
Fall
Comparative analysis of the political development of the Middle East in terms of nations and as a region. Particular stress is on the relationships within the region and with other regions of the world.

POL388 Politics of Israel
3.00 credits
Fall
It is the purpose of this course to examine the Israeli system. Three themes will structure this investigation. The first considers the complex, and evolving, identity questions and politics that attend Jewishness, Zionism and being Israeli. The second investigates legitimacy, the nature and dynamics of the Israeli political system. And the third engages the multidimensional nature of Israeli security.

POL391 Topics in International Relations (Previously: Introduction to International Relations)
3.00 credits
Fall, Spring & Summer
Introduction to the theory and practice of international relations. Development of the modern state system; diplomacy and negotiation; balance of power considerations. Evaluation of past and present experiences of international cooperation through various multinational organizations; international law. Introduction to the principles of international political economy; high versus low and hard versus soft politics. North - South divisions. Class discussion of topics of current relevance to the international community.

POL392 International Terrorism
3.00 credits
Spring
Study of phenomenon of low-intensity warfare known as international terrorism in all its variations: state, state-sponsored, state-supported, domestic revolutionary terrorism and counter-terrorism. Also examines governmental policies of countering terrorism.
POL491 IMMIGRATION REFORM: THE CURRENT DEBATE
3.00 credits                                                                   Fall
This is a unique experience that will include high-profile guest speakers. The course encourages active student participation through social media. We will examine the debate on immigration including both documented and undocumented workers. The course examines the impact of recent waves of immigration on U.S. society, market, workforce, education, media, culture, healthcare, and law enforcement.

POL499 Special Topics
1.00 - 3.00 credits                                           Fall, Spring & Summer
Government Accountability and Personal Responsibility, emphasizing new ways public agencies are communicating with citizens and changes in citizen expectations for self-governance. Various provisions of the new health care reform act, such as the requirement that all citizens purchase health insurance, would be covered along with new technologies such as 311 systems and social networking designed to improve citizen-government contacts.

POL501 Budget and Financial Management and Administration
3.00 credits                                                                 Spring
Role of the budget in shaping public policy; managing public revenues; budgetary theory, politics, and fiscal management. Examples from state, municipal and federal governments.

POL510 POLITICAL ANALYSIS
3.00 credits                                                                   Fall
This course focuses on the use of statistics to conduct quantitative research (i.e., statistics) in political science and public administration. The course emphasizes hands-on data work. Students will learn how to perform political analyses and present findings in an appropriate manner using SPSS statistical software.

POL515 Media Content Analysis
3.00 credits                                                                   Fall
There are few facets of our lives which are not directly affected by media content. From cell phones to televisions, the media is with us all the time. But what messages are contained in the mass media? What methods can we employ to study media content scientifically? This course will explore methods of analyzing media sources including movies, newspapers, magazines, and television. Course topics will include political bias, campaign coverage, and news content. Students will design their own projects and implement their own coding strategies.

POL516 Experiments in Political Science
3.00 credits                                                                   Fall, Spring

POL520 Internship
3.00 credits                                                  Fall, Spring & Summer
Provides advanced political science majors with an opportunity to participate in a structured, supervised internship. 25-35 page research paper required.

POL521 Public Affairs Internship
3.00 credits                                                  Fall, Spring & Summer
Opportunity for the advanced student specializing in public administration to participate in an administrative capacity in an agency of state or local government. Periodic conferences with adviser and paper required.
POL522 Introduction to Graduate Public Administration
3.00 credits
Fall, Spring
Introduction to concepts, issues, problems, theories and process in the field of
public administration and/or public management.

POL524 Non-Profit Organizations: Law, Policy, and Management
3.00 credits
Fall
This course teaches students the essential requirements for creation and operation
of tax-exempt nonprofit organization in accordance with state and federal law.
The course covers a wide range of relevant topics including guidelines for charitable
giving and charitable solicitation, pitfalls that can result in personal liability
for officers and directors, and statutory constraints on legislative lobbying and
political activities.

POL526 Administrative Law
3.00 credits
Fall
Administrative law is the study of the legal relationship of government agencies
to legislatures, courts, and private parties. The course examines the legal dimensions
of bureaucratic power and procedures as well as constitutional and statutory constraints
on regulators and administrators. Topics include rule making, adjudication, investigation
and enforcement, political controls on agencies, judicial review of agency decisions,
governmental liability and immunity, public records and open meetings laws. Both
federal law and Florida law are covered. The course assumes a basic knowledge of
the American legal system, constitutional law and bureaucracy.

POL529 Voting in the US: Access, Fairness, and Reform
3.00 credits
Fall
Fair and free democratic elections are the heart of US democracy. This course
will examine who gets to vote, whether election laws and rules are fair (and fairly
implemented), and proposals to reform the way elections are run.

POL530 Intelligence and National Security Decision Making
3.00 credits
Offered By Announcement Only
This course will study the US national security community structure and decision
making process. The course will look at the National Security Council, the principal
national security agencies (such as the CIA, Defense Department, and State Department),
how they interact, and their roles in dividing and executing policy. We will also
examine the role and function of senior policy decision makers such as the President.
We will study recent policy challenges such as Iraq and Afghanistan as examples
of National Security policy.

POL531 Global Environmental Politics
3.00 credits
Offered By Announcement Only
Examination of the environment within the context of economic globalization. Contrasts
the international trading regime and those regimes designed to protect the environment,
with specific attention to the issues of global warming and bio-diversity.

POL535 Comparative Legal Systems
3.00 credits
Fall, Spring
Considers the institutional and political roles of Courts from a comparative perspective.
With a focus on judicial independence and judicial review, will consider the juridical
systems of a variety of countries and regions including the US, the EU, Germany,
France, Great Britain, Chile, Argentina, Russia, The Asian-Pacific Rim, South Africa,
Israel, Central America and the Middle East.
POL536 U.S. Health Care Crisis: Politics and Policies

3.00 credits

Spring

This seminar will explore the politics and policies of healthcare in the United States. Our examination of the current crisis in cost and coverage will draw on experience from the debates on comprehensive and incremental reform over the past decade. In addition, we will explore the politics and policies of other health and science issues. Students will be expected to attend every class and be actively involved in class discussions. There will be two examinations, one at mid-term and a final based on readings and course discussions.

POL541 Philosophy of Law

3.00 credits

Offered By Announcement Only

Case-based study of jurisprudence designed to illuminate and explain philosophies of law. Examination of theories of free expression; bio-ethical matters; theories of punishment and legal responsibility; and the placement of religious discourses in liberal systems of law. Special attention to cases involving fundamental rights and liberties; the role of the individual and the state in civil society; and the capacities of individual to be legally competent in contemporary systems of law.

POL543 Urban Politics

3.00 credits

Offered By Announcement Only

Examination of sources of political power in urban areas and how they influence the policies pursued in those areas. Analysis of the role of economic power, protest actions, neighborhood groups, and voting to evaluate whether there is a bias in urban politics that systematically favors some groups over other and, if so, how likely it is that the bias can be overcome.

POL544 Chinese Foreign Policy

3.00 credits

Fall


POL545 Environmental Policymaking

3.00 credits

Spring

Examination of different ethical approaches to the environment; the federal government's management of natural resources; selected environmental policies; international environmental policy issues. Topics include federal management of national grazing lands, national forests, and minerals in the public domain. Analyzes environmental policies such as air, water, toxic wastes, energy, and environmentally-related issues in international trade and national security.

POL548 Civic Participation and Democracy

3.00 credits

Fall

Citizens participate in the governing process by communicating their preferences and pressuring the government to respond. In this course we examine these various mechanisms of civic participation, and discuss the meaning and consequences of participatory democracy. The course focuses on the contemporary United States, but we will devote some time to discuss civic participation in other countries as well.
POL550 Advanced Seminar on American Politics  
3.00 credits  
Fall  
This seminar provides students with a survey of significant research on major topics in American Politics. We will read influential works of the past, as well as recent cutting-edge research. Particular attention will be paid to discussing the methods and theories used in the research we will read. The purpose of the course is to acquaint students with the literature on American Politics, while also providing an opportunity for students to develop skills in critically assessing and skillfully conducting social science research.

POL551 Productivity in the Public and Non-Profit Sectors  
3.00 credits  
Summer  
Definitions and measures of productivity. Evaluation of government programs, and methods of productivity improvement.

POL553 The Environmental Movement: Groups, Beliefs and Values  
3.00 credits  
Fall  
Exploration of the origins and political impact of environmentalism in the United States and, to a lesser extent, in the global context. Impact of democratic participation on environmental politics.

POL555 Total Quality Public Service Management: Achieving High Performance Government  
3.00 credits  
Fall  
Examination of the theory and practice of Total Quality Management (TQM) in the government and non-profit sector. Focuses on budgetary, customer service, employee and process improvements that facilitate increased public and non-profit performance. Special emphasis to TQM’s contribution to improved service delivery.

POL556 Politics and Ethics  
3.00 credits  
Offered By Announcement Only  
Personal, professional, organizational, and societal levels of ethical analysis. Ethical theories will be reviewed and applied to actual cases that focus on public policy and/or the officials who create and implement it. Profiles of moral exemplars in public life will be examined.

POL557 Ethical and Managerial Issues in Government, Business and Non-Profit Organizat  
3.00 credits  
Offered By Announcement Only  
Governments at all levels in this country-national (Larry Craig, David Vitter, Mark Foley, Bill Clinton, Randy Cunnigham, Tom DeLay, William Jefferson, James Traficant, Robert Torricelli, Jack Abramoff), state (former Illinois, Louisiana, New York, Ohio and Arizona governors), and local (Miami, Providence city officials; Miami-Dade, Broward, and Palm Beach counties) have encountered scandals involving ethical wrongdoing. Business (Enron, Worldcom) and nonprofit organizations (Boy Scouts, United Way) have faced similar problems. Countless less visible examples of unethical and ethical behavior occur in organizations daily. This course examines the causes and consequences of such actions and the managerial strategies and competencies needed to effectively cope with the ethical issues confronting individuals and organizations.

POL558 FROM ELECTRONIC GOVERNMENT TO DIGITAL GOVERNANCE  
3.00 credits  
Fall  
Graduate and advanced undergraduate seminar explores the transition from electronic government (e-gov) to digital or d-governance, emphasizing political participation, citizen-centric public administration and the proliferation of global information technologies and social media.
POL563 Senior Thesis
3.00 credits
Fall
General reading, preparation of research design and collection of information for senior thesis.

POL564 Senior Thesis II
3.00 credits
Spring
Continuation of POL 563: writing and defense of the theses.

POL570 Uniting States in International Perspective
3.00 credits
Fall
How states form and fragment; The main actors in nation formation; the elements of continuity and change; the impact outsiders can have on the process.

POL577 Security in South Asia: The Conflicts of Afghanistan, Pakistan and India
3.00 credits
Fall, Spring
The security system of South Asia's northern reaches and the current conflict involving Afghanistan, Pakistan, and India: considerations of sovereignty and the role of frontiers in world politics.

POL580 Ethnicity, Nationalism and Secession
3.00 credits
Spring
Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the Soviet Union. Using empirical evidence from four case studies, develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country-specific experiences.

POL581 Comparative Political Economy of Post-Industrial Democracies
3.00 credits
Fall
This seminar examines four key turning points in the development of capitalism: the industrial revolution, the aftermath of the depression and world wars, the oil crisis of the 1970's, and today's globalization. We will compare the relationships between government and the economy in Western Europe, Canada, the U.S., Australia, New Zealand, and Japan in each period, and attempt to evaluate why these countries react similarly or differently to identical changes in world economy.

POL582 Political Economy of Development
3.00 credits
Offered By Announcement Only
Overview of the principal theoretical paradigms of the development process Comparative analysis of issues such as the role of the state, strategies of industrialization, changes in social structure, basic needs and the trade-offs between growth and equity.

POL584 Contemporary Latin American Politics
3.00 credits
Fall, Spring
This course assumes a basic knowledge of Latin American politics, and is designed to foster deeper understanding of political processes in the region and to provide an overview of key debates among political scientists specializing in Latin America. We discuss issues related to democratic consolidation, political participation, representation and governance.
POL586 Conflict in the Middle East and Africa
3.00 credits   Fall
Introduction to major paradigms for the explanation of war and conflict in two of the most unstable regions of the world. Reading and class discussions on select cases of current and past conflicts in each region in order to discern patterns of conflict within and across regions, gain a clearer understanding of what drives violent conflict, and assess strategies of resolution.

POL588 Politics in China
3.00 credits   Spring
Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

POL591 International Security
3.00 credits   Offered By Announcement Only
Analysis and evaluation of approaches to international conflict, resolution, reduction and stabilization such as international organization, law, collective security, balance of power, functionalism, world government, morality, and conscience. Special emphasis on recent problems and efforts at institutionalizing social control.

POL592 International Political Economy
3.00 credits   Offered By Announcement Only
This course introduces students to the study of International Political Economy (IPE). It combines a focus on the main theoretical and methodological approaches used in the study of IPE with the analysis of historical and contemporary issues.

POL593 International Relations of the Middle East
3.00 credits   Offered By Announcement Only
Regional and inter-regional analysis of the foreign relations of Middle Eastern nations, domestic and geopolitical factors.

POL595 SPECIAL TOPICS IN POLITICAL THEORY AND METHODS
1.00 - 3.00 credits   Offered By Announcement Only
A seminar in Political Theory and Methods; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

POL596 SPECIAL TOPICS IN PUBLIC ADMINISTRATION, POLICY AND LAW
1.00 - 3.00 credits   Fall, Spring
A seminar in Public Policy, Administration and Law; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

POL599 SPECIAL TOPICS
1.00 - 3.00 credits   Fall, Spring & Summer
A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.
CAD102 Graphic Design for Advertising I  
3.00 credits  
**Fall, Spring & Summer**  
An introduction to the art of visual communication as it relates to advertising design. Students will learn how to use Adobe PhotoShop and InDesign as tools for applying basic graphic design techniques used in print and outdoor media. Topics include typography, design principles, art & image manipulation, conceptualization and layout stages, color theory and color reproduction, printing processes, and production.

CAD114 Principles of Advertising  
3.00 credits  
**Fall, Spring**  
An introduction to the principles and practice of advertising in a free-market economy. Students will be introduced to several areas of advertising including account planning, creative strategy, media planning, research methods, consumer behavior, and integrated marketing. Emphasis on cultural, social, ethical, and regulatory aspects of advertising.

CAD201 Advertising Strategy Development  
3.00 credits  
**Fall, Spring**  
Introduction to the development of effective advertising strategies. Topics include consumer behavior, attitude development, persuasion tactics, targeting, market segmentation, market analysis, and brand management.

CAD202 Graphic Design for Advertising II  
3.00 credits  
**Fall, Spring & Summer**  
This course will delve more deeply into the concepts of graphic design as they relate to the field of advertising. More specifically, this course will touch upon the use of art, illustration, and photography in advertising design. Topics also will include digital imaging, production, and web publishing. Students will learn to use Adobe Illustrator as a tool for designing in both traditional and non-traditional media. This course serves as a foundation for advertising portfolio development.

CAD231 Advertising Copywriting and Concept  
3.00 credits  
**Fall, Spring & Summer**  
Introduction to writing advertising copy and conceptualizing campaign ideas for print, broadcast, out-of-home, interactive, and specialty media.

CAD233 Writing for Account Management  
3.00 credits  
**Fall, Spring**  
Introduction to writing for the business side of advertising. This course will prepare students to write and create comprehensive reports and prepare presentations related to the business of account planning including research, creative strategies, and media planning.

CAD312 Research Methods for Advertising  
3.00 credits  
**Fall, Spring**  
Application of research techniques used in the field of advertising. Students will learn to collect, analyze, and report secondary and primary research findings as they apply to advertising decision-making.

CAD331 ADVANCED COPYWRITING  
3.00 credits  
**Fall, Spring**  
Advanced course in conceptualizing and copywriting advertising campaigns for all media forms, including traditional, digital, social, web, and mobile.
CAD340 Interactive, Digital, and Social Media in Advertising
3.00 credits  
Offered By Announcement Only
The course will explore the use of new and evolving media in the development of effective advertising campaigns, as well as the impact of these media on the advertising industry.

CAD350 International and Cross-cultural Advertising
3.00 credits  
Offered By Announcement Only
This course will explore advertising in a global marketplace. Emphasis will be placed on understanding cultural differences as they relate to international advertising planning, as well as techniques for gathering secondary and primary data on international markets and consumers.

CAD380 ADVERTISING INTERNSHIP
1.00 - 3.00 credits  
Fall, Spring & Summer
Students select an internship in the field of advertising for on-the-job training. The student will work a minimum of 45 hours per credit. No more than three (3) credits of internship may be completed in any given semester.

CAD384 Advertising Creative Strategy and Execution
3.00 credits  
Fall, Spring & Summer
Development of effective creative campaigns. Students will design advertisements for print, broadcast, interactive, and specialty media that meet specific campaign objectives.

CAD388 Media Planning
3.00 credits  
Fall, Spring & Summer
An introduction to the principles and concepts of advertising media planning including media selection, media plan development, forecasting, and budgeting.

CAD389 Media Buying and Advertising Sales
3.00 credits  
Offered By Announcement Only
Students will learn the art of buying media in all categories, as well as how to sell advertising space in these media.

CAD390 Art Direction
3.00 credits  
Fall, Spring
Students will learn art direction skills for both print and electronic media including newspapers, magazines, outdoor, television, radio, and the internet.

CAD401 Seminar in Advertising and Society
3.00 credits  
Offered By Announcement Only
This course will examine the ethical, persuasive, cultural, societal, and economic effects of advertising, focusing on the theoretical frameworks that explain how advertising works in these arenas.

CAD412 Public Opinion and Mass Communication
3.00 credits  
Fall
An exploration of the formation and role of public opinion in mass communication. Emphasis is placed on its role in advertising and promotion. Topics include the evolution and history of public opinion in American culture, the application of public opinion on attitude formation and persuasion, measurement of public opinion, and propaganda.
University of Miami Bulletin, 2013-2014
Undergraduate Course Listing
School of Communication
Communication Advertising

CAD434 Advertising Campaigns
3.00 credits  Fall, Spring & Summer
Capstone course in which students develop a full-scale advertising campaign. Students are responsible for conducting secondary and primary research, strategic planning, development of creative executions, planning and executing media selections, and campaign evaluation.

CAD438 PRACTICUM IN ADVERTISING
1.00 - 3.00 credits  Fall, Spring & Summer
Students will work in the advertising field for advanced on-the-job training in their specific area of advertising specialization.

CAD483 Integrated Marketing Communication
3.00 credits  Offered By Announcement Only
An exploration of how brands are built and promoted through the integration of advertising, public relations, sales promotion, personal selling, direct marketing, and e-commerce.

CAD490 SPECIAL TOPICS IN ADVERTISING
1.00 - 3.00 credits  Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CAD491 THE BUSINESS OF ACCOUNT MANAGEMENT
3.00 credits  Spring
This course will lead to a stronger understanding of the role of account management in marketing communication and advertising agencies. Topics will include advertising agency management, client services, and financial planning within the agency.

CAD495 Advertising Management
3.00 credits  Fall, Spring
Students will learn to approach advertising problems at both micro and macro levels from the perspective of a manager in charge of solving such problems. Emphasis will be on problem identification, development of alternative strategies to solve problems, tactics for executing strategies, and evaluation of proposed solutions.

CAD496 Portfolio Development
3.00 credits  Fall, Spring
This course will assist students in putting together a professional-quality advertising portfolio of their work.

CAD498 AAF National Student Advertising Campaign Competition
3.00 credits  Spring
Students compete in the American Advertising Federation’s National Student Advertising Campaign Competition.

CAD499 Projects and Directed Research in Advertising
3.00 credits  Fall, Spring & Summer
Individual study.

Communication

COM101 Mass Media Communication in Society
3.00 credits  Fall, Spring & Summer
A survey of the history, development, structure, and effects of mass communication media.
COM 103 STATISTICAL REASONING FOR STRATEGIC COMMUNICATION  
3.00 credits  
Fall, Spring

COM 110 Communication Theory  
3.00 credits  
Fall, Spring & Summer  
Survey of basic communication theories and models. Study of processes, functions, levels, and general principles of human communication.

COM 250 Freedom of Expression and Communication Ethics  
3.00 credits  
Fall, Spring & Summer  
An examination of the concept of freedom of expression, its philosophical roots, its application of contemporary issues in communication, and of the basics of moral philosophy (ethics) and moral reasoning.

COM 395 Honors Seminar in Communication  
3.00 credits  
Fall, Spring  
An examination of central issues and topics in the field of Communication.

COM 401 Honors Communication Colloquium  
3.00 credits  
Fall, Spring  
An examination of central issues and topics in the field of Communication.

OM 406 SPECIAL TOPICS IN COMMUNICATION  
3.00 credits  
Offered By Announcement Only  
COURSE SUBJECT MATTER VARIES ACCORDING TO ANNOUNCED SPECIAL TOPIC. SEE CLASS SCHEDULE FOR DETAILS.

COM 499 Senior Honors Project/Thesis  
3.00 credits  
Fall, Spring & Summer

COM 598 Special Topics in Communication  
3.00 credits  
Offered By Announcement Only  
This course subject matter varies according to announced special topic. See class schedule for details.

Communication Studies

COS 112 Interpersonal Communication  
3.00 credits  
Offered By Announcement Only  
Overview of current theories of interpersonal communication. Consideration is given to impression formation, relationship between self-concept and others, function of language in social interaction, and development and maintenance of relationships.

COS 210 Writing for Communication Studies  
3.00 credits  
Spring  
Principles of writing, reviewing literature, and synthesizing research for communication studies and the social sciences.

COS 211 Public Speaking  
3.00 credits  
Fall, Spring & Summer  
Introduction to effective audience communication including theory and extensive practice in oral presentations.
COS304 Intercollegiate Debate Theory and Practice
1.00 credit  Fall, Spring
A course designed to teach students how to compete successfully in intercollegiate debate, and to reinforce training through practice and competition.

COS316 Small Group Communication
3.00 credits  Offered By Announcement Only
Techniques of discussion applied to goal-oriented, small group situations. Consideration is given to research methods, leadership, and conflict resolution. Theory is applied to active classroom participation.

COS318 Nonverbal Communication
3.00 credits  Offered By Announcement Only
Theory and application of selected areas of research in nonverbal communication is addressed. Discussion of environment, space, body movement, posture, eye contact, facial expression, vocal cues, and physical appearance is included.

COS324 Health Communication
3.00 credits  Fall, Spring
This course is designed to provide a broad introduction to human communication in a health-care context. Emphasis will be on issues of social support, patient-health professional/caregiver interaction, organizational culture, planning health promotion campaigns, and cultural conceptions of health and illness.

COS328 SPORTS AS COMMUNICATION
3.00 credits  Offered By Announcement Only
This is a course which introduces students to the study of spectator and participation sports as communication and to communication within sports.

COS333 Business Communication
3.00 credits  Fall, Spring & Summer
Study and practice in the major forms of spoken and written communication in the context of businesses and other professional organizational settings.

COS336 POLITICAL COMMUNICATION
3.00 credits  Offered By Announcement Only
A review of the history, strategies, theories and trends in political campaign communication in the United States.

COS343 Introduction to Intercultural Communication
3.00 credits  Offered By Announcement Only
Introduction to communication among people from diverse cultures. Application of communication theory to intercultural sensitivity and cultural diversity is emphasized.

COS351 Qualitative Research Methods
3.00 credits  Spring
Course is designed to introduce students to a sample of qualitative research methods used in communication.

COS352 CRITICAL RESEARCH IN COMMUNICATION
3.00 credits  Spring
This is a course in rhetorical criticism. Students will gain an understanding of rhetorical theory as it is applied to the analysis and evaluation of significant public communication events.
COS353 Quantitative Communication Research Methods and Analyses  
3.00 credits Fall  
Introduction to communication research methods. Application of quantitative measurement techniques and statistical analyses will be discussed as well as the use of microcomputer statistical programs.

COS354 ACTION RESEARCH IN COMMUNICATION  
3.00 credits Fall  
This is a course that will introduce the student to Action Research, with application to communication questions in a variety of settings.

COS377 ARGUMENTATION AND CRITICAL THINKING  
3.00 credits Offered By Announcement Only  
Argumentation theory and practice are discussed. Rhetorical and philosophical foundations of argumentation and their application in various settings including academic debate are also covered.

COS391 Undergraduate Special Topics in Communication Studies  
3.00 credits Offered By Announcement Only  
Course subject matter varies according to announced special topic. See class schedule for details.

COS405 Practicum in Communication Studies  
1.00 - 3.00 credits Fall, Spring & Summer  
Structured participation in programmatic research and applied practice in the community.

COS418 Organizational Communication  
3.00 credits Offered By Announcement Only  
Introduction to organizational communication theory. Consideration of structure, function, and effects of communication in organizations are analyzed. Emphasis is placed on principles needed for decision making and effective management of organizational communication processes.

COS472 Persuasion  
3.00 credits Offered By Announcement Only  
A review of theory, research, and practice of the intentional use of symbols to influence attitudes, beliefs, and actions.

COS477 CAPSTONE IN ENGAGED COMMUNICATION STUDIES  
3.00 credits Spring  
Capstone course designed for communication studies majors. Provides students opportunities to apply knowledge of communication theory and associated research skills through their personal engagement in community or organizational service and action research.

COS479 Capstone for Communication Studies  
3.00 credits Spring  
Capstone course designed for communication studies majors. Provides students with the opportunity to apply knowledge of communication theory and research skills through development of capstone project.

COS498 Communication Studies Internship  
1.00 - 3.00 credits Fall, Spring & Summer  
Prescribed study and supervised work with practitioners in organizations.
COS499 Projects and Directed Research
1.00 - 3.00 credits
Fall, Spring & Summer
Individual study. No more than three credits may be counted toward a Communication major or minor.

COS545 Intercultural Communication: International Perspectives
3.00 credits
Offered By Announcement Only
Effects of cultural attitudes, beliefs, and attributions on meaning assignment.
Effects of language on the structure of thought. Ethics and process of the diffusion of cultural innovations are analyzed.

COS546 Intercultural Communication: Domestic Perspectives
3.00 credits
Offered By Announcement Only
Effects of cultural attitudes, beliefs, and attributions on meaning assignment.
Diffusion of cultural innovations, prejudice, discrimination, and equality are discussed. Emphasis is placed on intercultural interactions within the United States.

COS560 The Executive Communicator
3.00 credits
Offered By Announcement Only
Audience analysis, speech writing, delivery in professional presentations, theory, and history of great speeches are covered. Detailed critiques of student speaking styles and performances are also included.

COS591 Advanced Special Topics in Communication Studies
3.00 credits
Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

COS599 Advanced Projects and Directed Research
1.00 - 6.00 credits
Fall, Spring & Summer
Individual study. Course may be repeated to a maximum of six credits.

Communications Elect Media
CEM102 Introduction to Electronic Media
3.00 credits
Fall, Spring
Technology, history, economics, regulation, and social roles of radio, television, cable, satellite, online, and other electronic media.

CEM201 WRITING FOR THE ELECTRONIC MEDIA
3.00 credits
Fall, Spring
Principles of writing for radio and television. Communicating in the aural and visual modes in persuasive, informational, and dramatic contexts is emphasized.

CEM206 SPECIAL TOPICS IN JOURNALISM AND MEDIA MANAGEMENT I
3.00 credits
Offered By Announcement Only
This course subject matter varies according to announced special topics. See class schedule for details.

CEM233 TELEVISION PERFORMANCE
3.00 credits
Offered By Announcement Only
Introduction to communication concepts and skills involved in on-camera duties such as anchoring, interviewing and live reporting.
CEM235 Radio Production Performance
3.00 credits  
Spring  
Introduction to equipment and procedures of radio. Production of radio programs and formats, editing, announcing, sequencing program elements, and designing program formulas are discussed.

CEM245 Introduction to Electronic Media Production
3.00 credits  
Fall, Spring  
Introduction to the theory, process, and procedure of electronic media production. Lecture and laboratory are included.

CEM301 MEDIA RESEARCH AND ANALYSIS
3.00 credits  
Fall, Spring  
Survey of qualitative and quantitative research methods used to collect and analyze data on broadcast, cable and online audiences. Course also covers theories to explain how electronic media influence individuals and society. Practice in conducting small-scale audience measurement is included.

CEM302 Electronic Media Law
3.00 credits  
Fall, Spring  
Course provides analysis of laws and other forces that influence broadcasting, cable, and online media operations. Examines the application of the First Amendment to media operations with a focus on press law.

CEM305 LEGAL ISSUES IN MEDIA MANAGEMENT
3.00 credits  
Spring  
Examination of the legal environment affecting contemporary media businesses including broadcasting, advertising, public relations, web-based media, and print publications. Focus on U.S. law, with introduction of international and comparative perspectives.

CEM306 SPECIAL TOPICS IN JOURNALISM AND MEDIA MANAGEMENT II
3.00 credits  
Offered By Announcement Only  
This course subject matter varies according to announced special topics. See class schedule for details.

CEM313 MEDIA SALES
3.00 credits  
Fall  
Operation of sales departments within media outlets. Course includes the preparation and delivery of sales presentations as well as the use of audience reports.

CEM314 MEDIA PROGRAMMING
3.00 credits  
Fall, Spring  
Course covers categories and sources for selecting program materials used in radio, television, cable television, and other program services. Strategies employed in devising program schedules and understanding audience behaviors are also covered.

CEM317 BROADCAST JOURNALISM
3.00 credits  
Fall, Spring  
Preparation of materials for presentation through the broadcast/cable media with emphasis on news writing for oral presentation by studio anchors and field reporters. Course examines issues facing the profession of broadcast journalism, radio, and TV reporting techniques and news program formats.
CEM345 Intermediate Electronic Media Production
3.00 credits
Fall, Spring
Planning and execution of complex field, studio, and multimedia production in a variety of lengths and formats. High level skills in television control room situations and non-linear editing will be used to produce audio, video, and online content.

CEM402 Strategic Media Management
3.00 credits
Spring
This capstone course focuses on strategic decision-making involved with developing and managing electronic media enterprises. The course concludes with student entrepreneurs generating comprehensive business plans for a proposed media enterprise. Although intended primarily for media management majors, other qualified students may be admitted with permission of instructor.

CEM403 Media Economics
3.00 credits
Spring
Economic concepts, practices, and issues as they relate to the mass media industry.

CEM406 SPECIAL TOPICS IN JOURNALISM AND MEDIA MANAGEMENT III
3.00 credits
Offered By Announcement Only
This course subject matter varies according to announced special topics. See class schedule for details.

CEM408 International Electronic Media Systems
3.00 credits
Fall
Seminar on world broadcasting systems and trans-national communication services. Discussion of contemporary issues involving electronic media systems worldwide.

CEM417 Advanced Broadcast Journalism
3.00 credits
Fall, Spring
This capstone course concentrates on gathering and preparing news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural TV elements, writing, producing and performing for on-air presentation. Lecture and laboratory are included.

CEM427 Television Newscast
3.00 credits
Fall, Spring
Studio anchoring, newscast producing, and field reporting for news and public affairs programming.

CEM435 MEDIA TECHNOLOGY
3.00 credits
Fall
The convergence and interrelationship of broadcast, cable, satellite, telephone, computer, and other telecommunication technologies and industries, with emphasis on policy, effects, regulation, economics, management, and information content.

CEM445 Advanced Electronic Media Production
3.00 credits
Fall
The integration of the producer's role and the structure of program design as they relate to day-to-day production operations. Lecture and laboratory are included.

CEM491 Internship in Broadcasting and Allied Fields
1.00 - 3.00 credits
Fall, Spring & Summer
Course provides a prescribed study and supervised work with practitioners in broadcasting, broadcast journalism, and allied fields.
CEM499 Projects and Directed Research
1.00 - 3.00 credits  Fall, Spring & Summer
Individual study. No more than three credits may be counted toward a communication major or minor.

CEM517 Television News Reporting
3.00 credits  Fall, Spring
Gathering and preparation of news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural elements, writing, producing and performing for on-air presentation.

CEM527 Television Newscast
3.00 credits  Fall, Spring
Studio anchoring, producing and field reporting for news and public affairs programming. Live field reporting and field and studio interviewing techniques recovered.

CEM535 MEDIA TECHNOLOGY
3.00 credits  Offered By Announcement Only
CEM592 SPECIAL TOPICS IN JOURNALISM AND MEDIA MANAGEMENT
3.00 credits  Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CEM599 Advanced Projects and Directed Research
1.00 - 6.00 credits  Fall, Spring & Summer
Individual study. Course may be repeated for a maximum of six credits.

CNJ108 WRITING FOR THE DIGITAL AGE
3.00 credits  Fall, Spring
This course provides students with an understanding of writing styles appropriate for communicating in the digital age, with particular emphasis on grammar, spelling, syntax and clarity. It provides a solid foundation for further practice and specialization in various types of multimedia communication.

CNJ111 Introduction to News Media Writing
3.00 credits  Fall, Spring
Principles and practices in journalism for the mass communication media.

CNJ208 FUNDAMENTALS OF NEWSGATHERING
3.00 credits  Fall, Spring
Skill development in gathering facts and other material for, and in preparation of, news stories in a variety of genres across platforms. Focus on gathering information from multiple sources, analyzing and organizing information for dissemination, and presenting the most pertinent facts clearly and cohesively to multiple media outlets.

CNJ216 News Reporting and Writing
3.00 credits  Fall, Spring & Summer
Practice in gathering material for and preparation of stories.
CNJ300 Journalism Practicum  
1.00 - 3.00 credits  
Fall, Spring  
Prescribed study and supervised work with faculty and staff of the student newspaper or related news media. Students receive first-hand knowledge and experience in a working news environment.

CNJ303 COMMUNICATION LAW AND POLICY  
3.00 credits  
Fall, Spring & Summer  
A study of First Amendment law and theories concerning libel, privacy, copyright, advertising, corporate communications, reporter privilege, free-press/fair trial, pornography, access to government information, broadcasting and new communication technologies. Discussion of international perspectives on media regulation.

CNJ319 History of Journalism  
3.00 credits  
Fall  
The development and impact of American journalism.

CNJ381 Newspaper Editing and Layout  
3.00 credits  
Fall  
Introduction to electronic editing and development of skills in copy editing, headline writing, picture editing, and newspaper layout.

CNJ382 Publication Planning and Editing  
3.00 credits  
Offered By Announcement Only  
Introduction to editing and design, with emphasis on the development of skills in editing copy and photos, writing headlines, news judgment and designing print publications and websites.

CNJ401 Editorial Interpretation of Contemporary Events  
3.00 credits  
Offered By Announcement Only  
Critical examination of fundamental issues in public life. Preparation of editorials and interpretive articles for mass media are included.

CNJ442 Online Journalism  
3.00 credits  
Offered By Announcement Only  
A study of the issues, skills and practices related to the online presentation of news and information in a convergent media environment.

CNJ444 Public Affairs Reporting  
3.00 credits  
Fall  
Emphasis on reporting, writing and analysis about institutions, issues and actions of local government, and their effects on society.

CNJ445 In-depth Journalism and Media Convergence  
3.00 credits  
Fall, Spring  
A capstone experience that requires students to use effectively their full range of journalistic knowledge, newsgathering, and writing skills to prepare news and information for different media platforms.

CNJ446 Travel Writing  
3.00 credits  
Offered By Announcement Only  
A study of the major types and styles of travel news and features stories for newspapers, magazines, newsletters, and websites.
CNJ461 Seminar in News Ethics and Problems
3.00 credits
Ethical, practical, and professional problems of news communicators in society.

Spring

CNJ495 INTERNSHIP IN JOURNALISM AND MEDIA MANAGEMENT
1.00 - 3.00 credits
Prescribed study and supervised work with professionals in Journalism and Media Management.

Fall, Spring & Summer

CNJ499 Projects and Directed Research
1.00 - 3.00 credits
Individual study. No more than three credits may be counted toward a Communication major or minor.

Fall, Spring & Summer

CNJ510 Comparative Media Systems
3.00 credits
This course deals with issues in international news gathering and distribution, giving special attention to Latin America and the Caribbean. The class takes a comparative approach, looking at media systems in the United States and other nations.

Offered By Announcement Only

CNJ511 Global Media
3.00 credits
An analysis of issues and practices surrounding globalization, regionalization, and global/local as they relate to media industries, journalism, and communication.

Offered By Announcement Only

CNJ513 Computer-Assisted Reporting
3.00 credits
Use of computer applications for newsgathering with emphasis on the World Wide Web, commercial online services, and database tools.

Offered By Announcement Only

CNJ515 Reporting and the Internet
3.00 credits
Overview of uses of online computer services for newsgathering and distribution with emphasis on the Internet.

Offered By Announcement Only

CNJ523 Sports Reporting
3.00 credits
An analysis of sports journalism that will develop students' skills in sports reporting and sports writing. Discussions range across the entire field of sports reporting, including broadcasting, but the greatest emphasis is concentrated on sports reporting and writing for newspapers and magazines.

Offered By Announcement Only

CNJ533 SOCIAL MEDIA FOR JOURNALISTS
3.00 credits
Examination of best practices for use of social media for gathering, disseminating and promoting news.

Spring

CNJ537 THE BUSINESS OF MODERN JOURNALISM
3.00 credits

Fall

CNJ544 Feature Writing
3.00 credits
Analyzing and writing feature articles for magazines, newspapers, and other news media.

Offered By Announcement Only
CNJ595 Special Topics in Journalism

3.00 credits
Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CNJ599 Advanced Projects and Directed Research

1.00 - 6.00 credits
Fall, Spring & Summer
Individual study. Course may be repeated to a maximum of six credits.

Motion Pictures

CMP103 Survey of Motion Pictures

3.00 credits
Fall, Spring & Summer
Examination of the aesthetic, social, and economic aspects of the motion picture industry. Concentration on the present state of the medium with particular emphasis on future trends.

CMP126 Introduction to Screenwriting

3.00 credits
Fall, Spring & Summer
Creation and formatting of narrative material for motion pictures. Emphasis on writing the short film.

CMP151 Introduction to Digital Production

3.00 credits
Fall, Spring & Summer
Lectures and laboratory work to acquaint the student with the basic techniques of motion pictures. Digital equipment is used to develop an understanding of the motion picture as a creative tool of communication and expression.

CMP204 History of International Cinema I

3.00 credits
Fall & Summer
Examination of the origin and history of the motion picture. Narrative and non-fiction genres in the American and world cinemas from their inception through 1940 are discussed.

CMP205 History of International Cinema II

3.00 credits
Spring & Summer
Examination of the history of the motion picture from 1941 to the present. Narrative and non-fiction genres in the American and world cinemas are included.

CMP251 Motion Picture Workshop: Storytelling

3.00 credits
Fall, Spring & Summer
The practice of the grammar of cinematic language including shot selection, composition, pacing, story clarity, performance, pre-visualization and pre-planning for the creation of short narrative projects. Through critiques, students encounter and interact with an audience of their peers. This course requires students to master contemporary technology in use in the profession.

CMP326 Intermediate Screenwriting

3.00 credits
Fall, Spring & Summer
Study of, and practice in, writing feature length, narrative motion pictures. Development of story line in treatment form, attention to cinematic structure, the development of character, and its presentation on screen is discussed.

CMP329 Writing for Series Television

3.00 credits
Fall
An introduction to the structures and techniques of writing situation-comedy and dramatic series television.
CMP351 Introduction to Film Production  
3.00 credits  
Fall, Spring  
Introduction to key set crew positions through lectures, exercises and the production of a collective narrative assignment. Students are required to master contemporary and traditional technology in use in the profession including 16mm cameras and synch sound recording.

CMP353 Post Production Sound Editing and Design  
3.00 credits  
Fall, Spring  
Post production sound editing and design is a seminar/workshop that provides a practical and theoretical introduction to sound and its function in the narrative moving image process. The course explores the process from production recording through the final mix.

CMP356 Cinematography  
3.00 credits  
Fall  
An overview of the cinematographer's process from script to screen. Working with camera, lighting, and grip equipment on exercises and projects is discussed.

CMP357 Editing  
3.00 credits  
Fall  
Introduction to the theory and practice of motion picture editing. Short editing assignments are designed to develop students' understanding of aesthetic, and technical considerations in the art of dramatic editing.

CMP359 Motion Graphics, Compositing and Animation  
3.00 credits  
Fall  
This course is an introduction to 2D animation, motion graphics and compositing techniques. All essential technical and aesthetic possibilities are explored in a series of projects. All projects are designed to provide the student with a thorough grounding in contemporary professional practices.

CMP364 Business of Motion Pictures  
3.00 credits  
Fall, Spring  
An examination of the industry's three part structure-production, distribution and exhibition. Consideration given to intellectual property, motion picture creative accounting and changes affected by new technologies. Surveys both studio films and independents.

CMP386 Online Screenwriting  
3.00 credits  
Fall, Spring & Summer  
The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.

CMP394 Special Topics in Motion Pictures  
3.00 credits  
Fall, Spring  
This course subject matter varies according to announced special topic. See class schedule for details.

CMP395 Directing Techniques I  
3.00 credits  
Fall, Spring  
To teach the craft of directing through exercises, screen work, and readings.
CMP401 Nonfiction Film and Digital Media
3.00 credits
Fall
An examination of American and world nonfiction films and media.

CMP403 Film Directors
3.00 credits
Fall
The study of the film authorship through a focus on specific directors.

CMP404 Aspects of Contemporary Cinema
3.00 credits
Spring
Study of contemporary movements in American and world cinemas.

CMP406 Genres
3.00 credits
Offered By Announcement Only
Study of selected genres from a variety of critical perspectives. Issues pertaining to methodologies of defining and categorizing film are discussed.

CMP407 National Cinemas
3.00 credits
Offered By Announcement Only
Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social, political and cultural contexts.

CMP408 Women, Media, and Popular Culture
3.00 credits
Offered By Announcement Only
Examination of film, media, and gender representation from the perspective of feminist theory and cultural studies. Students explore the many ways that women have been portrayed, and how they have portrayed themselves, within popular culture.

CMP426 Advanced Screenwriting
3.00 credits
Spring
A continuation of CMP 326. Study of, and practice in, writing feature length, narrative motion picture scripts. Attention is given to cinematic structure, the development of character, and its presentation on screen. Emphasis is place on bringing the script to a completed draft.

CMP429 Advanced Television Writing
3.00 credits
Spring
This course explores how to create, format, and write the original Television Pilot and treatment. The class will cover TV pilot format, length, structure as well as techniques in creating TV characters and situations for both comedy and dramatic episodic TV.

CMP451 Motion Picture Practicum
3.00 credits
Fall, Spring
The theory and practice of motion pictures production from script to screen. Lecture and laboratory. Students will develop and produce a narrative, a documentary, or an experimental work of their choice.

CMP455 Producing the Motion Picture
3.00 credits
Spring
A practical examination of the development, production and marketing responsibilities involved in producing theatrical feature films. Focus is placed on the process including the ethical considerations that confront the producer.
CMP456 Advanced Cinematography
3.00 credits Spring
Advanced work with camera, lighting, and grip equipment on exercises and projects.

CMP457 Advanced Editing
3.00 credits Spring
Advanced concepts in aesthetics and theories of picture and sound editing, mixing, color correction, and finishing techniques.

CMP458 Documentary Production
3.00 credits Fall, Spring & Summer
Students produce two short digital documentaries and explore various approaches to the documentary film.

CMP459 Advanced Motion Graphics, Compositing, and Animation
3.00 credits Fall, Spring
This is an advanced animation, compositing, and motion graphics workshop in which students will design a three to five minute production from script to final product.

CMP462 Motion Picture Marketing and Distribution
3.00 credits Fall
Economic and marketing considerations in the production and distribution of motion pictures.

CMP465 Producing the Motion Picture
3.00 credits Fall
A practical examination of the development, production and marketing responsibilities in producing theatrical feature films. Focus is placed on the processes involved including the ethical considerations that confront the producer.

CMP489 Projects in Screenwriting
3.00 credits Fall, Spring
Individual study. This course and CMP 499 cannot count for more than three credits towards a Communication major or minor.

CMP494 Motion Picture Internship
1.00 - 3.00 credits Fall, Spring & Summer
Prescribed study and supervised work with practitioners in motion pictures.

CMP499 Projects and Directed Research
1.00 - 3.00 credits Fall, Spring & Summer
Individual study. No more than three credits may be counted toward a Communication major or minor.

CMP501 Principles of Aesthetics and Analysis
3.00 credits Fall
Provides graduate students with introductory immersion in aesthetics, analysis, and history of film and media.

CMP503 Film Directors
3.00 credits Fall
This course will address the conditions of authorship in film through an intensive study of the films of two or more directors, whose careers will serve as case studies. These directors will be historically important and their work will represent significant achievements in the art of film.
CMP504 Aspects of Contemporary Cinema
3.00 credits Offered By Announcement Only
The study of the ways in which film communicates. Intensive analysis and criticism of cinematic techniques exemplified through particular films.

CMP506 Genres
3.00 credits Offered By Announcement Only
A study of selected movie genres from a variety of critical perspectives. Issues pertaining to selfhood, sexual difference, and other concerns of present-day film criticism will be examined.

CMP507 National Cinemas
3.00 credits Spring
Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social/political and cultural contexts.

CMP509 Legal Aspects of Motion Pictures
3.00 credits Spring
The law, contracts, and negotiating techniques of the business affairs aspects of the production of motion pictures.

CMP510 Foundation of Screenwriting
3.00 credits Fall
This course explores the fundamental skill set necessary to manipulate the basic elements of cinematic writing. The course will investigate common dramatic elements found in all screenplays as well as teach format principles of feature, TV and emerging media scripts.

CMP511 Writing the Short Film
3.00 credits Offered By Announcement Only

CMP520 Cinematography
3.00 credits Fall
This hands-on course provides students with the aesthetic and technical aspects of professional concepts and techniques in film and digital media cinematography.

CMP529 Nonfiction Film
3.00 credits Offered By Announcement Only
An examination of American and world nonfiction films.

CMP530 Introduction to Editing
3.00 credits Spring

CMP541 TECHNOLOGY TRENDS
3.00 credits Fall

CMP542 PHYSICAL COMPUTING AND PROTOTYPING
3.00 credits Fall

CMP543 INTERACTION DESIGN
3.00 credits Fall
CMP544 MEDIA ACTIVISM
3.00 credits
Fall
In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

CMP550 MOTION GRAPHICS AND COMPOSITING
3.00 credits
Spring
Methods, techniques and aesthetics of 2D computer animation and compositing including animated text, title design and green screen.

CMP551 Advanced Motion Graphics and Compositing
3.00 credits
Spring
Extend the 2D skills of students who have taken CMP 550 to 3D motion graphics and animation. Emphasis on title design and animation.

CMP552 Motion Picture Marketing and Distribution
3.00 credits
Fall
Economic and marketing considerations in the production and distribution of motion pictures.

CMP553 Advanced Motion Picture Marketing
3.00 credits
Offered By Announcement Only
Advanced marketing considerations in the distribution of motion pictures.

CMP558 Documentary Production
3.00 credits
Offered By Announcement Only
An introduction to the documentary genre including the production of a documentary from start to finish.

CMP560 Directing the Actor
3.00 credits
Fall
The purpose of this course is to teach and practice the craft of directing, including text analysis, characterization, visualization, design, intention and rehearsal: to train students to articulate their ideas to actors and film crew.

CMP566 Character and Dialogue
3.00 credits
Offered By Announcement Only
An examination of the craft and techniques of creating original characters and dialogue.

CMP570 Producing the Motion Picture
3.00 credits
Spring

CMP586 Online Screenwriting
3.00 credits
Fall, Spring & Summer
The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.
CMP594 Special Topics in Motion Picture
3.00 credits Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CMP595 Directing Techniques
3.00 credits Fall, Spring
To build a more advanced set of professional skills and practices through scene work, shooting, and collaboration.

Public Relations
CPR103 STATISTICAL REASONING FOR STRATEGIC COMMUNICATION
3.00 credits Fall, Spring
An introduction to statistical reasoning for advertising and public relations.

CPR116 Principles of Public Relations
3.00 credits Fall, Spring
History, organization, ethics, law, and practice of public relations.

CPR201 PUBLIC RELATIONS STRATEGY DEVELOPMENT
3.00 credits Fall, Spring
This course introduces students to research-based strategy development and planning at the core of public relations practice.

CPR202 GRAPHIC DESIGN FOR PUBLIC RELATIONS
3.00 credits Fall, Spring
Introduction to graphic design for communication media and use of computer software as layout and design tools. Selection, preparation, and study of design principles and production processes for typography, photography, art work, and white space.

CPR232 Writing for Public Relations
3.00 credits Fall, Spring
Principles and techniques for the development of creative strategies, concepts, and writing of effective public relations messages for all types of media.

CPR311 Public Relations Research
3.00 credits Fall, Spring
Public relations research techniques focusing on applications of strategic planning, message evaluation, opinion research, and theory testing of public relations programs. Emphasis on qualitative and quantitative methods and data analysis.

CPR330 TRAVEL & TOURISM
3.00 credits Offered By Announcement Only
Development of tourism and destination promotion strategies and initiatives. Overview of public relations account structures within the tourism industries of airlines, travel destinations, hotels, and others.

CPR346 Advanced Public Relations Writing and Design
3.00 credits Fall, Spring
Preparation, execution, and production of visual messages for public relations media.
CPR380 Public Relations Internship
1.00 - 3.00 credits  Fall, Spring & Summer
Students select an internship in the field of public relations for on-the-job training. The student will work a minimum of 45 hours per credit. No more than three (3) credits of internship may be completed in any given semester.

CPR416 Public Relations Ethics
3.00 credits  Offered By Announcement Only
Ethical concepts and issues pertaining to individuals and society with application to advertising and public relations. Case studies focus on professional and personal ethics based on traditional teaching, modern codes, and other guidelines.

CPR436 Public Relations Campaigns
3.00 credits  Fall, Spring
The capstone course for seniors in their last year of study. Theory and principles, audience research, strategic planning, and targeted communication are applied in developing a campaign to influence attitudes and behavior on behalf of a real client. A written plan, professional presentation, and teamwork are emphasized.

CPR438 PUBLIC RELATIONS PRACTICUM
1.00 - 3.00 credits  Fall, Spring & Summer
Students will work in the public relations field for on-the-job training. Students must work a minimum of 45 hours per credit earned.

CPR490 Special Topics in Public Relations
3.00 credits  Fall, Spring
This course subject matter varies according to announced special topic. See class schedule for details.

CPR499 Projects and Directed Research in Public Relations
3.00 credits  Fall, Spring & Summer
Individual study. No more than three credits may be counted toward a Communication major or minor.

CPR501 CRISIS COMMUNICATION AND MANAGEMENT
3.00 credits  Offered By Announcement Only
This course introduces the student to crisis communication and management from a strategies, theory-based approach steeped in case research from historical cases and business case studies.

CPR517 Media Relations
3.00 credits  Fall, Spring & Summer
The practice of media relations within the public relations milieu.

CPR533 SPORTS, PUBLICITY, & PROMOTIONS
3.00 credits  Offered By Announcement Only
This course will provide a review, examination and practical application of sports communications, publicity and promotions in strategic communications.

CPR546 RELIGION, COMMUNICATION, & CULTURE
3.00 credits  Offered By Announcement Only
The historical, political, economic, and social dynamics of the convergence of religion, communication, and culture in society.
CPR582 International Public Relations  
3.00 credits  
Fall, Spring  
History, theory, and practice of public relations in a global, multi-cultural environment.

CPR584 SPECIAL TOPICS IN PUBLIC RELATIONS  
3.00 credits  
Spring  
Principles and practice of public relations management in a variety of contexts including agency, consultancy, corporate, and nonprofit.

CPR590 SPECIAL TOPICS IN PUBLIC RELATIONS  
3.00 credits  
Offered By Announcement Only  
This course subject matter varies according to announced special topic. See class schedule for details.

CPR599 Advanced Projects and Directed Research in Public Relations  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Individual study. May be repeated to a maximum of six credits.

Visual Journalism  
CVJ106 Visual Design  
3.00 credits  
Fall, Spring  
This course is an introduction to the principles of design, typography, color theory, usability and interactivity as they apply to the layout and design of content for print and digital media.

CVJ209 Introduction to Multimedia Storytelling  
3.00 credits  
Fall, Spring  
This course is a lab-lecture course that introduces students to the concepts of visual storytelling and teaches skills needed to gather information in the visual story telling process. Students work in teams with still photography, video, and audio-gathering devices to document community life.

CVJ221 Introduction to Documentary Photography  
3.00 credits  
Fall, Spring  
Course is designed to develop skills in visual storytelling. Students will learn to produce images and recognize what makes good photographs in terms of content, composition, and technical quality.

CVJ309 DATA JOURNALISM  
3.00 credits  
Offered By Announcement Only  
This course teaches data analysis and interactive deployment of the World Wide Web and other digital platforms. Students will learn to analyze data for journalistic work and will be expected to create and deploy database-driven applications.

CVJ331 Information Graphics and Visualization  
3.00 credits  
Fall, Spring  
Introduction to informal graphic procedures and practices as they pertain to print and online media. Layout and design typography, mechanical production techniques, and production vocabulary will be an integral part of this course.
CVJ341 Web Design
3.00 credits
Fall, Spring
This course covers the basic aspects of interaction design and web development, focusing on production processes. It provides an overview of web design concepts including usability, accessibility, information architecture, basic animation, and graphic design; all discussed in the context of the web environment. This course further offers an introduction to fundamental and emerging web trends.

CVJ361 Advanced Documentary Photography
3.00 credits
Fall, Spring
Advanced Documentary Photography is a class designed to improve the visual storytelling, news gathering, and photographic technical skills introduced in the introductory course.

CVJ396 Special Topics in Visual Journalism
3.00 credits
Fall, Spring
This course subject matter varies according to announced special topic. See class schedule for details.

CVJ409 ADVANCED FEATURE DESIGN
3.00 credits
Fall
Advanced newspaper, magazine, and electronic design. Students will develop the skills necessary to produce strong visual packages combining type, photography, artwork, and white space. The course will cover advanced design and traditional reproduction techniques for art and copywriting as well as on-line presentations.

CVJ419 INTERACTIVE STORYTELLING
3.00 credits
Fall, Spring
This course explores how storytelling is reinventing itself utilizing the new digital communication tools available. It will cover linear and non-linear storytelling techniques and production processes.

CVJ422 PROGRAMMING FOR INTERACTIVITY
3.00 credits
Offered By Announcement Only
This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories. Programming taught in this class caters specifically for non-programmers who want to learn how to present their work online in an interactive manner.

CVJ435 Video Journalism
3.00 credits
Fall
An advanced visual journalism course to develop skills in video pre-production, production, and post-production with special emphasis on documentary approaches for on-line media.

CVJ496 Internship in Visual Journalism
1.00 - 3.00 credits
Fall, Spring & Summer

CVJ499 Projects and Directed Research
1.00 - 3.00 credits
Fall, Spring
CVJ519 Interactive Storytelling
3.00 credits Spring
Digitization allows us to merge several forms of media that were not connected in the past. This course is intended as an exploration of how storytelling is re-inventing itself utilizing the new digital communication tools available to us today. This course will cover linear and non-linear storytelling techniques and production processes.

CVJ521 Seminar in Visual Storytelling
3.00 credits Fall
An advanced seminar class designed to enhance the knowledge and practice of the visual storytelling narrative. This seminar stresses the importance of converging media, still images, video, and sound. Particular emphasis will be placed upon the creation of a multimedia portfolio.

CVJ522 INFOGRAPHICS AND DATA VISUALIZATION
3.00 credits Fall
This course is an introduction to the visual display of information in digital and interactive media, with a special focus on the encoding of data by means of statistical charts, maps, and diagrams.

CVJ530 Programming for Interactivity
3.00 credits Fall
This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories.

CVJ531 Database Journalism
3.00 credits Fall
This course teaches data analysis and interactive deployment of data of the World Wide Web and other digital platforms.

CVJ541 Advanced Audio Video Narratives
3.00 credits Spring
This course examines uses of audio and video to communicate journalism. Students learn to investigate, gather content, and produce documentary stories primarily for online distribution.

CVJ550 3D Design and Graphics
3.00 credits Spring
This course focuses on the use of 3D Design software for communication and how to integrate with other print and digital technologies.

CVJ551 Advanced Programming
3.00 credits Summer
This course explores the role of the programmer as journalist. Students will perform the basic tasks of journalism from a programmatic perspective including gathering, distilling and presenting information. Students will learn how to gather information from public databases and government websites. They will learn how to automate processes for filtering information and learn how to present this information in a visual and interactive news report. Students will also learn how to combine multiple sources of information, to personalize information for the end reader, and account for the relevant permutations of the data. Students will learn to build and query databases as well as mine and visually present the information using programming languages such as PHP and Python. Rapid development frameworks such as Django, Zend and Symfony will also be covered in the class.
CVJ560 Team Multimedia Project
1.00 - 3.00 credits  Summer
Students will work in a team to produce a documentary multimedia project in conjunction with one or more partner universities. Students will study the genre of documentary multimedia storytelling, research their assigned topic(s), content-gather, edit, wireframe, design and program the project and produce it on multiple platforms depending on the topic and intended audience. Students will use audio, photographic, video, infographic and text reporting tools in producing the project. They will also study methodologies for evaluating multimedia and beta test the site using established research methodologies.

CVJ596 Special Topics in Visual Journalism
1.00 - 6.00 credits  Fall, Spring
This course subject matter varies according to announced special topic. See class schedule for details.

CVJ599 Advanced Projects and Directed Research
3.00 credits  Fall, Spring
EPS201 Psychosocial Change and Well-being
3.00 credits
Fall, Spring
Introduction to personal and interpersonal approaches to well-being. Includes theoretical, historical, philosophical, and psychological bases of well-being. Emphasis will be placed on real-life applications of theory and practice to the promotion of psychosocial change and well-being.

EPS270 Lifespan Human Development
3.00 credits
Fall, Spring
Processes and theories of human development from birth to old age are explored. Areas to be covered include: physical development, cognitive development, social and personality development, moral development, and language development. Emphasis is placed on development as a life-long process and its importance in understanding human behavior.

EPS280 Introduction to Family Studies: Dating, Coupling, Parenting
3.00 credits
Fall, Spring
Theory and practice of romantic relationships and parent-child relationships, including discussion and skills building. Research based information on how to maximize the quality of these interpersonal relationships will be examined.

EPS291 Community and Character Development
3.00 credits
Spring
The course covers moral and psychological dimensions pertaining to character development as it occurs in communities. Topics include contemporary theory and research regarding perspectives on virtue and morality, states of character, ethical decision making, and character development. The reciprocal relationships between character and community will be a central theme in exploring ethical issues that arise in working with individuals, institutions, and communities. Theory and research will be linked to relevant applications.

EPS304 Mentored Research Studies
1.00 - 3.00 credits
Fall, Spring & Summer
Under the guidance of EPS faculty and graduate students, undergraduate students will have an opportunity to get involved in various components of research study; gain valuable knowledge and research experience; and expand their undergraduate academic experience.

EPS306 Insanity and Humanity: Mental Illness, Society, Stigma and Services
3.00 credits
Summer
The genesis for this course was the generally poor, inaccurate and stigmatized understanding of mental illness in society based on portrayals in popular media including Hollywood produced films. However, over the past several years the depth and accuracy of awareness and knowledge has changed, as the depiction of mental illness and treatment services in films has improved and the availability of narrative accounts has increased. This course is designed to allow Human and Social Development majors, with a particular interest in wellness and human services, to explore varying portrayals of mental illnesses in popular media. The course will foster critical analysis of narrative and film depictions of illness, as well as connect these depictions to a broader narrative on stigma, social determinants of illness and wellness, prevention and intervention.
University of Miami Bulletin, 2013-2014
Undergraduate Course Listing
School of Education
Education and Psych Study

**EPS311 Group Processes and Development**
3.00 credits
Fall
Research findings concerning the nature of small groups and patterns of behavior associated with them are explored. Students experience an ongoing group process to which theories and concepts can be applied. Emphasis is placed on learning to be a participant observer of group behavior and processes, learning about one's own behavior in groups, and developing skills to be a more effective member and leader in task groups.

**EPS321 Understanding Human Service Organizations**
3.00 credits
Fall
Focus on unique role of community-based human service organizations in society with an overview and history of community organizations, which provide services, support, advocacy, and organizing in today's communities. Review of the systems, cultures, structures, and processes of community organizations with a special emphasis on promoting well-being in communities. This course has a 10 hour field research experience requirement.

**EPS340 Psychology and Sociology of Sexual Identity**
3.00 credits
Fall, Spring
History, psychology, and sociology of gay, lesbian, and transgendered populations.

**EPS351 Introduction to Statistics and Research Design**
3.00 credits
Fall
The course will cover basic statistics relevant to the social sciences (e.g., central tendency, variation, t-tests, correlations), with emphasis on real world applications employing commonly used research designs. Students will acquire the tools necessary to interpret elementary statistical analyses and a foundation in the basic analytic methods used in conducting quantitative research in the behavioral sciences.

**EPS360 Educational Psychology**
3.00 credits
Fall, Spring & Summer
A review of basic educational psychology principles including cognitive and language development, personal, social and moral development, learning theories, and motivation. A review of basic concepts that contribute to effective learning and other aspects of education.

**EPS361 Community Psychology & Development**
3.00 credits
Fall
Community psychology is about the prevention of psychosocial problems and the promotion of mental health and well being through the creation of equitable and just social settings, neighborhoods, communities, and societies. Course topics include: stress & social support; oppression and human diversity; primary prevention, social intervention and health promotion; self-help; mediating structures; community mental health; alternative settings; community development and social change.

**EPS420 Introduction to Counseling and Psychotherapy**
3.00 credits
Spring
This course is a survey of the theories and practical applications of counseling and psychotherapy. Students will acquire an understanding of a variety of theories of psychotherapy, the basic requirements and skills for effective, ethical counseling, and an appreciation for the role of values and human differences in counseling and psychotherapy. This course does not prepare students for practice in mental health professions.
EPS422 APPLIED SOCIAL RESEARCH METHODS
3.00 credits  
Fall
An overview of populations and professional roles in human services and mental health settings. The skills, processes and outcomes for developing and sustaining healthy human services settings are reviewed. Students will learn about prevention, resilience, and multicultural issues and acquire skills for becoming effective workers and leaders in community-based agencies. The course will consist of readings, presentations and role-playing related to social and institutional dynamics.

EPS452 Applied Research and Program Evaluation
3.00 credits  
Spring
This course will cover the scholarly knowledge and skills required to engage in applied community research. Topics will cover applied research theories, practices and designs: quantitative, qualitative, and mixed methods; and program evaluation and needs assessment. Students will learn how to conduct applied research and how to evaluate programs and social interventions in organizations and communities.

EPS462 Community Consultation and Leadership
3.00 credits  
Fall
This course will cover strength based, preventive, empowering approaches to institutional and community change, and will address related skills, stages, processes and outcomes; Conflict resolution, facilitation, strategic planning, visioning, advocacy, change management, and community mobilization will be studied and practiced in class.

EPS470 Listening and Helping Skills.
3.00 credits  
Fall
Listening and Helping Skills is an introductory course to the foundational skills used in helping relationships. Through lectures, discussions and role-plays, students will learn the rationale behind basic helping skills and their application to diverse settings and contexts.

EPS471 Human and Social Development Practicum
3.00 - 6.00 credits  
Spring
The practicum serves an integrative function: it allows students to apply their academic training, to further develop their career goals, and to hone their skills while gaining experience in real-world settings. Practica are unpaid, supervised experiences. Students choose from a menu of settings that have been approved as HSD practicum sites and spend a minimum of 120 hours (3 credits) or 250 hours (6 credits) at their chosen setting over the course of the semester. Must be taken concurrently with EPS 481.

EPS481 Human and Social Development Practicum Seminar
3.00 credits  
Spring
The practicum seminar brings theory and research to bear on the students' practicum experiences, and provides a forum for further professional skill development and growth. Students will complete a major project integrating their experiences.

EPS499 INDIVIDUAL STUDY
1.00 - 3.00 credits  
Fall, Spring & Summer
Individual work on a special project under faculty guidance.
EPS505 Lifespan Human Development  
3.00 credits  
Spring  
Theories and research relating to the biophysical, cognitive, and psychosocial domains of human lifespan development.

EPS509 Field Studies in Education  
1.00 - 6.00 credits  
Fall, Spring  
Individual study of a school or school system, identifying its strengths and weaknesses, and making positive recommendations.

EPS510 Professional, Legal and Ethical Issues in Counseling  
3.00 credits  
Summer  
Professional, legal, ethical, and licensing issues in the counseling profession.

EPS511 Lifestyle and Career Counseling  
3.00 credits  
Spring  
An introductory course in career development and career counseling, focusing on theories of career development, counseling tools, strategies, and sociological, economic, and psychological influences on the American worker.

EPS512 Assessment Strategies for Counselors I  
3.00 credits  
Spring  
This course places emphasis on diagnosis, appraisal, assessment, and testing for individual and interpersonal disorders. It addresses statistical procedures and psychometric principles necessary for responsible test use and exposes the student to a variety of test and non-test assessment techniques in marriage and family, and mental health counseling.

EPS513 Counseling Process and Practice  
3.00 credits  
Fall  
The development of basic communication and clinical skills necessary for establishing the counseling relationship and conducting therapy.

EPS514 Psychosocial Bases of Social and Cultural Diversity  
3.00 credits  
Fall  
Interrelationship between psychology and sociology in understanding development of diversity in human social systems. Implications for counseling and therapy.

EPS515 Dynamics of Marriage and Family Systems  
3.00 credits  
Fall  
Introduction to the history and development of marriage and family systems theory as a method for understanding individuals' behavior and functioning. Introduction to several modes of family therapy. Throughout the course, lectures will also be integrated with other topics including race, culture, gender, sexual orientation, ability.

EPS526 Counseling in Community Settings  
3.00 credits  
Fall  
Exploration of a variety of perspectives on community services relevant to mental health counselors. Topics include: the variety of community settings; community, national, and international diversity in mental health services; diversity of clients (e.g., cultures, religions, GLBT, elderly, social classes, disabilities); mental health funding; the role of politics, policy, advocacy, and research; interviewing across cultures.
EPS533 Organization and Administration of Higher Education I
3.00 credits                                                                   Fall
Theoretical approaches from organizational analysis. Applications to problems, processes, and patterns of higher education institutions. Consideration given to legal status, governance patterns, and external relations. Administrator, faculty, trustee, and student roles are also explored.

EPS539 Effective Teaching, Learning, Assessment & Curriculum in Higher Education
3.00 credits                                                          Fall & Summer
Provides an overview of current theories, research, and best practices in effective teaching, learning, assessment, and curricular design.

EPS543 The Community College
3.00 credits                                           Offered By Announcement Only
An overview of American community colleges including historical evolution, purposes and functions, characteristics of students and faculty, organization and administration, curricula, current issues, and trends.

EPS545 Administration of Student Affairs
3.00 credits                                                                 Summer
History and philosophy of student affairs will be addressed as well as principles and organization of student affairs administration, current problems, procedures, and recent developments.

EPS553 Introductory Statistics
3.00 credits                                                          Fall & Summer
Basic Statistical procedures will be discussed including measures of central tendency, variability and relationship, sampling, and basic tests of statistical significance.

EPS554 Essentials of Research in Social and Behavioral Sciences
3.00 credits                                                                   Fall
Study of the standards methods and techniques of research in the behavioral and social sciences. Brief orientation to quantitative and qualitative procedures used in the analysis and interpretation of research data are emphasized.

EPS558 Community Youth Development
3.00 credits                                                                 Summer
This course in community youth development (CYD) will focus on the philosophical, sociological, and educational foundations of a youth development perspective that highlights youth as powerful catalysts for change and positive forces in shaping communities. We reflect on how youth development is inextricably linked with family and community development. After reviewing and critiquing traditional adolescent development theories, students will engage with theories and practices of CYD, youth empowerment, youth civic engagement, youth organizing, social justice youth development, youth activism, and critical youth engagement.

EPS568 Computer Applications in Educational and Behavioral Science Research
3.00 credits                                           Offered By Announcement Only
An introduction to the use of microcomputer statistical packages in social science research, with emphasis given to SPSS for Windows. Course content will cover a broad range of activities encountered in the data analytic process including planning and creating a database, data coding, file manipulation tasks, data screening, and statistical analysis.
EPS570 Basic skills in Counseling and Interviewing
3.00 credits
Spring
Introductory course on essential skills used in counseling and interviewing. Through lectures, discussions, and small group exercises, students will explore their natural style of helping and learn effective listening and communication skills. This course is not intended to train students to become a professional counselor.

EPS591 Workshop in Education
1.00 - 3.00 credits
Offered By Announcement Only
Study in special interest areas in education.

EPS592 Workshop in Education
1.00 - 3.00 credits
Offered By Announcement Only
Study in special interest areas in education.

EPS593 Workshop in Education
3.00 credits
Fall, Spring
Study in special interest areas in education.

EPS595 Workshop in Education
3.00 credits
Fall, Spring
Study in special interest areas in education.

EPS596 Workshop in Education
1.00 - 3.00 credits
Offered By Announcement Only
Study in special interest areas in education.

EPS598 Workshop in Education
1.00 - 3.00 credits
Offered By Announcement Only
Study in special interest areas in education.

EPS599 Workshop in Education
1.00 - 3.00 credits
Offered By Announcement Only
Study in special interest areas in education.

Kinesiology

KIN100 Leadership, Management, and Ethics in Sports
3.00 credits
Summer
Students will gain an understanding of skills and philosophies of leadership, management, and ethic necessary for a position in the sport industry.

KIN105 Introduction to Athletic Training and Sports Medicine
3.00 credits
Summer
In this practical, hands-on course, the students will learn to identify basic sport injuries that afflict the major joints of the body, and review basic methods to treat these injuries. The student will also learn how nutrition, improper biomechanics, and poor training can all impact sport performance. Plus, participants will be given the opportunity to learn and practice techniques or procedures (such as athletic taping or bracing) that may be useful in minimizing the incidence of injury.
KIN110 Explorations in Sports Medicine
3.00 credits
Summer
This class will consist of an introduction to the field of Sports Medicine and Exercise Science. Basic information relevant to appropriate exercise prescription, proper nutritional habits, implications on health, longevity and performance will be addressed. Hands-on practical experiences will supplement theoretical concepts learned in the classroom setting.

KIN140 Introduction to Athletic Training
2.00 credits
Fall
The application of athletic training practices in selected clinical education settings. The student must complete 150 hours of documented clinical educational hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize emergency procedures, first aid, and protective equipment. Successful completion of the retention process and formal admittance into the clinical portion of the Athletic Training Program.

KIN141 Introduction to Athletic Training Lab
1.00 credit
Fall
Introduction to clinical athletic training for the first year athletic training major. Hands on experience for the entry level athletic training student. Students will be required to complete a competencies check list with a passing grade. Clinical hours in the athletic training room will give the student the opportunity to use the knowledge, skills, and techniques learned in this course. The student must complete 70 clinical hours which are required for the application process to the Athletic Training Education Program. Student must be additionally enrolled in ESS 140. Fee $65.00 required for Lab.

KIN145 Responding to Emergencies
2.00 credits
Fall
Students will become familiar with accident, injury, and illness situations, techniques for immediate first aid, and legal parameters involved when administering emergency care. Certification in adult CPR will be obtained. A $40 lab fee will be required for this class.

KIN150 General Nutrition for Health and Performance
3.00 credits
Fall, Spring
Fundamentals and theories of nutrition with a specific focus on nutrition for both sports and fitness.

KIN155 Biological Bases for Physical Activity and Health
3.00 credits
Fall, Spring
This course serves as an introduction to the field of exercise physiology. Students will learn the biological need for physical activity, discuss specific mechanisms on how physical activity reduces disease risk and understand the relationship between physical activity and chronic diseases such as coronary heart disease, obesity, diabetes, cancer, aging and mental health.

KIN184 Athletic and Sport Injuries
3.00 credits
Fall, Spring
Athletic injuries in sports that occur over the principal joints in the body and the inclusion of anatomical structures that are frequently damaged. Operational treatments and rehabilitation program after surgery.
KIN200 Survey of Sports Administration
3.00 credits Summer
Students will examine the employment opportunities and skills needed in professional, collegiate, and amateur sports as well as the health and fitness industry.

KIN201 Introduction to Sport Administration
3.00 credits Fall, Spring & Summer
Basic overview of the fields of sport management. Majors must receive a grade of B- or higher.

KIN202 Applied Nutrition for Health and Performance
3.00 credits Fall, Spring
The study of nutrition, diet analysis, biochemical processes in energy metabolism, nutrition and health problems, and nutrition as it relates to physical performance. The class will have 3 sections: 1) nutritional links to chronic disease; 2) nutrition before, during and after exercise bout; and 3) nutritional supplements for health and performance.

KIN203 Introduction to Gaming and Casino Management
3.00 credits Fall, Spring
The course will focus on the management of gaming and casino operations. Gambling has emerged as a major segment of the sport industry, comprising 10% of sport expenditures and injecting over $20B annually into the economy. Students will be exposed to the managerial requirements and organizational structures of various gaming operations. They will also learn about the history of the gaming industry and its impact on the South Florida and the Caribbean economy. The course will provide an introductory level of knowledge regarding the managerial nuances which make working within the industry unique to the traditional sport business environments.

KIN206 Sport Facilities and Event Management
3.00 credits Fall, Spring
This course is an overview of the policy and procedures necessary to organize and develop sport events and facilities. In depth review of all programs, functions and procedures necessary for the operation of events and facilities are examined.

KIN210 Foundations in Athletic Training
2.00 credits Spring
Introduction to Sports Medicine/Athletic Training with emphasis on study of the sports medicine team, legal concerns, nutrition, and pre-participation physicals. Course will discuss the basic principles of injury prevention including the role of conditioning, equipment, and protective padding. Additionally, students will be introduced to the study of etiology and mechanisms of injury, pathology, and recognition of clinical signs and symptoms of athletic injury. The student must complete 50 clinical observation hours, which are required for the retention process of the Athletic Training Education Program.
PREREQUISITE: Must have sophomore status.

KIN211 Introduction to Campus Recreation
3.00 credits Fall, Spring
This course is an introductory course and provides a broad overview of campus recreation. It will include information on how to plan, and execute programs such as intramurals, club sports and fitness and wellness. Risk management will be stressed in every aspect in the field along with other important topics such as sponsorships, budgeting, and evaluating programs and employees. Students will gain an understanding of what campus recreation is and its importance to a healthy lifestyle on campus.
KIN212 Elements of Sports Psychology
0.00 - 3.00 credits  Fall, Spring
Introduction to the field of sport and exercise psychology by examination of psychological theories and research related to sport and exercise behavior.

KIN221 BIOCHEMISTRY AND SKELETAL MUSCLE
3.00 credits  Fall, Spring & Summer
This course will offer an overview of the biochemistry pertaining to neuroendocrine responses, nutrition, and neuromuscular function; as well as the physiological and biochemical plasticity within skeletal muscle associated with various interventions, diseases, injuries, and aging. Majors must receive a grade of B- or higher.

KIN222 EXERCISE PHYSIOLOGY LABORATORY: NEUROMUSCULAR
2.00 credits  Fall
This course examines the nature of data collection in exercise physiology. Students will receive information on collection theory and its application to the measurement of a number of physiological systems during exercise. The course is designed to establish a clear linkage between the chronic and acute changes that occur during exercise and the laboratory methods that are used to assess those changes. Co-requisite: ESS 221.

KIN230 Medical Terminology and Documentation
1.00 credit  Fall, Spring
Terminology, note writing, and documentation techniques in sports medicine. A treatment cycle model will be introduced.

KIN232 Basic Human Physiology
3.00 credits  Fall, Spring & Summer
This course presents a general overview of the major systems of the human organism with an examination of how they function in the human body. Majors must receive a grade of B- or higher.

KIN233 Basic Anatomy Lab
2.00 credits  Fall
This course presents a general overview of the anatomy of the major body systems, such as the skeletal, muscular, cardiovascular, nervous, digestive, respiratory and reproductive systems as well as the integumentary system and special senses.

KIN234 Functional Human Anatomy
3.00 credits  Fall, Spring
The study of human anatomy specifically for the sports medicine practitioner.

KIN235 Personal and Community Health
3.00 credits  Fall
Overview of current strategies and practices for healthy living, including Health maintenance and disease prevention.

KIN245 Kinesiology
3.00 credits  Spring

KIN246 GROSS ANATOMY FOR KINESIOLOGY AND SPORT SCIENCES
3.00 credits  Fall, Spring
Human dissection of the major muscles, arteries and nerves of the body. Course is held at the University of Miami cadaver laboratory. There is a $100.00 lab fee associated with this class.
KIN250 ORTHOPEDIC ASSESSMENT: LOWER EXTREMITY
3.00 credits Fall
Common types of orthopedic/sports dysfunctions to lower extremity will be discussed. Injuries will be discussed from the following viewpoints: etiology and mechanism of injury, pathology, recognition and valuation techniques, protocols, and prevention. Co-requisite: Ess 251.

KIN251 Orthopedic Assessment: Lower Extremity Lab
1.00 credit Fall
Techniques used to evaluate orthopedic and sports injuries occurring to the lower extremity. The student must complete 100 clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize lower extremity orthopedic assessment, goniometry, manual muscle testing techniques, and gait evaluations. Students must be additionally enrolled in ESS 250.

KIN260 ORTHOPEDIC ASSESSMENT: UPPER EXTREMITY
3.00 credits Offered By Announcement Only
Common types of orthopedic/sports dysfunctions to the upper extremity will be discussed. Injuries will be discussed from the following viewpoints: etiology and mechanism of injury, pathology, recognition and evaluation techniques, protocols, and prevention. Co-requisite: ESS 261.

KIN261 Orthopedic Assessment: Upper Extremity Lab
1.00 credit Spring
Techniques used to evaluate orthopedic and sports injuries occurring to the upper extremity. The student must complete 100 clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize upper extremity orthopedic assessment, goniometry, and manual muscle testing techniques. Students must be additionally enrolled in ESS 260.

KIN264 General Medical Conditions Evaluation
1.00 credit Fall
This class is the study of the clinical signs and symptoms of General Medical conditions that will present to the Certified Athletic Trainer. Emphasis will be placed on the techniques and instrumentation used for performing appropriate evaluation procedures.

KIN301 Athletic Injuries & Sport First Aid
3.00 credits Spring
Course will help coaches, camp counselors, teachers, personal trainers, and athletes of all levels to fulfill the role of being a competent first responder to athletic injuries and illnesses. Upon completion of this course, students will have knowledge of basic sport first aid skills, anatomy and sport injury terminology, and knowledge of specific athletic injuries and illnesses. These will include head injuries, sudden illnesses, weather-related problems, upper and lower body musculoskeletal injuries, respiratory emergencies and illnesses, and internal injuries. Students will also learn basic hands-on skills such as splinting, taping, and bracing as it relates to preventing and treating athletic injuries.
KIN302 SPORT MARKETING
3.00 credits  Fall, Spring
This course is designed as a marketing course that deals exclusively with SportMarketing. Students are expected to develop comprehensive marketing and sponsorship plans. This course will require moderate to heavy computer knowledge. This course is designed to maximize the practical applications of marketing theory to the sport business environment.

KIN306 Essential Leadership in Sports and the Professions
3.00 credits  Fall, Spring
A variety of leadership and management skills will be examined, including communication, problem solving, conflict management, group dynamics, and leadership theory. Practical application to sport and allied professions will be included. Self-assessment opportunities and exercises will be utilized. Open to majors only.

KIN308 Ethical Decision Making in Sport and the Professions
3.00 credits  Fall, Spring & Summer
This course will examine ethical dilemmas in decision-making and other contemporary issues in sports management and campus and community environment. Real and hypothetical situations will be utilized.

KIN310 Adolescent Growth and Maturation
3.00 credits  Fall, Spring
This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes that impact physical performance. Additionally, students will learn the basis of training pediatric populations.

KIN321 Introduction to Systemic Exercise Physiology
3.00 credits  Spring
The structure, function, and training of the cardiorespiratory system. Special emphasis on structural changes in the systems with exercise and their influence on cardiovascular performance, body composition, exercise efficiency and health.

KIN322 Exercise Physiology Laboratory: Cardiorespiratory
2.00 credits  Spring
This course concentrates on collection of cardiorespiratory data. In addition, the application of these data to exercise prescription for specific athletic and non-athletic populations will be covered. Corequisite: ESS 321.

KIN340 Strength and Conditioning
3.00 credits  Fall
Introduction to Sport Specific Strength Training. Students will learn the practice of Olympic Weight Lifting and related exercise techniques.

KIN345 Kinesiology
3.00 credits  Fall, Spring
Study of the structure and function of the skeletal, joint, and muscular systems. Emphasis is placed on the mechanics of the movement of the human body and its relationship to sport and physical performance.
KIN365 Principles of Exercise Prescription: Cardiovascular

3.00 credits  
Spring

This class is the study of the theory and principles behind the development of exercise programs. Students will learn how to accurately evaluate and develop individual exercise prescription based upon sound scientific research. Exercise prescriptions will be developed in accordance with the guidelines set forth by the National Strength and Conditioning Association and the American College of Sports Medicine.

KIN366 Exercise Physiology Laboratory: Assessment

3.00 credits  
Fall, Spring

This lab course is designed to complement the ESS 365 lecture course (Principles of Exercise Prescription): Cardiovascular. Students will apply practical field assessments for body composition, aerobic capacity, muscular fitness, and joint range of motion, and will employ exercise strategies to improve each of the assessed fitness components. Students will also prescribe exercises to improve performance-based fitness, such as coordination, balance, agility, speed and power while learning proper exercise training techniques. Must be a declared Exercise Physiology (EXPH) major and receive a grade of C or better to satisfy requirements.

KIN401 Legal Aspects of Sport

3.00 credits  
Fall, Spring & Summer

This course will focus on legal issues applicable to sport administration, including tort law, risk management, negligence, and constitutional law. Relevant legal cases and concepts will be incorporated.

KIN402 Sport Sponsorship and Promotion

1.00 - 3.00 credits  
Summer

This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics covered will include the theoretical premise of sponsorship, alignment marketing, strategic communication through sponsorship, determining the value of sponsorship, and evaluation of sponsorship activities. Perspectives from the property offering a sponsorship and from the organization functioning as the sponsor will be considered.

KIN403 Sport Information Management

3.00 credits  
Fall

This course centers upon the development of those skills that are necessary for Sport Information Directors. Specifically, these traditionally include marketing, media, promotion, and public relations. This course hopes to provide detailed knowledge to allow the student to participate in these activities in a professional manner.

KIN405 Finance and Budget in Sport Administration

3.00 credits  
Fall

This course seeks to develop those financial skills necessary to understand a wide variety of financial concepts that impact sport managers. Such topics would include but not be limited to: Sport franchise value/valuations; economic impact of sport; risk-return models; financial statement analysis, and budgeting.

KIN410 Problems and Issues in Sport Administration

3.00 credits  
Fall

This course is designed as a seminar course. Topical issues in high school, collegiate and professional sport are presented and discussed in detail. A number of student-centered activities are introduced to aid in the development of the student.
KIN412 Psychophysiology
3.00 credits
Fall, Spring & Summer
The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular system, and the pulmonary system. Students will be able to understand and interpret terminology and research literature published in the field.

KIN415 Evidence Based Sports Medicine
3.00 credits
Spring

KIN421 Advanced Systemic Exercise Physiology
3.00 credits
Spring
This course examines the short and long term physical responses to exercise and provides a general overview of the field of exercise physiology with reference to the latest trends in modern physiological research.

KIN435 Clinical Biomechanics for Sport Medicine Professionals.
3.00 credits
Fall & Summer
A lecture course stressing the biomechanics of joints and pathomechanics of orthopedic injuries.

KIN443 Clinical Athletic Training Lab I
2.00 credits
Fall, Spring
The application of athletic training practices in selected clinical education settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize emergency procedures, first aid, and protective equipment. PREREQUISITE: Successful completion of the retention process and formal admittance into the clinical portion of the Athletic Training Program.

KIN444 Clinical Athletic Training Lab II
2.00 credits
Spring
The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize general medical conditions, nutritional issues, psychosocial intervention, and injury prevention and risk management. PREREQUISITE: A grade of B or better in KIN 443 (Formally ESS 443).

KIN455 Clinical Athletic Training Lab III
2.00 credits
Fall
The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward graduation requirement of 1000 hours. Clinical education hours will emphasize acute care of injuries and illnesses, lower extremity orthopedic assessment, and risk management and injury prevention. PREREQUISITE: A grade of B or better in KIN 443 and KIN 444 (formally ESS 443 and ESS 444).
KIN456 Clinical Athletic Training Lab IV  
2.00 credits  
Spring  
The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize upper extremity orthopedic assessment, conditioning and rehabilitation, and therapeutic and therapeutic modalities.  
PREREQUISITE: A grade of B or better in KIN 443, KIN 444, KIN 455 (formally ESS 443, ESS 444, ESS 455).

KIN457 Practicum in Kinesiology and Sport Sciences  
1.00 - 3.00 credits  
Fall, Spring & Summer  
A comprehensive program of observation and supervised experience under the direction of a professional in the field for one semester. Supervised by University faculty.

KIN458 Practicum in Kinesiology and Sport Sciences  
3.00 credits  
Fall, Spring  
A comprehensive program of supervised experience conducted under the direction of a professional in the field. Must culminate in research or hands-on experience conducted in the exercise science field.

KIN461 Therapeutic Modalities  
2.00 credits  
Fall  
Students will acquire the theoretical knowledge necessary for the clinical application of therapeutic modalities. Principles of electrophysics and biophysics, specific physiological effects and therapeutic indications and contraindications associated with cyotherapy, paraffin, ultrasound, electrotherapeutic and hydrotherapeutic modalities, intermittent compression, massage, and other contemporary modalities will be discussed.  
PREREQUISITE: Open only to ATHT majors. Must have completed KIN 140 and 141 and earned a grade of B or better for both courses, Corequisite: KIN 462 (Formally ESS 140 and 141 and ESS 462).

KIN462 Therapeutic Modalities Laboratory  
1.00 credit  
Fall, Spring & Summer  
This laboratory will help students apply the techniques and clinical skills related to the application of therapeutic modalities. Clinical education hours will give the student the opportunity to use the knowledge, skills, and techniques learned in this course. Students must complete 50 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Students must be additionally enrolled in KIN 461 (Formally ESS 461).

KIN463 Therapeutic Rehabilitation  
2.00 credits  
Spring  
Students will acquire the theoretical knowledge for the clinical application of a rehabilitation program, physical examination, principles of therapeutic exercise, open and closed chain exercise, muscle reeducation, and special therapeutic techniques such as aquatic therapy.  
PREREQUISITE: Open only to ATHT majors. Student must be additionally enrolled in KIN 464.
KIN464 Therapeutic Rehabilitation Laboratory
1.00 credit
Fall
This laboratory will place emphasis on the techniques and clinical skills relating to the rehabilitation of athletic injuries. Clinical education hours in a therapeutic rehabilitation facility will give the students the opportunity to use the knowledge, skills, and techniques learned in this course. The student must complete 100 hours of documented clinical education hours, which apply toward the clinical education requirement for graduation. Students must be additionally enrolled in KIN 463 (Formally ESS 463).

KIN465 Pharmacology
2.00 credits
Fall
Introduction to the basic principles of pharmaceutical intervention and the implications for rehabilitation as related to the Certified Athletic Trainer.

KIN466 Neuromuscular Basis for Training
3.00 credits
Spring
The study of specific techniques to enhance neuromuscular performance in sport and everyday activity. Students will examine current training strategies and understand their strengths and weaknesses as applied to specific populations.

KIN470 Administrative Aspects of Athletic Training
2.00 credits
Fall
Basic concepts of legal liability, budget, financial management, inventory control, facilities design and maintenance will be addressed. Additionally, the student will discuss the day to day supervision, scheduling and general administration of the athletic training room. Open only to ATHT majors. Must have completed KIN 140 and 141 and earned a grade of B or better for both courses (Formally ESS 140 and ESS 141).

KIN476 Seminar in Athletic training
2.00 credits
Fall
Topics in Athletic Training with discussions covering the NATA competencies and objectives in written and oral practical formats.

KIN477 Advanced Nutrition for Health and Fitness
3.00 credits
Fall, Spring & Summer
This course is an in-depth study of nutritional concerns of today's athlete. From dehydration to classic carbohydrate loading and from the Female Athlete Triad to ergogenic aids in sports, this course provides state of the art information on the latest nutritional issues for the exercising individual and for the athlete.

KIN488 Gross Anatomy
3.00 credits
Fall, Spring & Summer
The essentials of Myology, Osteology, and Arthrology. Major nerves and arteries are also dissected. Many of the dissection areas are injury sites in sports such as the knee, shoulder, elbow, neck, and spinal nerves. There is a laboratory fee requirement for this course ($100.00).

KIN490 Special Topics in Kinesiology and Sport Sciences
3.00 credits
Fall, Spring
This course is designed for students wishing to focus on a specific area of study within the umbrella of the field of Kinesiology. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.
KIN495 Individual Study
1.00 - 3.00 credits                                           Fall, Spring & Summer
The Application for Admission to Advanced Individual Study Form will be required.

KIN496 Individual Study
1.00 - 3.00 credits                                           Fall, Spring & Summer
The Application for Admission to Advanced Individual Study Form will be required.

KIN497 Internship in Sport Administration
1.00 - 9.00 credits                                                            Fall
KIN 497: Internship in Sport Administration Filed Experience that requires the student to participate in the work environment (Formally ESS 497).

KIN498 Seminar in Sport Administration
3.00 credits                                                                 Spring
Professional seminar to accompany internship in sport administration. Students will be required to interact with other internship students and supervisors on a regular basis and additionally, students will be required to submit comprehensive reports regarding their internship experiences.

KIN502 Sport Sponsorship and Promotion
1.00 - 3.00 credits                                                    Summer

KIN520 Cellular Exercise Physiology
3.00 credits                                                                 Spring
The course examines Bioenergetics and Muscular Physiology in training and detraining. Topics include the energy systems and their functional application during exercise, muscle structure and function, cellular and sub-cellular modifications of organelles and contractile mechanisms as result of training and physiological bases of training techniques.

KIN521 Systemic Exercise Physiology
3.00 credits                                                           Fall
The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular and the pulmonary systems. Students will be able to understand and interpret terminology and research literature published in the field.

KIN524 Athletic Training Techniques - Rehabilitation
3.00 credits                                                                                        Fall
This course will introduce theoretical concepts that must be understood in order to be able to rehabilitate a musculoskeletal injury. Regarding actual rehabilitation techniques, the emphasis will be on therapeutic exercise with only a brief introduction to therapeutic modalities.

KIN525 Advanced Kinesiology
3.00 credits                                                                 Fall, Spring
In-depth study of the human skeletal and muscular systems with a focus on the mechanics of movement as related to physical activity, sports, and athletics.
KIN527 Community and Global Nutrition  
3.00 credits  
Fall, Spring  
This course is designed to provide an overview of nutritional issues & related aspects of infectious and chronic disease impacting the health and performance of athletes, individuals & groups domestically & globally. Economic and environmental issues which impact nutritional status and deficiency in the Western societies & third world countries will be addressed. An international and cultural perspective on food, eating behaviors and customs will be explored.

KIN530 Laboratory Techniques in Functional Evaluation of Skeletal Muscle  
3.00 credits  
Spring  
This course examines the theories of data collection and collection techniques used to evaluate musculo-skeletal and neuromuscular function. The application of both computerized and non-computerized collection systems for performance evaluation is covered. The course is also designed to establish a clear linkage between the acute and chronic musculo-skeletal and neuromuscular changes that occur during exercise and the laboratory methods used to assess those changes. Collection theory, musculoskeletal and neuromuscular function, methods of strength evaluation, anaerobic power testing, electromyography, and a number of other functional parameters will be discussed.

KIN532 Sports Injuries: Prevention and Treatment  
3.00 credits  
Fall, Spring  
Prevention, diagnosis, treatment and rehabilitation of sports injuries. Anatomical and Kinesiological application to sports injuries.

KIN534 Integrative & Functional Medicine  
3.00 credits  
Fall  
This course will discuss integrative and functional medicine and how it emerged. This course will analyze the healthcare models that include personalized care and the whole-person perspective. In this course we will discuss various factors that influence disease including diet and nutrition, stress, activity level, pharmaceuticals and environmental pollutants. Alternative approaches to treatment will also be discussed.

KIN535 Clinical Biomechanics for Sport Medicine Professionals  
3.00 credits  
Fall & Summer  
A lecture course stressing biomechanics of joints and pathomechanics of orthopedic injuries.

KIN536 Strength and Conditioning I  
3.00 credits  
Fall, Spring  
This course serves as the practical/technical foundation for major compound movements and Olympic lifts. It also provides comprehension of movement specific dynamic warm-ups, advanced stretching techniques, methods for identifying movement compensations and underlying issues as well as evaluating Olympic techniques. Due to the practical nature of the course, all the sections of this course are held in the Hecht Athletic Center (HAC).
KIN537 Strength and Conditioning II  
3.00 credits  
Fall, Spring  
This course is the continuation of Strength and Conditioning I (KIN 536). It provides more advanced Olympic weightlifting techniques and ballistic training, alongside a continued focus on corrective exercises to ensure a reduced risk of injury. The course also provides an introduction to exercise programming including specialized training techniques for athletic development. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

KIN538 Nutrition during the Lifecycle  
3.00 credits  
Fall  
This course is designed to examine the changes in nutrition requirements during the life cycle, particularly as related to growth, development and aging. Psychosocial, cultural, and economic issues related to food intake at various life stages will be reviewed.

KIN543 Professional Training and Counseling for Integrative Health  
3.00 credits  
Fall  
Students will learn the integrative health care model, theories, behavior change models, approaches & techniques used in nutritional counseling to help athletes, individuals and groups implement and sustain behaviors, lifestyles, and attitudes to achieve optimal health. Lecture & personal application will allow for the development of skills in each of these areas.

KIN545 Special Sport Populations  
3.00 credits  
Spring  
This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, and the most recent therapeutic treatments prescribed for the condition.

KIN546 Elite Conditioning I  
3.00 credits  
Fall, Spring  
Elite Conditioning I provides an introduction to evaluation techniques catered specifically to the athletic population including tests for strength, power, speed, agility, balance and stability. The courses also provides instruction on how to apply these evaluations to their respective sports/positions. These evaluation techniques provide data that students will use in the process of corrective exercise prescription. Students are taught how to implement corrective strategies to improve athletic performance. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

KIN547 Elite Conditioning II  
3.00 credits  
Fall, Spring  
Elite Conditioning II is the continuation of Elite Conditioning I (KIN 546). This course provides students with an understanding of the design and implementation of periodized conditioning programs for athletes based on the testing, evaluation, and applications to specific sports learned in Elite Conditioning I. The course focuses on speed agility and quickness for sports. It also includes practical implementation of ballistic, plyometric, speed, and conditioning drills emphasizing evidence based methods and training techniques. Due to the practical nature of the course, all sections of this course are held in Hecht Athletic Center (HAC).
KIN549 Nutrition Assessment and Lab
3.00 credits  Fall
Application of the principles of normal and therapeutic nutrition, nutrition assessment, evaluation and intervention as related to sports performance and the management and treatment of disease states. Laboratories will allow for the development of skills in each of these areas.

KIN550 Nutrition Biochemistry and Integrative Metabolism
3.00 credits  Fall, Spring
To learn the fundamental biochemical structure and pathways governing nutrient intake and utilization. Students will learn how major forms of nutrients (macronutrients, vitamins, minerals and trace elements) are processed and utilized by different organs with a particular emphasis on muscle metabolism. Students will also learn how to relate their newly acquired knowledge to health and disease outcomes with focus on lifestyle diseases related to metabolism such as diabetes and obesity.

KIN557 Diagnostic Imaging Techniques In Sports Medicine
3.00 credits  Spring
This course is designed as an elective for undergraduate KIN students or graduate students. The basic physics of radiological imaging will be covered including radiology, fluoroscopy, CT scan, ultrasound, MRI, and nuclear medicine including image archiving. Normal anatomy will be compared to the corresponding radiographic anatomy. Common sports injuries will be evaluated by multiple radiographic modalities and will be correlated with the clinical condition. Discussion will include bony pathology as well as soft tissues such as ligaments, tendons, and menisci.

KIN561 Facility Management
3.00 credits  Fall, Spring
Facility management provides students with an understanding of fitness entrepreneurship, giving students a comprehensive understanding of the, laws, regulations, policies, and work involved in setting up a fitness facility such as a gym, wellness center, or athletic training center. Students are responsible for developing a viable sports or fitness complex including all aspects of administrative and facility management.

KIN562 Fiscal Management in Sport Administration
3.00 credits  Fall
Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

KIN563 Facilities and Event Management
3.00 credits  Spring
This course is designed to introduce students to principles and practices of planning, funding and managing facilities associated with sports participation including professional sport venues, college sports, parks, recreational sport and health/fitness clubs. Students will gain an understanding of promoting, marketing, and maintaining sport facilities.

KIN564 Principles of Sport Marketing
3.00 credits  Fall, Spring
This course will focus on the vast world of sports marketing. The basic principles of marketing and marketing management will be introduced and integrated with application of these principles to sport and sports-related organizations.
KIN565 Legal Aspects of Sports and Exercise Science
3.00 credits  Spring
Legal liability, personal injury, negligence and other related legal aspects of sports and exercise science.

KIN567 Elements of Sports Psychology
3.00 credits  Fall, Spring & Summer
Introduction to the study of sport and exercise psychology including theory, current research and practical application.

KIN569 The Foundations of Exercise Prescription
3.00 credits  Fall, Spring
Students will learn various assessments of health and Wellness, and discover how to most effectively prescribe exercise strategies to treat the diagnosed needs of an individual.

KIN570 Advanced Programming
3.00 credits  Fall, Spring
Advance programming allows students to dissect sports by movement, metabolism and limitation. The course investigates current trends and evidenced based applications of specific training techniques for optimal sport performance. Students will perform complete sports analysis and develop periodized programs for major sports.

KIN572 Creative Approaches to Problem Solving and Conflict Management
3.00 credits  Spring
This hands-on course will examine the concepts of problem solving and conflict management from both personal and organizational perspectives. Students will have the opportunity to study in-depth both of these concepts (and the relationship between them) through a combination of lecture, theory, individual and group activities, readings, practical exercises, and self-assessment tools.

KIN573 ADVANCED SPORT GOVERNANCE
3.00 credits  Spring & Summer
This course provides the student with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and Olympic levels. In addition, policy development in sport management will be explored.

KIN574 Ethical Decision Making in Sports and the Professions
3.00 credits  Fall, Spring
This course will examine ethical decision-making in a variety of environments with an emphasis on sport professions. Real and hypothetical situations will be utilized, and the course will combine theory with practical application. The case method in sport ethics will be incorporated.

KIN575 Essential Leadership in Sport and the Professions
3.00 credits  Fall, Spring
This course will examine the concept of leadership as it pertains to sports and other professions. Various leadership and management skills will be included with a focus on practical applications in a work environment. Theory and self-assessment strategies will be incorporated.
KIN577 Advanced Nutrition for Health and Fitness
3.00 credits  
Fall, Spring & Summer
This course presents an in-depth study of the nutritional concerns of today’s Recreational and competitive athlete. Topics include dehydration, classic carbohydrate loading, protein needs, ergogenic aids, and more. State-of-the-art research in the field is provided. This is also a writing intensive course. Thus, writing skills will represent an integral part of one's grade.

KIN578 Pharmacology for Allied Health Professionals
3.00 credits  
Spring
The study of drug families and drugs in common use across spectra of age, illness, disease, and disability. Students will understand body systems treated with current pharmaceuticals over-the-counter (OTC) medications, and neutraceuticals. Actions, key adverse effects, and influences on individuals undergoing physical activity will be emphasized.

KIN579 Principles of Exercise Prescription/Assessment: Cardiovascular
3.00 credits  
Spring
This course presents a comprehensive overview of the physical, physiological and metabolic responses of the human body to exercise testing and training both in health and disease. The successful student will gain an understanding of the process involved in prescribing safe and effective therapeutic exercise in healthy individuals as well as patients with heart and lung disease, diabetes and obesity. An overview of environmental and legal considerations in the prescriptive process will also be discussed.

KIN580 Principles of Exercise Prescription: Neuromuscular
3.00 credits  
Spring
An examination of the scientific bases of modern training techniques designed to optimize performance, their functional application and potential impact on performance in sport and everyday activity.

KIN584 Obesity, Metabolic Disease, and Inflammation
3.00 credits  
Fall, Spring
The focus of this course is on the integrative neurophysiological functions that regulate and influence obesity, metabolic disease, and inflammation. Students will be able to understand the role that chronic inflammation plays in the pathology of disease. A combination of lecture, critical reading, and group discussion will be utilized to explore the underlying basis for metabolic abnormalities.

KIN585 Advanced Topics in Kinesiology and Sport Sciences
3.00 credits  
Spring & Summer
This course will provide a synthesis of essential concepts in specialty subjects relevant to one's field of interest.

KIN586 Exercise Prescription/Assessment Laboratory
3.00 credits  
Fall
This course presents an overview of the laboratory techniques used to assess cardiovascular endurance and general fitness, pulmonary function and anaerobiases observed during competition.
KIN588 ADVANCED GROSS ANATOMY in Kinesiology and Sport Sciences
3.00 credits  Spring
Human dissection of the major muscles, arteries and nerves of the body. Course is held at the University of Miami, Medical Campus, cadaver laboratory. Special consideration is given to injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. Students are required to pay a $100 laboratory fee for the class. This course is to be taken by undergraduate Athletic Training majors and for the 5-year Sports Medicine with a Concentration in Athletic Training program students only.

KIN589 Directed Readings in Kinesiology and Sport Sciences
3.00 credits  Fall, Spring & Summer
Directed Readings focusing on research and contemporary trends in the field.

KIN590 Special Topics in Kinesiology and Sport Sciences
1.00 - 3.00 credits  Fall, Spring & Summer
This course is designed for students wishing to focus on a specific area of study within the umbrella of the Kinesiology and Sport Sciences curriculum. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.

KIN599 Advanced Programming for Endurance Athletes
3.00 credits  Fall, Spring
This course provides students with training techniques to improve aerobic capacity, endurance, and lactate threshold for optimal performance. Students will review evidenced based principles of sports nutrition, strategies to ensure proper hydration, thermoregulation, and fuel (substrate) availability during prolonged exercise as well as develop programs for competitive sports including triathlon, marathon, and cycling.

Teaching and Learning
TAL101 Social and Technological Foundations of Education.
3.00 credits  Fall, Spring
Interdisciplinary overview of the historical development of education in the United States. Topics include history of education, schooling as a social institution, school funding, ethics, legal issues, racism, social class, sexism, homo phobia and heterosexism, language-based discrimination and religion. This course emphasizes the interdependent nature of school and culture; it critically analyzes issues facing children, parents, and educators using this larger cultural framework.

TAL103 Psychological Foundations of Education
3.00 credits  Fall, Spring
Overview of major frameworks in psychology that inform teaching and learning within classroom settings. Major theories of development related to language, affect and cognition across the life span and within diverse settings. Attention is drawn to contributions from social and personality psychology, cognitive science, testing and psychometrics to promote learning through classroom instruction and assessment.

TAL107 American Sign Language I
3.00 credits  Fall
This course is designed to allow participants to learn about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics using two to four sentence responses.
TAL191 Developmental Reading for College Students
3.00 credits Fall, Spring
Instruction in college level reading strategies based on individual student needs. Emphasis on vocabulary, comprehension and techniques of test preparation.

TAL203 Children's Literature
3.00 credits Fall, Spring
History, trends, and genres of children's literature with emphasis on children's literature as a curriculum resource.

TAL204 Building Positive Relationships in Diverse Inclusive Secondary Schools.
3.00 credits Fall, Spring
Course is designed to assist general education teachers in meeting the needs of diverse secondary school students. Emphasis is placed on language and culture in the classroom, as well as students with disabilities.

TAL207 American Sign Language II
3.00 credits Spring
This course is designed to allow participants to learn about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics using four to six sentence responses. Students will be able to independently participate in a signed conversation without the use of voicing.

TAL304 Content Area Reading and Learning Strategies
3.00 credits Fall, Spring
Essentials of literacy instruction in different subject areas for middle, junior, and senior high schools; instructional methods and materials for development of language arts, reading, and study skills. Emphasis is placed on selecting appropriate materials, motivating students, and helping students with exceptional needs and students who are English language learners. Field experience required.

TAL305 Classroom and Behavior Management
3.00 credits Fall, Spring
The principles of behavior analysis and classroom management strategies, both preventative and problem solving. Special emphasis includes effective communication with students, parents and other stakeholders; meeting the needs of all learners based on individual differences, cultural and linguistic diversity; knowledge of research-based strategies that support intellectual, personal and social well-being and development of all students; planning and conducting lessons in a safe, efficient and supportive learning environment. Field experience required.

TAL308 Language Development for Linguistically and Culturally Diverse Children
3.00 credits Fall, Spring
Course provides an introduction to theories of linguistics as well as first and second language acquisition. Readings and lectures serve to highlight the development of language and language challenges faced by students for whom Standard English is a second language and/or a second dialect. Theories of linguistics are used to identify, explain and assess literacy challenges. Field experience required. This course counts as one of two required stand-alone ESOL courses.

TAL320 Introduction to Literacy Assessment and Instruction in Elementary School.
3.00 credits Fall, Spring
Multidisciplinary survey of reading and writing acquisition in the elementary school. Assessment and instruction in the major components of reading: phonological awareness, word identification and phonics, fluency, vocabulary, and comprehension.
TAL321 Language Arts in the Elementary School
3.00 credits  Fall, Spring
This course focuses on competencies in reading, writing, listening, speaking, viewing and visual representation. Children's literature is infused. Emphasis on research-based practices and multicultural awareness. Field experience required.

TAL322 Mathematics Instruction in the Elementary School
3.00 credits  Fall, Spring
Principles and practices in the teaching of elementary school mathematics. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

TAL323 Science and Social Studies Instruction in the Elementary School
3.00 credits  Fall, Spring
Principles and practices in the teaching of elementary school science and social studies. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

TAL324 Education and the Arts
3.00 credits  Fall, Spring
Exploration of the fine and performing arts and their relation to Pre-K to 12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

TAL330 Introduction to the Education of Exceptional Individuals
3.00 credits  Fall, Spring
A survey course providing a general orientation to Exceptional Individual Education as an integral part of the general education structure. Includes an introduction to appropriate educational programs for exceptional individuals.

TAL332 Assessment of Exceptional Students
3.00 credits  Spring
Assessment process and techniques used in the identification, assessment, and instruction of exceptional students.

TAL360 The Teacher in American Society
3.00 credits  Fall, Spring
This course focuses on the historical development of teaching in the US, contemporary educational reform and social change, issues involving teacher work, the impact of technology on schooling, ethical and legal issues in teaching, topics involving Race, Gender Social Class and Equity. Popular Culture sources are emphasized in the course's content.

TAL390 Topics in Education
3.00 credits  Spring
Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.
TAL420 Introduction to Literacy, Assessment, and Instruction in Elementary School
3.00 credits Fall, Spring
Multidisciplinary survey of reading and writing acquisition in the elementary school. Assessment and instruction in the major components of reading: phonological awareness, word identification and phonics, fluency, vocabulary, and comprehension.

TAL421 Language Arts in the Elementary School
3.00 credits Fall, Spring
This course focuses on competencies in reading, writing, listening, speaking, viewing and visual representation. Children's literature is infused. Emphasis on research-based practices and multicultural awareness. Field experience required.

TAL422 Mathematics Instruction in the Elementary School
3.00 credits Fall, Spring
Principles and practices in the teaching of elementary-school mathematics. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

TAL425 Inclusive Classrooms in the Elementary School
3.00 credits Fall, Spring
The course prepares elementary school teachers to meet the individual needs of students with exceptionalities who have been integrated into the general education classroom. Field experience required.

TAL426 Practicum in Reading
3.00 credits Fall, Spring
Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

TAL428 ESOL Curriculum and Methods and Assessments
3.00 credits Fall, Spring
The course addresses the application of TESOL theories, principles, and current research to the use of curriculum, methods, and assessment. In doing so, the course focuses on an understanding of the differences between curriculum, methods, and assessment designed for children who are native speakers of Standard English and those designed for ESOL. Specific TESOL modifications appropriate for content areas are also addressed. Field experience required. This course counts as the second of two required ESOL specific courses.

Teaching and Learning
TAL432 Curriculum and Instruction in Exceptional Student Education for K-6 Settings
3.00 credits Fall
Instructional strategies and materials appropriate for teaching students enrolled in Exceptional Student Education programs in K-6 settings. Students must be enrolled concurrently in TAL 434. 50 hours of field experience required in an assigned K-6 ESE setting.

Teaching and Learning
TAL434 Curriculum and Instruction in Exceptional Student Education for Grades 7-12 Set
3.00 credits Fall
Instructional strategies and materials appropriate for teaching students enrolled in Exceptional Student Education programs in grades 7-12 settings. Students must be enrolled concurrently in TAL 432. 50 hours of field experience required in an assigned K-6 ESE setting.
TAL444 Instruction in Secondary Science  
2.00 - 3.00 credits  
Analysis of methods, materials, and content appropriate for teaching science in the secondary school.  

Fall

TAL470 Student Teaching in the Elementary School (Semester-Long)  
6.00 - 9.00 credits  
A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.  

Fall, Spring

TAL471 Student Teaching in the Elementary Schools for K-12 Areas  
3.00 - 6.00 credits  
A comprehensive program in observation and supervised teaching in the elementary school. The student spends full-time for one half a semester in an elementary school, participating in all activities of the teacher under the guidance of school and university personnel.  

Fall, Spring

TAL473 Associate Teaching in the Secondary School for K-12 Areas  
3.00 - 6.00 credits  
A comprehensive program in observation and supervised teaching in the secondary school. The student spends full time for one half a semester in a secondary school, participating in all activities of the teacher under the guidance of school and university personnel.  

Fall, Spring

TAL480 Seminar on Teaching  
1.00 - 3.00 credits  
The seminar is designed to support teacher candidates during the associate teaching experience. Students receive support and assistance in completing Florida Educator Accomplished Practices (FEAP) electronic portfolios. Students share, reflect, and discuss their daily experiences in class during culminating experience in the field.  

Fall, Spring

TAL491 Applied Research in Education  
3.00 credits  
Introduction to basic research methods, ethics in education research, and the implications of research on the practice of teaching. Assist a TAL faculty member with a research project.  

Fall, Spring

TAL493 Online Teaching & Leadership  
3.00 credits  
Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.  

Fall, Spring

TAL495 Individual Study  
1.00 - 3.00 credits  
Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study will be required.  

Fall, Spring & Summer

TAL501 CLASSROOM BASED ASSESSMENT  
1.00 - 3.00 credits  
Principles and classroom applications of educational measurement and assessment.  

Fall, Spring
TAL502 Classroom Based Research
3.00 credits  Offered By Announcement Only
Application of research principles to evaluation and improvement of teacher effectiveness. Use of scientific methods in problem solving and decision making in the classroom. Student experiences in the planning, conduct, analysis and reporting of classroom research are included.

TAL503 Technology Applications in Education
3.00 credits  Fall, Spring
Technology and its role in transforming teaching and learning; core academic-curriculum literacy; and education social systems.

TAL504 Building Positive Relationships in Inclusive Secondary Schools
3.00 credits  Fall, Spring
Designed to assist general education teachers in meeting the needs of diverse secondary school students. Focus on students with disabilities, language and culture in the classroom, and developing culturally competent classroom management methods.

TAL506 Issues and Strategies for ESOL
3.00 credits  Offered By Announcement Only
This course provides a comprehensive foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and TESOL standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development.

TAL508 Language Development for Linguistically and Culturally Diverse Students
3.00 credits  Fall, Spring & Summer
Course will provide an introduction to theories of linguistics, first and second language acquisition, as well as foundations of English learner education. Readings and lectures will serve to highlight the development of language and literacy, including challenges faced by students for whom Standard English is a second language and/or a second dialect. This course will be the first in a two-course ESOL sequence.

TAL517 Curriculum, Assessment, teaching and learning for Physical Science
3.00 credits  Fall, Spring
Analysis of content knowledge, pedagogy, and materials appropriate for teaching physical science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in physical science, pedagogy, and student literacy in physical science.

TAL518 Curriculum, Assessment, teaching and learning for Number, Operations, and Algebra
3.00 credits  Fall, Spring
This course examines topics that address the mathematical ideas underlying number, operations and algebra. Related curriculum, instructional and assessment issues will be also discussed.

TAL520 Curriculum, Assessment, teaching and learning for Measurement and Geometry
3.00 credits  Fall, Spring & Summer
Topics involving measurement and geometry in the K-16 mathematics curriculum, how students learn and reason, assessment, instructional strategies.
TAL522 Curriculum, Assessment, teaching and learning in the Earth Sciences
3.00 credits
Fall, Spring
Analysis of content knowledge, pedagogy, and materials appropriate for teaching Earth science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in Earth science, pedagogy, and student literacy in life science.

TAL524 Education and the Arts
3.00 credits
Fall, Spring
Exploration of the fine and performing arts and their relation to PreK-12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

TAL526 Practicum in Reading
3.00 credits
Fall, Spring
Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

TAL527 Language and Assessment in ESOL
3.00 credits
Offered By Announcement Only
Study of language systems with a focus on understanding and applying linguistic terms. Course prepares teachers to conduct informal and formal assessment procedures with English language learners. Field experience with English language learners is required.

TAL528 ESOL Curriculum, Methods, and Assessment.
3.00 credits
Offered By Announcement Only
This course focuses on applying TESOL theories, principles, and current research to the development and use of instructional materials, curriculum, and methods. The course will enhance participant's knowledge of the regular English language arts curriculum in comparison with the ESOL curriculum.

TAL531 Educating Exceptional Students
3.00 credits
Fall, Spring
A survey course in special education emphasizing characteristics and problems associated with various categories of exceptional learners. Policy, issues, and trends in special education will be discussed.

TAL540 Instruction and Assessment in the Secondary School.
3.00 credits
Fall, Spring
Research-based instructional processes in the secondary school.

TAL541 Instruction in Secondary English.
2.00 - 3.00 credits
Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching language arts in the secondary school.

TAL542 INSTRUCTION IN SECONDARY MATHEMATICS
1.00 - 3.00 credits
Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching mathematics in the secondary school.
TAL543 INSTRUCTION IN SECONDARY SCIENCE
1.00 - 3.00 credits  
Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

TAL544 INSTRUCTION IN SECONDARY SOCIAL STUDIES
1.00 - 3.00 credits  
Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching the social sciences in the secondary school.

TAL545 METHODS OF TEACHING IN THE ELEMENTARY SCHOOL
3.00 credits  
Offered By Announcement Only

TAL550 Language and Early Reading Instruction
3.00 credits  
Fall
Factors related to emergent literacy with an emphasis on diverse aspects of language that influence literacy and learning; development of emergent literacy and word perception; emergent literacy curriculum development; appropriate assessment and instructional techniques. Understanding of reading as a process of student engagement in fluent decoding and construction of meaning. Writing intensive.

TAL552 Reading Comprehension
3.00 credits  
Spring
Development of comprehension, rate, and study skills; reading in the content areas; evaluation of materials, organization of programs; issues, problems, and exceptional readers. Emphasis is placed on understanding reading as a process of student engagement in fluent decoding of words and construction of meaning.

TAL553 Mentoring and Internship in Classroom Teaching
3.00 - 6.00 credits  
Fall, Spring
A comprehensive program of supervised teaching in elementary or secondary classrooms.

TAL554 Literacy and Learning Strategies in the Content Area
3.00 credits  
Fall, Spring
Literacy instruction in content areas for grades 6 through 12; instructional methods and materials for development of language arts, reading, and study skills. Emphasis on appropriate materials, motivation, and support for students with exceptional needs and English language learners.

TAL557 Exceptional Student Education and Classroom Management
1.00 - 5.00 credits  
Fall, Spring
Introduction to theories and methods of effective classroom management and learning environments, perceptions of disabilities, addressing disruptive behaviors in classrooms and behavioral assessment.

TAL558 ESOL Strategies and Classroom Management
1.00 - 5.00 credits  
Fall, Spring
This course provides a general overview of foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's manates and ESOL Standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development. A Classroom Management Plan will be developed based on current issues and effective classroom strategies for diverse populations.
TAL568 Reform, Politics and Social Organizations of Schooling
3.00 credits Fall, Spring
This course is designed to introduce students to the politics and policy debates in American education, including how the U.S. K-12 public education is organized as a socially-constructed system. We will examine the politics of a variety of recent reforms at the local, federal and state levels and their impact on institutions, students and the public.

TAL569 Teaching and Management for Diverse Classrooms
3.00 credits Fall, Spring
This course will emphasize building a classroom culture and community that meets the needs of all students, including learners with disabilities and learners with culturally and linguistically diverse backgrounds. A history of major legal requirements for diverse populations is examined, including the meaning of learning differences, definitions and causes of disabilities, language acquisition processes, and methods for teaching diverse populations. An introduction to theories and methods of effective classroom management for building learning communities is integrated throughout the course.

TAL570 Student Teaching in the Elementary School.
6.00 - 9.00 credits Offered By Announcement Only
A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full-time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

TAL572 Student Teaching in the Secondary School.
6.00 - 9.00 credits Offered By Announcement Only
A comprehensive program in observation and supervised teaching in the secondary school. The student spends full-time in a secondary school participating in all activities of the teacher under the guidance of school and university personnel.

TAL577 Human Development, Learning and Schooling
3.00 credits Fall, Spring
Major theories of child development and learning will be discussed with a focus on how they apply to teaching and earning in K-12 schools.

TAL580 Seminar on Teaching
1.00 - 3.00 credits Offered By Announcement Only
Topical seminar to accompany associate teaching

TAL584 Topics in the Professional Development and Supervision of Teachers.
3.00 credits Offered By Announcement Only
Topics include the preparation of clinical teachers to induct, guide, and supervise the field experiences of students and associate teachers; techniques in the observation and supervision of in-service teachers; creation and implementation of professional development plans; reading in the research on teacher development across the career.

TAL590 Topics in Education
3.00 credits Spring
Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.
TAL591 Workshop in Education
1.00 - 6.00 credits
Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL593 Online Teaching and Leadership
3.00 credits
Fall, Spring
Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

TAL596 Workshop in Education
1.00 - 6.00 credits
Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL597 Workshop in Education
1.00 - 6.00 credits
Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL598 Workshop in Education
1.00 - 6.00 credits
Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL599 Workshop in Education
1.00 - 6.00 credits
Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.
BME100 Introduction to Biomedical Engineering for Summer Scholars
3.00 credits  Summer
This introductory course is designed to expose high school students to biomedical engineering. The program is designed for the exemplary high school student interested in applied mathematics and science. The students will be provided with an understanding and some hands-on experience on topics relative to the discipline of Biomedical Engineering. The course content changes throughout the 3-week duration and includes topics on lasers, medical imaging, biomaterials, bioelectricity and biomechanics. The students will be able to understand the challenges associated with the design, testing and FDA clearance of biomedical devices and the importance of the scientific methods in engineering. The laboratory and field trip experiences will deal with the design and testing of a bioelectric device. Summer Scholar Students only.

BME111 Introduction to Engineering I
3.00 credits  Fall, Spring
Use of engineering tools for problem solving are discussed. Topics include the use of computer techniques for data acquisition, analysis, presentation, software design, computer aided drafting, and development of design skills through several design and building competitions. Introduction to professional ethics and intellectual property rights, the use of MATLAB, AutoCAD, and programming in C++.

BME112 Introduction to Engineering II
0.00 - 2.00 credits  Fall, Spring
Introduction to biomedical engineering analysis, design, and manufacturing processes. Ethics, regulatory factors, and biomedical engineering design tools (mechanical, electrical and computer tools) are introduced. Hands on experience is provided through a project in which the students design, assemble, program, and test biomedical devices.

BME265 Medical Systems Physiology
3.00 credits  Spring
Human physiological processes from a bioengineering and medical point of view. Pertinent aspects of anatomy, biophysics, biochemistry, and disease mechanisms are also included.

BME305 Biomedical Technology
3.00 credits  Spring
Non-mathematical introduction to technical and clinical aspects of biomedical engineering. Biomedical signals and instrumentation, sensors, transducers, physiological measurements, laboratory instrumentation, implants, cardiac assist devices, radiology, ultrasound, CT, MRI, transmission, and scanning electron microscopy. Field trips to clinical and research laboratories are included. Open only to non-BME students.

BME310 Mathematical Analysis in Biomedical Engineering
3.00 credits  Fall, Spring
Mathematical modeling of physiological and other biomedical engineering systems and devices. Basic engineering principles and mathematical tools are covered for rigorous understanding of physiological regulation and control in bio systems.
BME311 MATLAB for Biomedical Engineers
1.00 credit  Fall, Spring
Laboratory course for applications of Matlab in biomedical engineering. Upon the completion of this course, students will be able to write Matlab scripts to solve engineering problems and perform basic analysis and processing of biomedical signals. The course includes Matlab programming environment; Matlab variables; FOR, IF and WHILE statements, plotting and advance graphics, user defined functions, symbolic computation, data file management and graphical user interfaces. The course concludes with a final project focused in biomedical applications.

BME320 The Evolution of Technology
3.00 credits  Spring
Organized and taught by an interdisciplinary team, this innovative course is designed for juniors and seniors. An experimental elective, the course uses multimedia to explore the ways in which innovation is driven by the needs of society and individuals, and nurtured by improvements in tools and production. Five broad subject areas will receive special attention: survival, communication, transportation, entertainment and medicine.

BME330 Foundations of Medical Imaging
3.00 credits  Fall
Physical and biological principles of medical imaging, including ultrasound, X-ray, nuclear, magnetic resonance, electrical impedance and optical imaging. Propagation and interaction of ultrasonic waves, light waves, X-ray photons, and nuclear radiation in hard and soft biological tissue. Corequisite: BME 310.

BME335 Biomaterials
3.00 credits  Fall, Spring
Introduction to the field of Biomaterials. Review of materials science for four main types of biomaterials: ceramics, metals, polymers, and composites. Lectures on special topics given by guest lecturers who are active in their specific areas, under supervision of the instructor.

BME375 Fundamentals of Biomechanics
3.00 credits  Fall, Spring
Application of solid and fluid mechanics to describe the mechanical behavior of human motion, mechanical behavior of soft and hard biological tissues, cells and biofluids. Review of fundamental concepts and techniques of mechanics (stress, strain, constitutive relations). Focus on mechanical properties of specific tissues, including tendon, skin, smooth muscle, heart muscle, cartilage, and bone. Cellular and biofluid mechanics will be presented.

BME395 Undergraduate Research in Biomedical Engineering
1.00 - 3.00 credits  Fall, Spring & Summer
Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

BME399 Cooperative Education
1.00 credit  Fall, Spring & Summer
Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. May be repeated.
BME401 Senior Project I
0.00 - 2.00 credits  
Fall, Spring
Planning Phase of an individual or group project for seniors, to be taken during
the penultimate semester to graduation.

BME402 Senior Project II
1.00 credit  
Fall, Spring
Completion of individual or group project for seniors, to be taken during the final
semester before graduation. A total of 3 credits in this 401-402 sequence.

BME440 Biomedical Measurements
0.00 - 4.00 credits  
Fall, Spring
Introduction to the principles of measurements in physiological and biological
systems, as well as a discussion of measurable parameters, transducers, sensors,
signal conditioning, and processing. Laboratory experiments are conducted in parallel
with the course.

BME450 Biomedical Transport Phenomena
3.00 credits  
Fall, Spring
Fundamentals of transport phenomena in biological systems including diffusion,
osmosis, convection, electrophoresis, and transport with binding. Applications
to cell electrophysiology and drug delivery. Introduction to physiological fluid
flow in tissues.

BME460 Introduction to Physiological Fluid Mechanics
3.00 credits  
Spring
The role of transport processes in biological systems, mathematical modeling of physiological
fluid transport, conservation of mass and momentum rheology of blood flow in large
and small vessels, approximation methods for the analysis of complex physiological
flow, fluid flow in the circulation and tissue. Basic engineering principles and
mathematical tools are covered for rigorous understanding of physiological fluid
flow.

BME480 Biomedical Instrumentation
3.00 credits  
Fall, Spring
Analysis and design of systems and electronic circuitry in medical and biological
instrumentation. Treatment of bioelectric potentials electrodes, transducers, high
gain-low noise input circuits, timing and switching circuits, biotelemetry, bioelectrodes,
and bioelectric systems are discussed. Corequisite: BME 440.

BME501 Unified Medical Sciences I
3.00 credits  
Fall
Treatment of the basic biological and medical elements in physiological systems.
The anatomy, physiology, biophysics, biochemistry and certain aspects of clinical
medicine are unified with an emphasis on cellular and subcellular systems. Not
open to BME undergraduates.

BME502 Unified Medical Sciences II
3.00 credits  
Fall
Treatment of the basic biological and medical elements in physiological systems.
The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical
medicine are unified with an emphasis on cardiovascular, renal, digestive, endocrine,
and reproductive systems. Not open to BME undergraduates.
BME503 Unified Medical Science III  
3.00 credits  
Spring  
Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on neural, sensory, and muscular systems. Not open to BME undergraduates.

BME506 Computer Aided Design in Biomedical Engineering  
1.00 credit  
Spring  
Laboratory course for computer-based two and three-dimensional drawing and design based on ProEngineer. Parametric design, parts, features, assemblies for complex modeling. Applications in biomedical engineering design.

BME507 LabView Applications for Biomedical Engineering  
1.00 credit  
Spring  
Laboratory course for computer-based instrumentation and design based on Labview. Virtual instrumentation, data acquisition and display, GPIB instrument control, biomedical applications in biosignal recording, and monitoring are discussed.

BME512 Regulatory Control of Biomedical Devices  
3.00 credits  
Spring  
Regulatory agencies and requirements, Food and Drug Administration, 510(k) and premarket approval (PMA), international regulatory requirements, ISO 9000 series, CE, UL, product and process validation, quality engineering, quality improvement programs, rapid prototyping, packaging and sterilization, and project management are discussed.

BME520 Medical Imaging Systems  
3.00 credits  
Fall  
Engineering and scientific principles of medical imaging systems. The concepts of instrumentation and diagnostic applications of different techniques and systems are presented. Demonstrations or exhibitions of medical systems are given in the visits to clinics and research laboratories. Topics include digital image and image processing fundamentals, radiographic (X-ray, CT), magnetic resonance (MRI) and radio-isotopic (PET) systems, and associated image reconstruction techniques. Basic concepts and simulation of imaging systems are emphasized.

BME521 Medical Imaging Applications  
3.00 credits  
Offered By Announcement Only  
Medical applications of imaging systems and image processing techniques. Topics include image fundamentals (resolution, format, and storage), image processing fundamentals (transformation, compression, enhancement, segmentation, registration, and reconstruction), and image analysis fundamentals (calibration, quantification, correlation, linearity and depiction). Course includes dedicated computer laboratory projects and demonstrations given in clinical and research laboratories at the medical campus. Corequisite: BME 570 or equivalent.

BME522 Scanning Electron Microscopy in Biomedical Devices  
3.00 credits  
Fall, Spring  
Physics and operating principles of scanning electron microscope (SEM), transmission electron microscope (TEM), and optical light microscope. Biological tissue preparation, storage, fixation and digital image storage. Each student will learn to use the SEM in the design and/or analysis of a biomedical device.
BME525 Special Problems  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

BME526 Special Problems  
1.00 - 3.00 credits  
Fall, Spring  
Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

BME531 Technical Entrepreneurship I  
1.00 credit  
Fall, Spring  
The first half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students propose product ideas, assess those collectively, select a few, form teams, define the product, and perform market analysis. The course is concluded with a business and technical development plan for the team's project. Lectures are presented on a variety of entrepreneurial topics.

BME532 Technical Entrepreneurship II  
2.00 credits  
Fall, Spring  
The second half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students complete the development of a working prototype and refine their marketing and business plan based on experience gained during the development phase. Lectures are presented on relevant entrepreneurial topics.

BME535 Advanced Biomaterials  
3.00 credits  
Offered By Announcement Only  
Applications of biomaterials in different tissue and organ systems. Relationship between physical and chemical structure of materials and biological system response are discussed as well as choosing, fabricating, and modifying materials for specific biomedical applications.

BME540 Microcomputer-Based Medical Instrumentation  
3.00 credits  
Offered By Announcement Only  
Principles and design of microcomputer-based biomedical instruments, analog and digital signal conversion, microcomputer hardware and software design, algorithm development for medical applications, medical signal processing with microcomputers, software safety in life support systems, and current applications are discussed.

BME541 Medical Electronic Systems Laboratory  
2.00 credits  
Spring  

BME545 Biomedical Optical Instruments  
3.00 credits  
Fall  
Introduction to geometrical optics, light sources, detectors, and fiber optics with an emphasis on engineering aspects and medical applications. Fiber-optic delivery systems for medical applications, optics of the eye and visual instruments, and optical instruments used in medicine (microscopes, endoscopes, ophthalmic instruments) are discussed. Hands-on sessions in the laboratory are included.
BME546 Medical Applications of Lasers
3.00 credits
Spring
Review of geometrical optics, fiber optics, wave optics, laser physics, and technology. Medical laser systems, optical properties of tissue, light propagation in tissue, laser-tissue interactions, and surgical applications of lasers are also covered. Hands-on sessions in the laboratory are included.

BME555 Fundamentals of Computational Neuroscience
3.00 credits
Spring
Major concepts include neural signaling and communication from the single neuron to system of neural ensembles and the role of neural computation in engineering applications. Theory and principles of information processing in the brain are presented. Experimental data and computer simulations are used to provide real examples for students experimentation.

BME560 Biomedical Transport Phenomena
3.00 credits
Fall, Spring
Fundamentals of transport phenomena in biological systems including diffusios, osmosis, convection, electrophoresis, and transport with binding. Applications to cell electrophysiology and drug delivery. Introduction to physiological fluid flow in tissues.

BME565 Principles of Cellular and Tissue Engineering
3.00 credits
Fall
Introduction to cellular and tissue engineering. Current therapeutic approaches for lost/damaged tissue or organ function, tissue engineering strategies to replace/repair tissue or function: infusion of cells, production and delivery of tissue-inducing substances, cells placed on or within biomaterial scaffolds, examples of tissue engineering applications: skin, heart muscle, blood vessels, and blood.

BME570 Biomedical Signal Processing
3.00 credits
Spring
Course topics include quantitative description, analysis, and processing of biophysical and physiological (cardiovascular, neural, sensory, muscular, respiratory and other) signals using computers. Survey of time-frequency representations, correlation, convolution, coherence, filtering, averaging, and classification is also included.

BME571 Introduction to Biosignal Processing Lab
1.00 credit
Fall, Spring
Laboratory course in conjunction with BME 570 course. Corequisite: BME 570.

BME575 Biomechanics II
3.00 credits
Offered By Announcement Only
Applications of linear and nonlinear viscoelastic concepts to the biomedical characteristics of biological tissues and structures at small and large deformations of blood flow, experimental methods of analysis, artificial organs, and life-support systems.

BME581 Radiation Biology and Physics
3.00 credits
Fall
The principles, methods, and results of radiation biology with physics applications in radiation therapy will be introduced in the course. The course will focus on mechanisms of radiation and biological system interaction, biological aspects of the foundation of radiation therapy, and mathematical models for radiobiological analysis. Corequisite or prerequisite: BME 502 or permission of instructor.
BME582 Radiation Dosimetry
3.00 credits Spring
The principles and instrumentation of radiation dosimetry with focus on the applications in radiation therapy will be introduced in this course. The course will emphasize radiation dose computation algorithms and applications in treatment dose planning. The course will also cover a categorized dosimetric analysis of radiation therapy to different clinical conditions.

BME583 Radiation Protection
3.00 credits Fall

BME587 Finite Element Analysis for Engineers
3.00 credits Fall, Spring
Introduction to the finite-element method. Hands-on applications of FEMLAB software to the analysis of structural, thermal, chemical, electro-magnetic, optical, and fluid flow problems.

BME599 Cooperative Education.
1.00 credit Offered By Announcement Only
Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Civil/Architectural Eng

CAE100 Introduction to Civil, Architectural, and Environmental Engineering
3.00 credits Summer
This introductory course is designed to expose high school students to a variety of specific disciplines within the civil engineering arena to assist them in making informed decisions about possible college majors. The program is designed for the exemplary high school student interested in applied mathematics and science. All students enrolled in this course will gain experience in problem solving, engineering mechanics, computer simulation, and laboratory activity. The course content changes throughout the 3-week duration and includes topics on civil engineering, environmental engineering, and architectural engineering. The students will be provided with an understanding and some hands-on experience on topics relative to the disciplines of civil, architectural, and environmental engineering. Via an introduction to several case histories, the students will be able to understand the challenges associated with the design and construction and importance of the scientific methods in engineering. The laboratory and field trip experiences will deal with bridge building, material testing, water purification, and building systems.

CAE111 Introduction to Engineering I
3.00 credits Fall, Spring
Use of engineering tools for problem solving. Computer techniques for data acquisition, analysis and presentation, software design, and computer aided drafting are covered. Development of design skills is achieved through several design and building competitions. Introduction to professional ethics and intellectual property rights, MATLAB, AutoCAD, and programming in C++ is also included.

CAE112 Introduction to Engineering II
2.00 credits Spring
Hands-on applications of various surveying instruments for leveling, angles and distance measurements, and other engineering applications. Hands on application of Geographic Information Systems, including ArcView and extensions.
CAE210 Mechanics of Solids I  
3.00 credits  
Fall, Spring & Summer  
Vectors, force systems, equilibrium, analysis of frames, machines, trusses for internal forces, friction, centroids, moment of inertia, and shear and bending moment diagrams are discussed.

CAE211 Mechanics of Solids II  
3.00 credits  
Fall, Spring  
Flexural, shear, principal, and torsional stresses are discussed as well as displacements and instability. An introduction to statically indeterminate analysis is also included.

CAE212 Structural Laboratory  
1.00 credit  
Fall, Spring  
Laboratory techniques, tests for tension, compression, shear, bending, and torsion are discussed. Models, similitudes, buckling of columns, and review of current research are also included. Laboratory 3 hours. Corequisite: CAE 211.

CAE213 Behavior of Structural Systems I  
3.00 credits  
Fall  
Design and testing of experimental models of qualitative and quantitative prediction of full scale structural behavior. Investigation of single and multi-story rectangular frames, curved structures and longspan buildings. Application of graphical and analytical techniques to determine basic system layout and preliminary dimensioning of key subsystems and members is also included.

CAE240 Environmental Pollution  
3.00 credits  
Spring  
Exploration of contemporary environmental issues. Introduction to engineering approaches for protecting and cleaning up the environment, techniques for assessing the impact of human activity on the environment, strategies for pollution control and implementation of environmental mitigation measures.

CAE310 Structural Analysis  
3.00 credits  
Fall, Spring  
Analysis of statically determinate and indeterminate structures for internal forces, external reactions, displacements, including influence lines.

CAE313 Behavior of Structural Systems II  
3.00 credits  
Spring  
Overall analysis of simple and multi-story frame structures. Consideration of flat plates, prestressed concrete flat slabs, slab and beam, joist and girder, waffle and space truss systems, columns, wall and rigid frame subsystems under vertical and horizontal loads. Application of structural model analysis to supplant or supplement mathematical analysis is included.

CAE320 Concrete Structures  
3.00 credits  
Fall, Spring  
Course topics include design of concrete beams, columns, structural systems one-way slabs, and isolated footings by ultimate design methods.

CAE321 Steel Structures  
3.00 credits  
Fall, Spring  
Design of tension, compression, flexural members, and beam columns using load and resistance factor design are discussed. Introduction to design and detailing of welded and bolted connections is also included.
CAE330 Fluid Mechanics
3.00 credits Fall, Spring
Properties of fluids, gas systems, pressure distribution in static fluids, and hydrostatic forces on plane and curved surfaces are discussed. Kinematics and dynamics of fluid motion, dimensional analysis and similitude, flow in closed conduits, pumps, design of water distribution systems, and an introduction to flow in open channels is also included.

CAE340 Introduction to Environmental Engineering
3.00 credits Fall, Spring
Environmental mass and energy balances, introduction to environmental chemistry, air pollution, water pollution, sustainable solid waste management, risk assessment, and global atmospheric change are discussed.

CAE345 ENVIRONMENTAL LABORATORY AND ANALYSIS
3.00 credits Spring
Laboratory-based course focusing on the analysis of environmental samples including water, wastewater, air, and solids. Basic analytical techniques and quality control are also included as well as an introduction to advanced analytical measurements.

CAE350 Transportation Engineering I
3.00 credits Fall

CAE370 Geotechnical Engineering I
3.00 credits Fall, Spring
Soil composition and classification, excavation, grading, fill compaction, stress distribution in soils, one-dimensional flow of water through soil, laboratory, and field permeability, effective stress concept, calculation of consolidation, field settlement, bearing capacity, and design and analysis of shallow foundations are discussed.

CAE371 Geotechnical Laboratory
1.00 credit Fall, Spring
Evaluation of physical and mechanical properties of soils, and preparation of reports. Three hours.

CAE380 Electrical and Illumination Systems for Buildings
3.00 credits Spring
Typical electrical systems for buildings including electrical circuits, protective devices and code requirements. Illumination and lighting design.

CAE381 BUILDING MECHANICAL SYSTEMS I: HVAC FUNDAMENTALS
3.00 credits Spring
Principles and procedures for the analysis and design of heating, ventilating, and air conditioning (HVAC) systems in buildings. Topics include moist air properties and conditioning processes, heating and cooling load calculations, building energy consumption, thermal comfort, indoor air quality, air distribution and diffusion, HVAC systems and component selection.
CAE395 Undergraduate Research
1.00 - 3.00 credits  
Spring
Designed for the undergraduate student who wishes to engage in research. Not for graduate credit or for baccalaureate graduation credit. Subject and credit to be arranged with the instructor.

CAE399 Internship
1.00 credit  
Fall, Spring & Summer
Practical application of classroom theory through employment with firms offering positions consistent with the student's field of study. Courses may be repeated.

CAE400 Preparation for FE Exam
1.00 credit  
Spring
Review of material in preparation for the Fundamentals of Engineering (FE) examination. For credit only.

CAE402 Professional Engineering Practice
3.00 credits  
Fall, Spring
Principles of engineering economics and economic evaluation of engineering projects. A discussion of professional practice issues including the philosophy and methodology of engineering, professional licensure and ethics. Discussion of the business aspects of engineering including business organization, management, contracts and legal issues. Engineering leadership in the formulation of public policy.

CAE403 Senior Design Project I - Civil & Architectural
1.00 credit  
Fall
Two-semester comprehensive design project based on the knowledge and skills acquired in earlier coursework and incorporating engineering standards and realistic constraints. The faculty coordinator and several practicing engineers/architects provide consultation, guidance, and recommendations on aspects such as problem definition, evaluation of design approaches, design development, and the preparation of construction documents.

CAE404 Senior Design Project II - Civil & Architectural
2.00 credits  
Spring
Second semester of a two-semester comprehensive design project based on the knowledge and skills acquired in earlier coursework and incorporating engineering standards and realistic constraints. The faculty coordinator and several practicing engineers/architects provide consultation, guidance and recommendations on aspects such as problem definition, evaluation of design approaches, design development and the preparation of construction documents.
PREREQUISITE: CAE 403.

CAE421 Timber Structural Systems
3.00 credits  
Offered By Announcement Only
Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.
PREREQUISITE: CAE 310.
CAE430 Water-Resources Engineering I
3.00 credits  
Basic principles of open channel flow. Computation of water surface profiles. Design of hydraulic structures, design of lined and unlined open channels, and design of sanitary sewer systems. Introduction to hydrology and analysis of hydrologic data. Rainfall characteristics and peak runoff models.

CAE440 Water Quality Control Systems
3.00 credits  
Principles of domestic wastewater treatment, design of biological and chemical waste treatment processes, design and sizing of small scale treatment units, and design of water treatment processes are discussed. An introduction to industrial waste treatment.

CAE450 Transportation Engineering II
3.00 credits  
Transportation system planning and design. Advanced geometric design for highway and railway/transit. Human, vehicle, and environmental factors affecting the design, operation, and safety of transportation systems. Planning and design of both landside/airside aspects of airport facilities. Water port and multi-modal facilities design.

CAE460 Construction Management
3.00 credits  
An introduction to the management of construction projects including legal considerations as well as the techniques of management science applied to construction. The course includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, network planning techniques, including CPM and PERT are introduced. The management principles of time and cost control are also explored. Computer application of project management tools are included.

CAE470 Foundations and Earth Retaining Systems
3.00 credits  
Natural soil deposits and subsoil exploration. Geotechnical analysis and design of shallow and deep foundations. Theories of lateral earth pressure. Design and Analysis of earth-filled retaining systems.

CAE480 PLUMBING AND LIFE SAFETY FOR BUILDING
3.00 credits  
Design of building environmental systems, including water supply and waste removal, space air diffusion, fans, air supply and waste removal, space air diffusion, fans, air distribution systems, building fire safety, and smoke control. Building automation and control are also included.

CAE481 Building Mechanical SYSTEMS II: HVAC SYSTEMS
3.00 credits  
Principles and procedures for the analysis and design of heating, ventilating, and air conditioning (HVAC) systems in buildings. Topics include moist air properties and conditioning processes, heating and cooling load calculations, building energy consumption, thermal comfort, indoor air quality, HVAC systems and component selection.
CAE510 Structural Mechanics  
3.00 credits  
Offered By Announcement Only  
Analysis of stress and deformation of solids. Application to systems in the elastic and inelastic range. Topics include beams of special geometry and support, stress concentrations, stresses in elastic foundations, torsion, energy method s, failure theories, and brittle fracture.

CAE511 Advanced Structural Analysis  
3.00 credits  
Fall  
General methods of indeterminate analysis. Elements of energy method in indeterminate analysis of axial, flexural torsional, and composite members. Basic flexural and stiffness methods and matrix development are also included.

CAE520 Advanced Design of Concrete Structures  
3.00 credits  
Spring  
Design of reinforced concrete flat plates, flat slabs, two-way slabs, long columns, and slab-column connections are discussed. Deflections, crack widths, and background of current ACI Building Code are also included.

CAE521 Advanced Design of Steel Structures  
3.00 credits  
Fall  
Steel framing systems, design of members and connections of braced and rigid frames, design for torsion, and design of steel-concrete composite members are discussed.

CAE522 Design of Prestressed Concrete Structures  
3.00 credits  
Offered By Announcement Only  
Materials and systems for prestressing, design of prestressed concrete members for flexure and shear, camber, deflection, and crack control are discussed. Design of continuous beams, compression members, two-way concrete floor systems, and the loss of prestress are also included. Prerequisite: CAE 320.

CAE523 Design of Masonry Structures  
3.00 credits  
Offered By Announcement Only  
Masonry construction. Design of flexural and compression members, bearing walls, shear walls, diaphragms, and connections of masonry structures. Arches, vaults, and buttresses are also included.

CAE525 Timber Structural Systems  
3.00 credits  
Offered By Announcement Only  
Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.

CAE530 Water Resources Engineering II  
3.00 credits  
Fall  
Runoff models, routing models, water-quality models, and evapotranspiration models. Design of storm water management systems. Principles of groundwater flow. Design of wells and well fields for public water supply. Legal regulatory, and economic components of water-resources management systems. Comprehensive design project.

CAE531 Surface-Water Hydrology  
3.00 credits  
Offered By Announcement Only  
Rainwater characteristics, abstraction processes, surface-runoff, routing, and water-quality models. Design of storm water-management systems, evapotranspiration, and regional water-management is also included as well as case studies.
CAE532 Ground-Water Hydrology
3.00 credits                                           Offered By Announcement Only

CAE533 Water-Quality Control in Natural Systems
3.00 credits                                           Offered By Announcement Only
Water quality regulations, fate and transport processes, water-quality control in rivers, lakes, wetlands, oceans, and ground water.

CAE540 Environmental Chemistry
3.00 credits                                                                 Spring
Kinetics, equilibrium, acid-base, oxidation-reduction, and reaction chemistry applied to water and wastewater engineering.

CAE541 ENGINEERING SYSTEMS FOR DISEASE CONTROL AND BIOREMEDIATION
3.00 credits                                                                 Spring
Classification of microorganisms. Microbial agents of infectious diseases and modes of disease transmission. Control of pathogens through water and waste treatment, food protection, and insect control. Microbial ecology and bioremediation systems. Laboratory exercises in microbiology.

CAE542 Solid and Hazardous Waste Engineering
3.00 credits                                                                 Fall
Solid-waste characteristics, recycling, incineration, hazardous waste characteristics, prevention, and physical and chemical treatment are covered. Design projects are also included.

CAE543 Air Pollution Control Engineering
3.00 credits                                                                 Spring
Fundamentals of air pollution and air quality; properties and control of particulates, volatile organic compounds, carbon monoxide, sulfur oxides, and nitrogen oxides; motor vehicle emissions; Health and aesthetic effects (acid rain, visibility), laws and regulations, meteorology and pollutant transport in the atmosphere; indoor air pollution.

CAE553 Transportation Systems Planning and Demand Modeling
3.00 credits                                           Offered By Announcement Only
Transportation demand analysis and forecasting. Sampling techniques, collection and analysis of survey data. Disaggregate and aggregate models. Trip generation, distribution, modal split and assignment. Transportation network equilibrium. Transportation system management.

CAE560 Sustainable Construction
3.00 credits                                           Offered By Announcement Only
CAE570 Advanced Foundation Engineering
3.00 credits
Spring

CAE580 Hospital and Health Care Facility Design
3.00 credits
Summer

CAE581 Energy-Efficient Building Design
3.00 credits
Offered By Announcement Only
Concepts and methods of energy-efficient and environmentally-friendly building design. Topics include energy and sustainable design strategies, climate, passive and active solar design, passive cooling systems, day lighting, and computer simulation of energy flows in buildings. A quantitative understanding of energy fundamentals, examples from practice, and design exercises using computer simulation programs are emphasized.

CAE590 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Special Topics.

CAE591 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Special Topics.

CAE594 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Special Topics.

CAE595 Special Problems
1.00 - 4.00 credits
Offered By Announcement Only
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

CAE599 Cooperative Education
1.00 credit
Offered By Announcement Only
Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Elec/Computer Engineering
EEN100 Introduction to Electrical and Computer Engineering
3.00 credits
Summer
Introduction to Electrical and Computer Engineering (ECE) for high school students interested in science and technology. The course covers important thematic units of the discipline: electronics, digital design, computer programming and signal processing. Emphasis on hands-on experience in the use of laboratory instrumentation, circuit construction and computer simulation.
EEN111 Introduction to Engineering I
3.00 credits
Fall, Spring
Use of engineering tools and computer techniques for problem solving, data acquisition, analysis, presentation, software design, and computer aided drafting. Development of design skills through several design and building competitions is included as well as an introduction to professional ethics, intellectual property rights, the use of MATLAB, AutoCAD, and programming in C++.

EEN112 Introduction to Engineering II
0.00 - 2.00 credits
Spring
Course is designed to provide first-year undergraduate students with an introduction to some key electrical and computer engineering concepts and topics by discussing their roles in some of the commonly used electrical and computer engineering systems. Numerical examples, circuit simulations, and computer programming are introduced through the use of MATLAB, microcontroller programming languages, and PSpice. Hands-on experience are provided through a project where the students design, assemble, program, and test a microcontroller-based mobile robot with a variety of sensing devices. Should be taken as a freshman only; otherwise to be replaced by a technical elective.

EEN118 Introduction to Programming
3.00 credits
Fall, Spring
Introduction to computing, problem solving, program design, C++ language fundamentals, and software engineering principles. Software design projects are included.

EEN201 Electrical Circuit Theory
3.00 credits
Fall, Spring & Summer
Fundamentals of DC-AC circuit laws, including steady state and transient analysis. Lecture, 3 hours.

EEN204 Electrical Circuits Laboratory
1.00 credit
Fall, Spring & Summer
Laboratory work employing the techniques of circuit theory to physical components, devices, and circuits. Use of electronic computing techniques to relate analytical and empirical investigations. Laboratory, 3 hours.

EEN205 Principles of Electrical Engineering--I
3.00 credits
Fall, Spring
Fundamentals of DC and AC Circuits and a survey of Electrical Machinery and Electronics. Not open to students with credits in EEN 201. Lecture, 3 hours.

EEN218 DATA STRUCTURES
3.00 credits
Fall, Spring
Continuation of Programming with emphasis on C++ and the skills required of a capable programmer. Essential data structures and algorithms, and introducing algorithm analysis. Basic sorting, searching, and data management. Dynamic and static memory management. Object oriented programming.

EEN301 Electromagnetic Field Theory
3.00 credits
Fall
Vector analysis, static and time-varying fields, Maxwell's equations, propagation of electromagnetic waves, and transmission line theory and applications are discussed.
EEN304 Logic Design
0.00 - 3.00 credits  Fall, Spring & Summer
Boolean algebra and its applications in analysis and design of logic circuits. Introduction to SSI and MSI circuits as building blocks, memory elements, and analysis and synthesis of synchronous and asynchronous sequential systems are discussed.

EEN305 Electronics I
3.00 credits  Fall, Spring & Summer
Semiconductor physics and devices. Diodes, bipolar-junction transistors (BJT). Introduction to field-effect transistors (FETs) and Operational Amplifiers. Emphasis on dc and ac analysis of electronic circuits. Use of CAD tools such as PSpice.

EEN306 Electronics II
3.00 credits  Fall, Spring & Summer

EEN307 CIRCUITS, SIGNALS AND SYSTEMS
0.00 - 3.00 credits  Fall, Spring & Summer
Second-order transient circuit analysis, Laplace transforms, circuits and wave form analysis using Laplace transform, convolution, fourier series, and integrals are discussed.

EEN308 Linear Control Systems
3.00 credits  Fall
Introduction to system theory, transfer function and state variable modeling of linear continuous time systems, root locus, Bode plot, Nyquist criterion, analysis and controller design using root locus and frequency domain techniques, proportional-integral-derivative controllers.

EEN310 Introduction to Engineering Probability
3.00 credits  Fall, Spring
Axioms of probability, discrete and continuous random variables, probability density functions. Expectation, conditioning, independence, functions of random variables, characteristic functions, multiple random variables. Sums of random variables, limit theorems, probability bounds, convergence concepts. Introduction to statistical analysis, estimation, and hypothesis testing. Cross-listed with IEN 310.

EEN311 Electronics Laboratory
1.00 credit  Fall, Spring & Summer
Laboratory course in conjunction with courses EEN 305 and 306.

EEN312 PROCESSORS: HARDWARE, SOFTWARE, AND INTERFACING
4.00 credits  Fall, Spring & Summer
Architecture and operation of modern microprocessor based computer systems and microcontrollers. Assembly language and applications with hands on experience. Lecture, 3 hours; laboratory, 3 hours.

EEN315 Digital Design Laboratory
1.00 credit  Fall, Spring & Summer
Familiarization with properties and use of logic gates, flip-flops, digital standard components, and programmable logic devices. Design and implementation of combinational and synchronous digital systems and Computer Aided Engineering (CAE) tools for design and simulation of digital systems are also included.
EEN316 Structured Digital Design

1.00 credit  
Fall, Spring & Summer

VHDL ((VHSIC (very high speed integrated circuits) hardware description language)) introduction and syntax. Functional and behavioral models of VHDL for design, testing, and simulation of digital circuits and programmable logic devices. Design and implementation of combinational and sequential digital systems using VHDL is also included.

EEN318 ALGORITHMS

3.00 credits  
Fall

Continuation of the programming sequence. Object oriented programming with C++, emphasizing the skills required of a professional programmer. Essential data structures and algorithms: trees, graphs, hash tables, parsing and text processing. Advanced sorting and data management algorithms. Advanced features of C++; effective programming with C.

EEN322 SYSTEMS PROGRAMMING

3.00 credits  
Fall

Practical hands-on experience with UNIX systems programming and administration. Programming using C and shell scripting languages. File systems features, multiprocessing, inter-process communication, and systems programming fundamentals are discussed.

EEN336 DISCRETE-TIME SIGNALS AND SYSTEMS

3.00 credits  
Fall

Continuous and discrete-time transform analysis techniques. Linear time-invariant signals and systems, continuous and discrete-time Fourier transforms, and Z-transform are discussed. Sampling and reconstruction of signals, frequency response, transfer functions, and applications are also included.

EEN341 Networks: Friends, Money, and Bytes

3.00 credits  
Fall

Introduction to modern-day networked technologies such as wireless, communication, and social networks. Introduction to the basics of analytical and engineering techniques such as optimization game/auction theory, graph analysis, network economics, and learning as applied to networked technologies. Use of these concepts to answer key practical questions pertaining to networks and their impacts.

EEN368 Internet Computing I

3.00 credits  
Spring

Principles and practices used in creating interactive Internet sites. Extensive object oriented programming in Java is taught. Use of extensible Markup Language (XML) to provide content description. Use of GUI components and graphics to create web based applications.

EEN395 Undergraduate Research in Electrical and Computer Engineering

1.00 - 3.00 credits  
Fall, Spring & Summer

Research and/or design projects consisting of an individual investigation of real-world contemporary problems. Offered by special arrangement and under the supervision of a faculty member.

EEN399 Cooperative Education

1.00 credit  
Fall, Spring & Summer

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated.
EEN402 Electrical Energy Conversion
3.00 credits  Fall
Introduction to sources of energy; theory of electromechanical energy conversion, covering transformers, DC and AC rotating machines; introduction to photovoltaic energy conversion, wind energy conversion and fuel cells; and associated laboratory experiments.

EEN404 Communication Systems
3.00 credits  Spring
Introduction to digital communication, including binary and M-ary baseband and bandpass modulation over additive white Gaussian noise channels. Optimal receivers, pulse shaping for bandlimited channels, synchronization, multiple access.

EEN405 Solid-State Electronics
3.00 credits  Spring
Principles of semiconductor electronics, energy bands of semiconductors, Fermi level, carrier distribution, and transport mechanisms are discussed. Application of semiconductor theory to various junction and field effect devices are included.

EEN414 Computer Organization and Design
3.00 credits  Fall
Hardware structure, organization and design of computers. Design of computer arithmetic and control units, data, and instruction paths. Modern hardware description language (HDL) based design methodology. Register transfer level design of computers and digital systems. Algorithmic state machine (ASM) charts, instruction set architecture, control unit implementation, microprogramming, memory organization, pipelining, I/O system organization and high speed arithmetic units are discussed.

EEN415 Senior Project I
1.00 credit  Fall, Spring
Topics cover tasks in project planning including scheduling, documentation, communication (written and oral), financial constraints, and ethics. Students are required to present project proposals to serve as the basis for the follow-up course, EEN 416.

EEN416 Senior Project II
2.00 credits  Fall, Spring
The capstone design course for Electrical Engineering majors. An electrical system is designed, implemented, and documented.

EEN417 EMBEDDED MICROPROCESSOR SYSTEM DESIGN
3.00 credits  Fall
Study of microcomputer system design, scientific methods for quantifying system performance, embedded controller applications using high level languages, and debugging strategies. Lecture, 1 hour; laboratory, 3 hours.

EEN418 Senior Project Planning
1.00 credit  Fall, Spring
The creative process of devising a product to meet customers needs including an overview of the design process, analysis of requirements, project planning, scheduling, evaluation, and documentation. Students are required to present project proposals to serve as the basis for the follow-up senior design project.
EEN419 Senior Project
2.00 credits
Fall, Spring
The purpose of this course is to integrate the student's knowledge in hardware, software, and project management. A major digital system is designed, implemented, debugged, and documented.

EEN436 DIGITAL SIGNAL PROCESSING
3.00 credits
Offered By Announcement Only
Basic principles of digital signal processing are discussed including discrete time systems and signals, z-transform, sampling, frequency response, discrete Fourier transform, Finite and Infinite Impulse Response digital filters, and applications in related fields.

EEN437 Real-Time Digital Signal Processing Laboratory
1.00 credit
Fall
Digital signal processing hardware for real-time operation, software development tools, instruction set, and DSP experiments with audio and speech application are discussed.

EEN454 Digital System Design and Testing
2.00 credits
Spring
Functional building blocks and concepts of control and timing in digital design. Descriptive techniques for digital systems and design for testability.

EEN455 Design-for-Testability Laboratory
1.00 credit
Fall, Spring
Project laboratory demonstrating the techniques necessary to design, implement, and debug and test a large system. The process is carried through from conceptual design, implementation, integration, simulation, and synthesis on a FPGA chip.

EEN499 Senior-Junior Cooperative Education
1.00 - 3.00 credits
Fall, Spring & Summer
Analysis and design experience obtained in industry or government. Approved project jointly supervised and assessed by department faculty and external partner. Note: A maximum of three credits could be used to satisfy degree requirement as Technical Elective. See Bulletin for more information.

EEN502 Engineering Acoustics
3.00 credits
Fall
Introduction to basic principles of acoustics, methods of sound measurement, physiological, psychological acoustics, the acoustics of the major classes of musical instruments and speech, fundamentals of transducers, architectural acoustics, and the effects and control of noise are covered.

EEN503 Principles of Electro-optics
3.00 credits
Fall
Principles of optics, optical fibers, electro-optics, light wave propagation in anisotropic and periodic media, guided waves, and integrated optics are discussed. Electro-optic devices including sources and detectors, optical fiber communication, and optics for medical and biomedical applications are also covered.
EEN504 Optics and Fiber Communication
3.00 credits
Spring
Introduction to optics and fiber communication, light propagation in free space and waveguides, imaging, wave phenomena and diffraction, interferometer, spectrometer, holography, fiber coupling, and fiber communication are covered. Lecture, 1 1/2 hours; laboratory, 3 hours.

EEN505 SEMICONDUCTOR PHOTONIC DEVICES
3.00 credits
Fall
Principles of semiconductor electronics: energy bands of semiconductors; Fermi level; carrier distribution and transport mechanisms. Application of semiconductor theory to various junction and field effect devices.
PREREQUISITE: EEN 305

EEN506 MICRO FABRICATION
3.00 credits
Spring
Principles of operation, properties and applications of semiconductor devices, junction, metal-semiconductor, metal-oxide-semiconductor, optoelectronic, bulk-effect, and charge-coupled are covered.

EEN511 COMPUTABILITY, COMPLEXITY, AND ALGORITHMS
3.00 credits
Spring
Advanced programming techniques: dynamic programming, fast data retrieval and sorting, enumerators, data structures, and data management. The limits of software engineering, computability and models of computation, complexity analysis.

EEN512 Software Engineering and Architecture
3.00 credits
Spring

EEN513 Software Design and Verification
3.00 credits
Spring

EEN514 Computer Architecture
3.00 credits
Spring & Summer
Computer data and instruction types, survey of existing architectures, and the interaction between hardware and software sub-systems are discussed. Advanced topics in computer architecture.

EEN519 Design of Computing Languages
3.00 credits
Offered By Announcement Only
Major features of modern programming languages with emphasis on design and software efficiency. Interaction between language design and the design of its compiler are included.
EEN521 Computer Operating Systems
3.00 credits
Fall
The design and implementation of operating systems. Virtual memory and memory
management, resource allocation, device drivers, process creation, control, communications
and scheduling, file systems, data protection, security, parallel processing and
time-sharing. The class includes a significant operating system implementation
project.

EEN532 VLSI Systems
3.00 credits
Fall
Fundamentals of MOS Technology in VLSI. System data, control flow, structures,
design, layout, mask making, fabrication, packaging, and testing of VLSI chips are
discussed. Highly concurrent Very Large Scale Integration computational systems
are also covered.

EEN533 Random Signals and Noise
3.00 credits
Fall
Probability models, Bayes' theorem, Limit theorems of Laplace and Poisson, functions
of random variables, Central limit theorem, conditional expectation and estimation,
Stochastic processes, stationarity and ergodicity, cross-spectral analysis, filtering,
and prediction are discussed.

EEN534 Communication Networks
3.00 credits
Fall
Principles of digital communications, Local Area Networks (LANs), Wide Area Networks (WANs),
Open systems Intercommunication (OSI), Internet reference models, internet architecture
and protocols, packet switching and routing, and network performance are discussed.
PREREQUISITE: EEN 310 OR IEN 310.

EEN536 ADAPTIVE FILTERS AND SIGNAL PROCESSING
3.00 credits
Offered By Announcement Only
Fast Fourier transform, design, implementation, realization of digital filters,
finte word length effects, decimation, interpolation, multirate signal processing,
and discrete Hilbert transform are covered.

EEN537 Principles of Artificial Intelligence
3.00 credits
Fall
Search techniques, game trees, exhaustive vs. cutoff search, natural language processing,
augmented transition networks, knowledge representation, cognitive aspects, semantic
networks, problem-solving, expert systems, and AI machines are covered.

EEN538 Introduction to Digital Image Processing
3.00 credits
Fall
Digital image representation. Image smoothing, sharpening, and transformations.
Color image processing. Encoding of digital images. High level image segmentation
and description techniques. Processing of image sequences.

EEN539 Digital Communications
3.00 credits
Offered By Announcement Only
Principles for the analysis and design of digital communications systems. Nyquist
sampling, signal space representation, digital modulation techniques and optimal
receiver design, ISI channels, error control coding, convolutional codes, Viterbi
decoder, and wireless applications.
EEN540 Digital Speech and Audio Processing
3.00 credits  Spring
Introduction to human speech production, hearing, and perception. Digital speech and audio signal analysis in time and frequency, speech and audio coding, speech synthesis and recognition, language modeling, design of systems for human-machine interaction are also covered.

EEN543 BioNanotechnology
3.00 credits  Spring
Introduction on the fundamentals of nanotechnology with a focus on Biomedical Applications. A foundation of nanotechnology concepts will be established through lectures on nanometrology with quantum physics basics, nano manufacturing tools, physical, chemical properties of nanomaterials. Application of these principles in electronics, magnetics, mechanics and optics will be discussed. Use of these nanoengineering principles and concepts to focus on biomedical technology applications such as biosensors, biomaterials, biomimetics and therapeutics

EEN546 Reliable Digital System Design
3.00 credits  Offered By Announcement Only
Topics include descriptive technique for digital systems, synchronizer failure and metastability estimation, design for testability, and estimating digital system reliability. Computer-Aided Engineering (CAE) tools are also covered. Not open to students with credit in EEN 454. Offered only for Graduate students.

EEN548 Machine Learning
3.00 credits  Offered By Announcement Only
Fundamentals of intelligent system design and strategies of learning capability simulation. Selected case studies of learning systems for engineering applications are included.

EEN552 Power Electronics
3.00 credits  Fall
Analysis and design of solid-state power electronic circuits including DC/DC, AC/DC and DC/AC converters, controller design, power electronics applications, and associated laboratory experiments.

EEN553 Neural Networks
3.00 credits  Offered By Announcement Only
Artificial neural network algorithms and structures, learning process, perceptron, least-mean-square algorithms, multilayer perceptron, error back-propagation, radial-basis function networks, the Hopfield network, and self-organizing systems are discussed.

EEN562 Wireless and Cellular Communication
3.00 credits  Fall
Wireless Channel Characterization: path loss, shadowing, fading, frequency-selective channels, Doppler spread, and delay spread. Diversity techniques: frequency, time and space diversity. Multiple Antenna Systems: space-time coding, beamforming and layered space-time system. Digital Modulation: adaptive modulations and Orthogonal Frequency Division Multiplexing (OFDM). Cellular Concept: frequency reuse, co-channel interference and handoff. Multiple Access Methods: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and random access. CDMA: spreading codes, RAKE receiver, multiuser detection and power control.
EEN563 Wireless Communication Lab
1.00 credit                                          Offered By Announcement Only
Computer simulation of path loss, shadowing and fading in wireless channels, performance of various digital modulation methods in both Gaussian and wireless channels, diversity methods, equalization methods including zero-forcing, minimum mean-square error (MMSE) and decision-feedback equalization (DFE), co-channel interfacing in cellular systems, space-time coding. Orthogonal Frequency Division Multiplexing (OFDM) systems, spreading codes for Code Division Multiple Access (CDMA) systems, and matched-filter receiver and multiuser detector for CDMA systems. Measurement of wireless signals in various environments.

EEN564 Wireless Networks
3.00 credits                                                                 Spring
Introduction of wireless channels and network. Introduction of medium access control: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Carrier Sense Multiple Access. Wireless data networks IEEE 802.11 (WiFi), IEEE 802.16 (WiMax) and Bluetooth. Wireless network layer: mobile IP and mobile ad-hoc networks. Wireless transport layer: mobile TCP. Wireless Cellular systems: network structure and call processing of GSM and CDMA systems.

EEN567 Database Design and Management
3.00 credits                                                                 Spring
Database systems design, modeling, implementation, management methodologies, and techniques. Different database systems are addressed including relational, object-oriented, object-relational, and distributed database systems. Internet (WWW) technology, data warehousing, and online analytical processing applications of database management systems and hands-on experience with commercial database systems is also included.

EEN570 Network Client-Server Programming
3.00 credits                                                                 Spring
Introduction to server-client systems and programming. Advanced server-client design and implementation based on distributed component object model in Windows and UNIX.

EEN572 Object-Oriented and Distributed Database Management Systems
3.00 credits                                          Offered By Announcement Only

EEN574 Agent Technology
3.00 credits                                          Offered By Announcement Only
Agent definition and applications, agent modeling, theories, agent representation using KIF (Knowledge Interchange Format), agent behavior, ethical and emotional agents, agent communication languages (KQML (Knowledge Query and Manipulation Language)), agent development environments and tools, agent systems (cooperative agents, interface agents, information agents, learning agents, believable agents, agents for workgroups, mobile agents), and agent case studies are covered.
EEN575 Data Network Design and Management
3.00 credits \( \text{Spring} \)
Networking fundamentals and current technologies. Data network planning, analysis, design, and management techniques. Different network technologies are addressed and contrasted in terms of topology, performance, and scope of real applications. Network management systems are investigated including fault, configuration, security, and performance management. Network management information bases, protocols, and hands-on experience with network equipment and network management systems are also included.

EEN576 Internet and Intranet Security
3.00 credits \( \text{Fall} \)
Security issues and applications for securing internet and intranet-based information exchange. Secure information models, security tools, security services, security protocols, electronic commerce, virtual private networks, firewalls, and security versus cost tradeoffs are covered.

EEN577 Data Mining
3.00 credits \( \text{Offered By Announcement Only} \)
Introduction to the general principles of inferring useful knowledge from large data sets. Data mining algorithms, including inferring rules, linear regression, decision trees, association rules, and predictive models. Evaluation of data mining algorithms, including training, testing, prediction, comparison, cost, and cross-validation. Data mining applications.

EEN579 Mobile Computing
3.00 credits \( \text{Offered By Announcement Only} \)
Mobile computing and proxy architectures, mobile web protocols, mobile user interfaces, applications, systems-ware adaptations, mobile databases, transactions, data synchronization, privacy, authentication, and security are covered.

EEN580 Electrical and Computer Engineering Internship
1.00 - 3.00 credits \( \text{Fall, Spring} \)
Analysis, design, and research experience obtained at an operating and recognized industry. Approved project jointly supervised and assessed by departmental faculty and industrial partner.

EEN581 Special Problems
1.00 - 3.00 credits \( \text{Fall} \)
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

EEN582 Special Problems
1.00 - 3.00 credits \( \text{Spring} \)
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

EEN583 Special Problems
1.00 - 3.00 credits \( \text{Summer} \)
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.
EEN584 Special Problems
1.00 - 3.00 credits  
Summer  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

EEN590 Special Topics in Information Technology
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Information Technology.

EEN591 Special Topics in Information Technology
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Information Technology.

EEN594 Special Topics in Computer Engineering
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Computer Engineering.

EEN595 Special Topics in Computer Engineering
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Computer Engineering.

EEN596 Special Topics in Computer Engineering
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Computer Engineering.

EEN597 Special Topics in Electrical Engineering
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Electrical Engineering.

EEN598 Special Topics in Electrical Engineering
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Electrical Engineering.

EEN599 Special Topics in Electrical Engineering
1.00 - 3.00 credits  
Offered By Announcement Only  
Lecture courses in selected areas of specialization within Electrical Engineering.

Industrial Engineering
IEN111 Introduction to Engineering I
3.00 credits  
Fall, Spring  
Use of engineering tools and computer techniques for problem solving, data acquisition, analysis, presentation, software design, and computer aided drafting. Development of design skills through several design and building competitions. Introduction to professional ethics, intellectual property, ethics, intellectual property rights, and an introduction to use of MATLAB, AutoCAD, and programming in C++.

IEN112 Introduction to Engineering II
2.00 credits  
Spring  
Continuation of IEN 111. An overview of Industrial Engineering concepts and issues important to the design and operation of industrial and service systems. Students will learn the use of software tools developed to enhance the Industrial Engineer's ability such as database management, high level programming languages, electronic spreadsheets, and computer graphics.
IEN201 Methods Analysis and Work Measurement
3.00 credits Fall, Spring
Design of improved methods for doing work based on effective human effort. Time standardization of productive operations by work measurement, predetermined time systems, and activity sampling are discussed. Tools and charts for methods analysis are discussed and use of Microsoft Visio is emphasized and reviewed.

IEN306 Manufacturing Processes
3.00 credits Fall
Basic and applied sciences in processing of materials. Effects of processing on the manufactured parts, selection of processing methods, and their relation with material properties. Contemporary and non-traditional processes used in manufacturing are also covered.

IEN310 Introduction to Engineering Probability
3.00 credits Fall, Spring
Axioms of probability, discrete and continuous random variables, probability density functions, cumulative distribution function, expectation, conditioning, independence, functions of random variables, multiple random variables, sums of random variables, introduction to statistical analysis, estimation, and hypothesis testing. Cross-listed with EEN 310.

IEN311 APPLIED PROBABILITY AND STATISTICS
3.00 credits Fall, Spring
This course covers fundamental probability concepts, random variables, mathematical expectation, discrete and continuous probability distributions, sampling distributions, point and interval estimation, hypothesis testing, and simple linear regression and correlation. The use of Minitab, a statistical software application, is emphasized. Examples are drawn from various disciplines.

IEN312 Applied Statistical Methods
3.00 credits Spring
Linear regression, multiple regression, analysis of variance, and design of experiments are discussed. Cross-listed with MAS 312.

IEN351 Industrial Safety Engineering
3.00 credits Fall
Basic principles of accident prevention and safety engineering approach to the design of mechanical equipment, facilities, and manufacturing processes. Analysis and design of fire prevention procedures and accident control procedures in industry are included.

IEN360 Productivity Engineering
3.00 credits Spring
Definitions and scope of productivity engineering and management. The productivity cycle. Productivity measurement, evaluation, improvement--discussion and examples. Productivity planning and improvement through the application of industrial and systems engineering techniques. Discussion of individual techniques with examples. Application potential of the course in real life situations.

IEN361 Industrial Cost Analysis
3.00 credits Spring
Analysis of financial statements and cost factors in manufacturing and service systems. Cost accounting methods, job order costing and process costing approaches. Deterministic and probabilistic estimates of cost.
IEN363 Project Management for Engineers
3.00 credits  Spring
This course will help students develop a basic understanding of the key concepts, theories, tools, and methodologies of project management. Students will be introduced to the different phases of managing projects from conception to termination with particular emphasis on planning, scheduling, resource allocation, monitoring and control. The course will utilize a case-study-based approach in analyzing the techniques and methods of project management.

IEN380 Engineering Economy
3.00 credits  Fall
Engineering Economy Fundamentals. Interest and money-time relationship, methods of making economic decisions, risk and uncertainty, sensitivity analysis, selections among multiple alternatives, depreciation, benefit-cost analysis, replacement studies, minimum cost analysis, and related topics.

IEN399 Internship
1.00 credit  Fall, Spring & Summer
Practical application of classroom theory through employment with firms offering positions consistent with the student's field of study. Course may be repeated.

IEN406 Computer-Aided Manufacturing
3.00 credits  Spring
A comprehensive view of manufacturing with a focus on design, automation, and the use of computers in manufacturing. The topics include computer-aided design, communications, programmable logic controllers, CNC machining, industrial robots, process planning, and computer-integrated manufacturing. Laboratory projects are an integral part of the course.

IEN441 Deterministic Models in Operations Research
3.00 credits  Fall
Introduction to deterministic mathematical models with applications to operational problems. Topics include the methodology of operations research, mathematical programming, game theory, network flow-theory, and dynamic programming. Cross-listed with MAS 441.

IEN442 Stochastic Models in Operations Research
3.00 credits  Spring
Probabilistic models in operations research. Topics include probabilistic inventory models, queuing theory, Markov chains, and probabilistic dynamic programming. Cross-listed with MAS 442.

IEN465 Production and Inventory Control
3.00 credits  Fall
Production and inventory management techniques such as forecasting methods, inventory control subject to both known and uncertain demand, aggregate planning, introduction to scheduling, materials requirement planning (MRP), just-in-time (JIT) manufacturing, and introduction to scheduling are covered.

IEN494 Senior Project
0.00 - 3.00 credits  Fall, Spring
Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems. Course includes preparation of project proposal, data collection, analysis, reporting, and formal presentations.
IEN501 Manufacturing Analysis and Design I  
3.00 credits  Offered By Announcement Only  
Analysis of Production Systems stressing diagnosis of problems associated with work measurement, manufacturing methodologies, and their interaction with cost factors.

IEN502 Manufacturing Analysis and Design II  
3.00 credits  Offered By Announcement Only  
Analysis of production systems stressing diagnosis of problems of quality and production control, utilizing quantitative techniques and analytical methods.

IEN505 Robotics  
3.00 credits  Fall  
Fundamentals of robotics including kinematics and dynamics, trajectory planning, sensors and actuators, robotic vision, and case studies. Building your own robot is an integral part of hands-on laboratory exercises. Matlab control toolbox and image analysis toolbox will be extensively used for design and analysis.

IEN507 Design of Manufacturing Systems  
3.00 credits  Spring  
State-of-the-art techniques and tools relevant to the design, analysis, and control of modern manufacturing systems. Topics include modeling of manufacturing systems, tools for manufacturing system analysis, manufacturing system planning and scheduling, and lean manufacturing systems.

IEN512 Statistical Quality Control and Quality Management  
3.00 credits  Spring  
This course addresses the concepts, theories, tools and methodologies employed in the management and improvement of quality. The course examines many of the advance topics in statistical quality control including control charts and process capability studies, acceptance sampling, as well as Quality Function Deployment (QFD) and introduction to reliability. Also covered in the course are Lean Six Sigma methodology, tools and concepts.

IEN513 Quality Management in Service Organizations  
3.00 credits  Fall  
Course examines the issues of quality and productivity management in the service sector. Topics covered include the development and use of questionnaires, service industry applications of quality such as in banking, insurance, healthcare, transportation, government, public utilities, and retail trade.

IEN524 Decision Support Systems in Industrial Engineering  
3.00 credits  Spring  
Theory and application of decision support systems in industrial engineering. Topics include the study of model-based, data-based, knowledge-based, and communication-based decision support systems. Emphasis is placed on the selection process of the appropriate systems for various decision problems in industrial environments.

IEN547 Computer Simulation Systems  
3.00 credits  Spring  
Computer simulation and the development of simulation models. Application of discrete and continuous system simulation languages to systems studies is also included.
IEN551 Accident Prevention Systems  
3.00 credits [Spring]  
Introduction to the basic principles of accident prevention and how to apply the safety engineering approach to the design of industrial accident prevention systems.

IEN557 ERGONOMICS AND HUMAN FACTORS ENGINEERING  
3.00 credits [Fall & Summer]  
The study of human capacities and limitations with emphasis on human performance in system design. Topics include design of displays and controls, workload, job design, human information processing, anthropometry, workplace design, biomechanics, task analysis, and research techniques in human factors engineering. Lecture, 3 hours.

IEN558 Industrial Hygiene I  
3.00 credits [Fall]  
Recognition of occupational chemical health hazards. Evaluation methods and analytical procedures used to determine level of exposure to chemical and toxic hazards. Control measures and compliance with OHSA requirements with special emphasis on industrial ventilation, and other methods of control are included.

IEN568 Materials Handling and Facilities Planning  
3.00 credits [Spring]  
Analysis and design of production and service facilities, emphasis on material handling requirements. Capacity requirements, facility location, layout, storage systems and warehousing are discussed.

IEN570 Engineering Management  
3.00 credits [Spring]  
Integrating engineering discipline into the social and economic considerations of managing systems. Tools and techniques used by engineering managers including engineering project life cycle, role playing, communication, decision-making in engineering management, and managing change in engineering organizations are discussed.

IEN571 Engineering Entrepreneurship  
3.00 credits [Fall]  
The conversion of technological know-how and engineering theories into business enterprises. The role of technology in creating wealth, connecting technology with market, the role and characteristics of entrepreneurs, starting a business and the business plan, innovation, industrial and service organizations, and the new business environment.

IEN572 Management of Technological Innovation  
3.00 credits [Fall & Summer]  
Engineering, Science and Management Principles contributing to the development of a successful framework for Managing technology with an organization, nationally or internationally. The process of technological innovations, technological, planning and forecasting, and socio-economic changes. 
PREREQUISITE: Senior or graduate standing.

IEN590 Special Topics in Industrial Engineering  
1.00 - 3.00 credits [Offered By Announcement Only]  
Sub-titles describing the topics are shown in parentheses in the class schedule, following the title Special Topics.
IEN594 Master's Capstone Design Project  
**0.00 - 3.00 credits**  
_Fall_  
A capstone design project for students in the five-year BSIE/MSIE program. Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems is emphasized. Offered for students in this program only.

IEN595 Special Problems  
**1.00 - 3.00 credits**  
_Offered By Announcement Only_  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

IEN596 Special Problems  
**1.00 - 3.00 credits**  
_Offered By Announcement Only_  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

IEN599 Cooperative Education  
**1.00 credit**  
_Offered By Announcement Only_  
Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Mech and Aero Engineering

MAE100 Introduction to Mechanical and Aerospace Engineering  
**3.00 credits**  
_Summer_  
Basic principles of automobile engines and engine efficiency. Introduction to robots and controls. Basic concepts of solar engineering and solar energy utilization. Principles of fuel cells and hydrogen energy. Introduction to aerospace engineering including the aspects of aerodynamics, propulsion and flight dynamics. Introduction to Aerodynamics of airplanes and rockets.

MAE111 Introduction to Engineering I  
**3.00 credits**  
_Fall, Spring_  
Use of engineering tools and computer techniques for problem solving. Data acquisition, analysis, presentation, software design, and computer aided drafting are covered. Development of design skills through several design and building competitions. Introduction to professional ethics and intellectual property rights. Introduction to use of MATLAB, AutoCAD, and programming in C++.

MAE112 Introduction to Engineering II  
**0.00 - 2.00 credits**  
_Fall, Spring_  
Introduction to engineering design and the design process. Course topics include safety, reliability, human and environmental factors, economic analysis, and cost estimation. Professional ethics, product liability, solid modeling, machine shop orientation, and practice are also included. Group design projects.

MAE199 FRESHMAN REGISTRATION  
**15.00 credits**  
_Fall, Spring_  

MAE202 Dynamics  
**3.00 credits**  
_Fall, Spring_  
Discussion of motion description and analysis, application of Newton's laws, energy, and momentum principles to mechanical systems. Introduction to mechanical vibrations. Corequisite: PHY 205.
MAE207 Mechanics of Solids II
3.00 credits
Fall, Spring
Discussion of displacements, instability, flexural, shear, torsional, and principle stresses. Introduction to statically indeterminate analysis.

MAE241 Measurements Laboratory
3.00 credits
Fall
Introduction to experimental mechanical engineering. Basic principles of measurement, data interpretation, and uncertainty analysis are covered. Laboratory exercises in mechanical engineering areas are included. Corequisite: EEN 201 or 205.

MAE301 Engineering Materials Science
3.00 credits
Fall, Spring & Summer
Introduction to the physics and chemistry of the solid state including the structure and properties of metals, polymers, and ceramics. Corequisite: PHY 207.

MAE302 MECHANICAL BEHAVIOR OF MATERIALS
3.00 credits
Fall, Spring
Application of metallurgy and mechanics to the study of the plastic deformation and fracture of metals, ceramics, and plastics.

MAE303 Thermodynamics I
3.00 credits
Fall, Spring & Summer
Thermodynamic properties of materials; the first and second laws of thermodynamics; application to thermodynamic processes; introduction to heat transfer.

MAE309 Fluid Mechanics
3.00 credits
Fall, Spring & Summer
Course topics include fluid statics, fluid flow concepts, dynamics of inviscid and viscous fluids, closed and open channel flow, and compressibility effects.

MAE310 Heat Transfer
3.00 credits
Fall, Spring
Application of elementary methods of solution to heat transfer problems involving steady and unsteady state conduction, radiation, and convection. Introduction of meaningful experimental data is also included.

MAE341 Mechanical Design I
3.00 credits
Fall
Concepts and software for kinematics, solid modeling, and project management. Fundamentals of mechanical design: stresses in and failure of mechanical elements. Individual and group design projects.

MAE342 Mechanical Design II
3.00 credits
Spring
Review of the design process and creativity in design. Topics include design and reliability oars, shafts, etc. Individual and group design projects are included.

MAE351 Mechanics Laboratory
0.00 - 2.00 credits
Spring
Exercises in the experimental determination of the mechanical properties of materials and the static and dynamic characteristics of mechanical and structural elements. Lecture, 1 hour; laboratory, 3 hours.
MAE362 Computer Analysis of Mechanical and Aerospace Engineering Problems
3.00 credits
Spring
Exploration of physical systems behavior using discrete models. Topics include numerical analysis, solid modeling, and software evaluation. Students solve engineering problems using student-developed and existing software. Corequisite: MAE 310.

MAE371 Aerodynamics
3.00 credits
Spring
Course discusses the history of flight. Topics include fundamental variables, the atmosphere, basic equations, their approximations, compressibility, viscosity, flow regimes potential flow, and aerodynamics of airfoil and wing.

MAE399 Cooperative Education
1.00 credit
Fall, Spring & Summer
Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated.

MAE404 Experimental Engineering Laboratory
0.00 - 2.00 credits
Fall
Experimental analysis of problems in fluid mechanics, thermodynamics, and other areas of engineering. Lecture, 1 hour; laboratory, 3 hours.

MAE408 Heating, Ventilating, and Air Conditioning
3.00 credits
Spring
Principles and procedures for the analysis and design of heating, ventilating and air conditioning (HVAC) systems, including moist air properties and conditioning processes, heating and cooling load calculations, building energy consumption, thermal comfort, and indoor air quality. Not available for students having taken MAE 405.

MAE412 System Dynamics
3.00 credits
Fall
Course topics include dynamic modeling of mechanical and thermo-fluid systems. Laplace transforms, transfer functions, energy concepts, causality, linearity, linear graph models, energy transducing system elements, frequency domain methods.

MAE415 Automatic Control
3.00 credits
Spring
Introduction to system theory, transfer functions, and state space modeling of physical systems. Course topics include stability, analysis and design of PID, Lead/Lag, other forms of controllers in time and frequency domains, root locus Bode diagrams, gain and phase margins, Nichols chart, Nyquist criterion, and systems with time delay.

MAE420 Applied Thermodynamics
3.00 credits
Spring
MAE441 Design of Fluid and Thermal Systems
3.00 credits  Fall, Spring
Course topics include thermal and fluid systems design fundamentals, piping systems, selection of pumps, piping system design practices, classification of heat exchanges. Basic design methods of heat exchange equipment is also included.

MAE442 Capstone Design Project-I
1.00 credit  Fall, Spring
Lectures and classroom discussions cover (i) legal, ethical, and societal responsibilities of engineers, (ii) design factors such as product safety, reliability, life cycle costs, and manufacturability, and (iii) other aspects such as global market, contemporary issues, and continuous learning process. Students are required to select group design projects from the breadth of mechanical engineering activity and present project to serve as the basis for MAE 443.

MAE443 Capstone Design Project-II
2.00 credits  Fall, Spring
Continuation of the Capstone Design Project-I course. A mechanical system is designed, implemented, documented, and presented.

MAE444 Capstone Aerospace Design Project-I
1.00 credit  Fall, Spring
Lectures and classroom discussions cover (i) legal, ethical and societal responsibilities of engineers, (ii) design factors such as product safety, reliability, life cycle costs and manufacturability, and (iii) other aspects such as global market, contemporary issues and continuous learning process. Students are required to select group design projects from the breadth of aerospace engineering activity and present project proposals to serve as the basis for MAE 445.

MAE445 Capstone Aerospace Design Project-II
2.00 credits  Fall, Spring
Continuation of the Capstone Aerospace Design Project-I course. An aerospace system/subsystem is designed, implemented, documented and presented.

MAE446 Aircraft Design
3.00 credits  Fall
Concepts of aircraft design emphasizing on design layout including the airfoil geometry selection, propulsion integration, configuration layout, payload and landing gear system. Corequisite: MAE 471.

MAE470 Introduction to Aerospace Structures
3.00 credits  Spring
Course topics include mechanics of thin-walled aerospace structures, load analysis, virtual work, energy principles, stability of aerostructures, and finite element methods.

MAE471 Flight Dynamics
3.00 credits  Fall
Course topics include aerodynamic performance, stability, control, propulsion systems, and structures. Case Studies of Aerospace Systems are also included.
MAE472 Design of Aerospace Structures
3.00 credits
Fall
Design Philosophy and principles of aerospace structures. Detailed design of wing box structure, fuselage, landing gear mechanism, fasteners and structural joints. Application of composite materials.

MAE490 Undergraduate Research
1.00 - 3.00 credits
Fall, Spring & Summer

MAE501 Methods of Engineering Analysis
3.00 credits
Fall
Analysis of engineering systems in equilibrium and motion. Examples considered from mechanical, electrical, thermal and fluids engineering. Mathematical theory and computer methods for obtaining numerical solutions are developed for various cases involving discrete and continuous systems. Lecture, 3 hours.

MAE502 Vibrations
3.00 credits
Fall
Basic theory of free and forced vibrations of mechanical systems with and without damping. Applications to systems with one and several degrees of freedom are included.

MAE503 Internal Combustion Engines
3.00 credits
Fall
Course discusses engine types, characteristics, and operation. Topics include performance factors, fuel combustion, power cycles, knock and engine variables, exhaust emissions, fuel metering, compressors, and turbines.

MAE505 Design for Manufacturability
3.00 credits
Offered By Announcement Only
Manufacturing concerns at design stage. Design theory and methodology. Statistical considerations in geometric dimensioning, tolerances, reliability-based design, and quality control. Productibility, design for assembly, and value engineering. Life cycle costs and optimum design using nonlinear programming and Taguchi approaches. Hands on projects on machine tools.

MAE507 Advanced Mechanics of Solids
3.00 credits
Spring
Courses discusses the basic elements of elasticity, plasticity, and viscoelasticity. Application to mechanical systems at rest and in motion are included.

MAE508 Intermediate Heat Transfer
3.00 credits
Spring
Course discusses steady and unsteady heat transfer by conduction, convective heat transfer in laminar and turbulent fluid flow, natural convection, and heat transfer by radiation.

MAE512 Intermediate Fluid Mechanics
3.00 credits
Fall
Course topics include conservation of mass, momentum, and energy, potential flow, viscous laminar and turbulent flows, the Reynolds analogy, and Boundary-layer approximations. Gas dynamics are also discussed.
MAE514 Advanced Internal Combustion Engines Experimental Studies
3.00 credits  
Spring
Experimental mechanical engineering as it pertains to internal combustion engines. The principal measurements necessary to analyze the operation of an internal combustion engine are covered. Emphasis is placed on experiment planning, data interpretation, and error analysis.

MAE516 Introduction to Composite Materials
3.00 credits  
Offered By Announcement Only
Course provides an introduction to composite materials and terminology. Topics include advantages offered by composite materials, current aerospace, automotive, and bio-mechanics applications, experimental results, analytical models, and effects of impact and fatigue loads. The environment's impact on composite materials' performance and design procedures are discussed. Case studies examining composite materials as efficient replacements are also included.

MAE521 Exhaust Emission Control
3.00 credits  
Spring
Course topics include automotive emissions, air pollution, combustion of homogeneous mixtures, emission control systems, Federal emission standards, and emission instrumentation and measurement. Lecture, 2 hours; Laboratory, 3 hours.

MAE528 Fuel Cells
3.00 credits  
Spring
Introduction to fuel cells, thermodynamics of fuel cells, electrochemical kinetics in fuel cells, transport phenomena in fuel cells, introduction to various types of fuel cells.

MAE539 Heating, Ventilating and Air Conditioning System Design
3.00 credits  
Fall
Course topics include basic HVAC systems, multizone systems, dual-duct systems, terminal reheat systems, variable air volume systems, induction and induction reheat systems, special applications, hydronic systems, unitary and heat pump systems, hydronic heat recovery systems, cooling and heating load calculation duct and piping design, overall system design, and integration.

MAE551 Special Problems
1.00 - 3.00 credits  
Fall, Spring & Summer
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

MAE552 Special Problems
1.00 - 3.00 credits  
Fall, Spring & Summer
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

MAE570 Aero Propulsion
3.00 credits  
Fall
Definition of the atmosphere, propulsion basics, rocket fundamentals, turbine fundamentals, gas turbine cycles, component matching, math and computer models, aircraft missions, cycle section, reliability, and durability are analyzed.
MAE590 Special Topics  
1.00 - 4.00 credits  
Fall  
Subtitles describing the topics will be shown in parentheses in the class schedule, following the Special Topics.

MAE591 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Subtitles describing the topics will be shown in parentheses in the class schedule, following the Special Topics.

MAE592 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Subtitles describing the topics will be shown in parentheses in the class schedule, following the Special Topics.

MAE599 Cooperative Education  
1.00 credit  
Fall, Spring & Summer  
Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.
ATM103 Survey of Modern Meteorology
3.00 credits
Fall
Dynamics and thermodynamics of the atmosphere as they relate to contemporary issues in meteorology. Overview of numerical weather prediction techniques and new technologies for monitoring weather and climate. Open to majors or minors with permission of instructor.

ATM118 Current Weather Topics
2.00 credits
Spring
Weather-and Climate-related phenomena such as hurricanes, severe storms, global warming, and acid rain. (Notes and analysis materials provided)

ATM265 ATMOSPHERIC CHEMISTRY
3.00 credits
Spring
ATM 265 is focused on those aspects of environmental chemistry of most relevance to meteorology students. The class fulfills the American Meteorological Society (AMS) chemistry expectations for a Bachelor’s Degree in Meteorology, and in addition, addresses further recommendations from the AMS. AMS expects knowledge of atomic structure and chemical bonding, and, of the properties of gases. Recommended?beyond the basics? goals include air quality and environmental science applications. ATM 265 fulfills the chemistry requirement for the undergraduate meteorology program. Students interested in pursuing upper-level chemistry courses, including MSC 215 (Chemical Oceanography), and pre-med majors, are recommended to take CHM 111 to meet requirements for the Meteorology B.S. Degree.

ATM371 READINGS IN ATMOSPHERIC SCIENCE
1.00 - 2.00 credits
Fall, Spring
Library research with faculty supervision. Bibliography to be submitted in preparation for laboratory and/or field research project.

ATM409 CLOUD PHYSICS AND RADIATION
3.00 credits
Spring
Atmospheric radiation; absorption and scattering principles of remote sensing of the atmosphere; cloud microphysics; nucleation, coalescence, ice crystal growth, atmospheric electricity and lightning.

ATM411 PROJECTS IN ATMOSPHERIC SCIENCE
1.00 - 3.00 credits
Fall, Spring
Individual, independent research projects with faculty supervision. A formal written report is required.

Applied Marine Physics
AMP509 Coastal Physics and Engineering
3.00 credits
Spring
Course addresses linear wave theory, wave statistics, wave generation, tides, wind-driven currents, nearshore circulation, sediment transport by waves and currents, bed forms, bedload, and suspended load. Other topics include longshore and cross-shore transport, equilibrium beach profiles, coastal processes models, Pelnard-Considere model for shoreline change, and Escoffier model for inlet stability.

AMP531 Ocean Measurements
3.00 credits
Spring
Course topics include instrumentation, automatic data acquisition and analysis, time series analysis, signals and noise, filtering, and applied statistics.
AMP535 Introduction to Underwater Acoustics
3.00 credits
Spring
Course topics include sound waves and pulses, harmonic analysis, sound propagation in the ocean, sonar systems, scattering and absorption, acoustic measurement of marine life and sea-floor properties, sound transmission in waveguides, ambient noise, transducers, and hydrophones.

AMP551 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

AMP553 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

AMP554 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

AMP575 Applied Ocean Hydrodynamics
3.00 credits
Fall
The equations governing the dynamics of homogeneous fluids are derived. The concepts of deformation rates, vorticity, stream function, and ideal fluid flow are introduced and demonstrated in applications describing flows in the marine environment. Semi-empirical methods for analyzing viscous flows, boundary layers, and turbulence are presented. Eddy viscosity and more advanced turbulence closure schemes are discussed in the context of coastal circulation, bottom boundary layers and sediment transport.

AMP576 Wave Propagation in the Ocean Environment
3.00 credits
Fall
Wave equation models, acoustic and other elastic waves, surface gravity waves, boundary conditions, ray tracing, dispersion, diffraction, reflection attenuation, and radiation transport laws are discussed.

AMP590 Sustainable Fisheries - Assessment and Conservation
3.00 credits
Spring
This is the second of a three course series. This course will focus on advanced stock assessment techniques using acoustics and optics. It will cover, for example: - History of sampling fish stocks - from catching to measuring fish - Measuring with underwater sound and light - Sounds and echoes in marine ecosystem - Survey of fish stocks and their habitat.

Marine Affairs and Policy
MAF501 Political Ecology of Marine Management
3.00 credits
Spring
Course provides a grounding in political ecology as an important theoretical approach to resource policy and management. The social analysis of resource use, social change, and development are discussed. Models of development and concepts of nature relate to resource use and policy formation are also included. Within this framework, ethnicity, class, and the politics of conservation are explored.
MAF502 Economics of Natural Resources
3.00 credits
Fall
Course brings together the approaches of natural resource and environmental economics to provide a comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout the course is the concept of sustainable development, defined as maximizing the net benefit to economic development while maintaining the services and quality of natural resources over time. Economic reasoning is used to examine the causes and consequences of environmental and resource problems and measures for dealing with them.

MAF504 Fieldwork in Coastal Management
3.00 credits
Spring
The field portion of this course will occur in Bocas del Toro, Panama, on the northwest Caribbean coast of Panama where the University of Miami has been involved in the development of a Coastal Management plan since 2004. The Bocas del Toro Archipelago of over 20 nearshore islands boasts a rich diversity of cultures, as well as high quality coastal environments. The region is currently experiencing rapid tourist growth, as well as residential development projects for foreigners. The cultural and biological diversities of the region, as well as the development pressures they face, provide an excellent opportunity to study the socio-economic and environmental impacts of tourist development; regional attempts to create land use and coastal plans; conflicts among different uses and users; and various cultural perspectives on the current and evolving situation. The course allows students to develop projects tailored to their interests and skills.

MAF505 Fieldwork in Coastal Cultures
3.00 credits
Spring
Field course in which the student participates in a social and economic analysis of a coastal culture (i.e., stone crab fishermen in Everglades City, spiny lobster fishermen in Key West, boat builders and commercial divers in the Abacos, Bahamas). Preliminary lectures and reading introduce the theory and method which the student then practices during a week-long field trip.

MAF506 Advance Fieldwork in Coastal Cultures
3.00 credits
Spring
Advanced field course in which the students participate in the social and economic analysis of a coastal culture (e.g. Louisiana bayou fishermen, Abacos boat builders, Tarpon Spring spongers). Students utilize field research techniques learned in MAF 505 and develop skills in framing a research problem. Students examine a coastal issue from an anthropological perspective, structuring a field research paper.

MAF510 Environmental Planning and the Environmental Impact Statement
3.00 credits
Spring
Course takes a broad view of environmental planning and analysis while focusing specifically on the preparation of environmental impact statements. Statutory requirements and procedures at the federal level are examined. Judicial opinions are studied that reflect environmental disputes and controversies. The course also considers some of the substantive requirements of environmental impact analyses such as the assessment of physical and biological environment and socioeconomic impacts.
MAF512 Aquaculture Management
3.00 credits
Fall
Course examines the various strategies of resource exploitation and utilization in developing aquaculture projects. Resources include environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture development. The course covers all stages of planning and development, with emphasis on determining the technical and economic feasibility of aquaculture projects.

MAF513 Aquaculture Management II
3.00 credits
Spring
Course is a complement to Aquaculture Management (MAF 512) and examines advanced aquaculture management techniques and strategies with emphasis on commercial operations. Course requires a background in either aquaculture or business.
PREREQUISITE: MAF 512 or permission of instructor.

MAF514 Field Techniques in Prehistoric Underwater Archaeological Excavation
3.00 credits
Summer
An introduction to specialized techniques of underwater excavation applicable to the excavation of Little Salt Spring (LSS), a prehistoric site owned and operated by Rosenstiel School of Marine and Atmospheric Science. All students participate in a one-week intensive lecture course in the prehistory of Florida and general techniques of underwater excavation. The field course begins after that. All students must be present for all of the field course in order to complete the basic requirements. Activities include daily underwater excavation in depths of 10-30 feet of water, as well as surface support activities relating to diving and the recording and basic conservation of recovered ecofacts and artifacts dating before 9,000 radiocarbon years before present.

MAF515 Techniques of Marine Archaeological Survey and Recording
3.00 credits
Offered By Announcement Only
The location and study of underwater archaeological sites is undergoing fundamental changes because of application of advanced technologies developed for other fields, notably remote sensing, and the general availability of computer power for individual users. This course introduces the student to the latest techniques of survey and recording, focusing on hardware and software that can greatly increase the efficiency of any underwater excavation.

MAF516 Ocean Policy and Development and Analysis
3.00 credits
Fall
Ocean policy development and analysis of issues such as: offshore oil drilling, fisheries resource conflicts, marine mammal protection, ocean dumping and incineration, multiple use conflicts in marine protected areas, pollution from land based sources, and oil spill contingency planning.

MAF517 LEGAL ENVIRONMENT AND BUSINESS PLANNING IN AQUACULTURE
3.00 credits
Offered By Announcement Only
This course examines the substantive legal issues concerning Aquaculture and the Coastal Zone. Legal aspects of Aquaculture related to ownership and boundaries in the coastal zone, legal and regulatory constraints, international consideration private and public rights, risks and incentives. Fish and shellfish as personal property and conservation laws affecting the fish farmer.
MAF518 Coastal Zone Management
3.00 credits  Fall
Development of a framework for formulation and assessment of coastal zone policy. Analysis of issues and conflicts in coastal zone management (CZM), such as: zoning and planning, coastal and beach protection, ecosystem protection, the federal flood insurance program, adaptations to sea level rise, coastal pollution from land-based sources, and tourism impacts.

MAF519 Aquaculture Management III (Fieldwork)
3.00 credits  Summer
Students will conduct fieldwork on environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture operations. This field course will complement Aquaculture Management I and II. Students will be able to apply most of the topics taught in MAF 512 and MAF 513. They will participate in all stages of the production process, including maturation, spawning, larval husbandry, nursery and grow out techniques, as well as harvesting, processing and exporting. Students will visit several large commercial hatcheries, farms and processing plants currently producing processing, packing and exporting shrimp and fish (both marine and freshwater) for US and European and Asian markets.

MAF520 Environmental Law
3.00 credits  Fall
An introductory course focusing on environmental problems. The study of Regulatory legislation, common law, and administrative law. Topics include toxic substances, air and water pollution, and habitat and species protection.

MAF525 Fisheries Socioeconomics and Management
3.00 credits  Fall
This course applies microeconomic theory to fisheries resource problems and policies. Economic models with the value of production as their objective, will contrast economists' and biologists' definitions of maximum yield and show why an unregulated fishery will not operate at either level. We will use economic reasoning to examine causes and consequences of fisheries problems and measures for dealing with them.

MAF526 Marine Cultural Resource Management
3.00 credits  Spring
Submerged archaeological sites as exhaustible resources of a country's cultural heritage. Policies and procedures for their protection or mitigation will be surveyed using as examples the statutes and regulations of foreign states, the federal government, and the US states.

MAF530 Port Operations and Policy
3.00 credits  Offered By Announcement Only
The course will include: Introduction to ports; port geography; port operations; port administration; Federal port policy; free ports/free zones; port investment/tariffs; port marketing; Coastal Zone Management and ports; case studies, CZM; fostering economic development; and Port planning and development.
**MAF560 Introduction to Marine Geographic Information Systems**

*3.00 credits  Fall*

Marine Geographic Information Systems are emerging as a distinct subset of GIS, due to fundamental differences between terrestrial and underwater spatial information (2-D vs. 3-D, multi resolution, synoptic data collection, time depth (4-D) modeling). Approximately the first half of this course is a brief review of basic GIS, and the second half concentrates on aspects of marine data acquisition and manipulation in the GIS context.

**MAF561 Introduction to Marine Geographic Information Systems - Laboratory**

*0.00 credit  Fall & Summer*

Introduction to Marine Geographic Information Systems - Laboratory introduces students the basic methods and technology in Marine Geographic Information Systems. The course is taught with hands-on laboratory exercises following the evolution of Marine Geographic Information Systems, from basic cartography to topological and network modeling to internet access and application.

**MAF562 Spatial Analysis: Intermediate Course in Marine GIS**

*3.00 credits  Spring*

Course provides a general survey of available quantitative methods for spatial analysis using Geographic Information Systems (GIS). Although GIS has been widely used for mapping and database management, this course is focused on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships. Quantitative methods suitable for analyzing different features types are discussed. Applications for such methods are also presented.

**MAF570 Conservation and Management of Marine Mammals**

*3.00 credits  Spring*

This course emphasizes on the notion that proper conservation and management of large marine vertebrates (i.e., marine mammals, sea turtles, sharks and rays) require the understanding and integration of some important aspects of the (comparative) biology and ecology of these groups of animals with the multifaceted nature (e.g., social, economical, ethical and cultural dimensions) of these concerns.

**MAF576 Special Topics**

*1.00 - 4.00 credits  Offered By Announcement Only*

Lectures, research projects or directed readings in special topics related to marine affairs.

**MAF577 Special Topics**

*1.00 - 4.00 credits  Offered By Announcement Only*

Lectures, research projects or directed readings in special topics related to marine affairs.

PREREQUISITE: Permission of instructor.

**MAF578 Special Topics**

*1.00 - 4.00 credits  Offered By Announcement Only*

Lectures, research projects or directed readings in special topics related to marine affairs.

**MAF579 Special Topics**

*1.00 - 4.00 credits  Offered By Announcement Only*

Lectures, research projects or directed readings in special topics related to marine affairs.
MAF580 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to marine affairs.

Marine/Atmospheric Chemistr
MAC503 Principles of Marine and Atmospheric Chemistry
3.00 credits  Fall
Introduction to the chemical aspects of the sea and atmosphere chemical composition, physico-chemical properties and relationships, methodology of study, fundamental aspects of marine and atmospheric chemistry.

MAC510 Biogeochemical Exploration of the Major Ocean Basins
3.00 credits  Fall
This course will have students explore the basic hydrography and biochemistry of the major ocean basins through use of several publicly available global ocean data sets. Each ocean basin will be assessed for biogeochemical features that are unique to that system. By the end of the course, students will have the skills necessary to investigate and interpret marine biogeochemical processes throughout the global ocean.

MAC560 Tropospheric Chemistry I
3.00 credits  Spring
Process-Oriented lower atmospheric chemistry. Topics include photochemical oxidant formation, nighttime chemistry, air-sea exchange, cloud droplet and aerosol reactions, physical properties of aerosols, and transport properties of the troposphere.

MAC581 Special Topics in Marine and Atmospheric Chemistry
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or direct readings in special topics of marine and atmospheric chemistry.

MAC584 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics of Marine and Atmospheric Chemistry.

Marine Biology and Fisheries
MBF504 Biology of Marine Mammals
3.00 credits  Fall
The purpose of this class is to introduce students to the biology, evolution, taxonomy, physiology, natural history, behavior, conservation, and management of marine mammals.

MBF505 Marine Mammal Disease and Medicine
3.00 credits  Spring
This course will cover the basics (theory and application) of marine mammal disease and medicine. Applications will focus on the medical management of managed care and wild populations.

MBF507 Marine Mammal Applied Behavior Analysis and Managed Care
3.00 credits  Fall
This course involves a thorough examination of specific aspects of marine mammal managed care and conservation programs, with an emphasis on behavior management, analysis, and modification as a basis for adaptive response to changing environments both in-situ and ex-situ. Coursework will also focus on health management and assessment, emergency handling and transportation, government regulations, and wildlife conservation.
MBF508 Biometrics in Marine Science  
3.00 credits  
Fall  
Applied statistical analysis in marine biology and biological oceanography. Descriptive statistics, probability distributions, and hypothesis testing are discussed. Concepts of analysis of variance, simple linear regression, and computer statistical distribution-free methods are also included as well as principles and procedures with computer statistical packages for data analysis. Lecture and laboratory.

MBF514 Tropical Marine Biology: A Field Course  
3.00 credits  
Spring  
General survey of marine flora and fauna of tropical marine ecosystems. Inhabitants and communities of the sandy shore, rocky shore, seagrass meadows, mangrove shoreline, coral and artificial reefs are collected, identified, maintained. Life histories of representatives are presented. Concepts of island biology and geology such as shore zonation local reef formation and the geological history of the lagoon are also discussed. The 10 day course involves 90 contact hours and approximately 40 hours of formal lectures. Grades are based on a laboratory practicum and written final exam. The course is given in its entirety at the University's field station at Bimini, Bahamas.

MBF515 Tropical Marine Ecology  
3.00 credits  
Offered By Announcement Only  
Marine ecology with emphasis on tropical ecosystems and local habitats. Physical environmental and biotic adaptations, population, and community ecology are discussed. Field exercises in mangrove, sea grass, and coral reef ecosystems are also included.

MBF518 Ecology and Physiology of Coral Reef Systems  
3.00 credits  
Offered By Announcement Only  
Coral reefs as integrated systems are examined from geological, ecological, and biological perspectives. The roles of global and local environmental fluctuations, physical disturbance, and biotic interactions in controlling reef formation and community structure is emphasized. The physiology of scleractinian corals and their algal symbionts is described and the prevalence of algal-invertebrate symbiosis on coral reefs related to nutrient cycling, productivity, and food webs on coral reefs.

MBF521 Field Techniques and Instrumentation in Tropical Marine Ecology  
3.00 credits  
Spring  
This course covers the instrumentation and field techniques commonly used to characterize the structure and function of the three dominant ecosystems in the tropics and subtropics, i.e. coral reefs, seagrass beds and mangroves.

MBF539 Oceanic Productivity  
3.00 credits  
Spring  
History, methods, and current topics relevant to studies of marine primary production. Magnitude and fate of primary production in the sea is essential to understand secondary production, the success of Fisheries recruitment, and global climate.
MBF542 Oceans and Human Health
3.00 credits Fall
The objective of this interdisciplinary course is to provide students with introductory knowledge of the broad and relatively young field of Oceans and Human health. The focus is the present, future, and potential effects of oceanic processes and aquatic organisms on human health, and vice versa. These diverse factors reflect the physical, chemical, biotic and social processes which require an integration of information and knowledge from the medical, marine and social sciences. The course covers harmful algal blooms, marine microbes, and global climate change as well as an overview of coastal impacts and remedies (e.g. drugs from the sea and marine models) through a series of coordinated lectures and case studies on human health, physical environment, and oceanographic processes.
PREREQUISITE: Permission of instructor.

Marine Biology and Fisherie

MBF545 Fisheries Sampling and Analysis
3.00 credits Spring
Students will learn about experimental sampling concepts and designs, instrumentation, survey implementation and statistical methods to assess fishery-independent size-structured population abundance of exploited and non-target species.

MBF546 FISHERIES POPULATION BIOLOGY
3.00 credits Spring
Students will learn conceptual aspects and estimation methods for the main population processes such as growth, survival, reproduction and feeding. There will be an emphasis on data requirements and statistical validation of the data and model fitting, such that students will develop an ability to integrate and summarize complex biological knowledge under a set of well defined protocols.

MBF550 Analytical Techniques in Marine Biology
2.00 credits Offered By Announcement Only
Theory and applications of selected analytical techniques necessary to conduct quantitative research in marine biology (e.g., electrophoresis, metabolite assays, enzyme assays, radioisotope methodology). One hour lecture followed by three hour laboratory per week.

MBF555 Graduate Physiology.
3.00 credits Spring
Broad overview of concepts important for physiology. Topics include discussions of genomes, molecular evolution and functional genetics (metabolism), cell biology and cell communication, and organismal -environmental interactions. Readings from the primary literature are included with an emphasis on seminal papers.

MBF570 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF571 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.
MBF572 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF573 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF574 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF576 Diseases of Marine Organisms  
3.00 credits  
Offered By Announcement Only  
Infectious, genetic, and environmentally induced diseases of marine fishes and invertebrates as well as diagnostic methods, cellular, and molecular pathology. Lecture, 3 hours.

MBF578 Evolutionary Genetics  
3.00 credits  
Fall  
A Graduate course that presents an overview from New Evolutionary Synthesis (1900) to Evolutionary Genomics. The critical points to emphasize is the importance of standing genetic variation, the role of neutral evolutionary process versus evolution by natural selection and how a evolution perspective provides meaning insights into the biology.

MBF586 Environmental Biology of Fishes  
3.00 credits  
Offered By Announcement Only  
Ecology, dispersal, and modes of life of fishes. Adaptations by larvae and adults to various habitats are covered as well as the effects of man on fish faunas and the importance of fishes to various ecological systems. Lecture, 3 hours.

MBF590 Acoustic Measurement of Nekton, Plankton and Underwater Habitat.  
3.00 credits  
Fall  
MBF 590 is an introductory course on the theory, history and applications of acoustics to measure nekton, plankton and underwater habitat. It was designed for those students who wish to learn how to make quantitative measures of organisms and structure underwater. It is a prerequisite for MBF 690, Advance Measurement of Nekton, Plankton and Underwater Habitat, which focuses on data acquisition in the field and laboratory signal processing. This course is essential for students who need to make precise and accurate underwater measurements for their research.

Marine Geology/Geophysics  

MGG501 Oceanography I (Geological)  
2.00 credits  
Fall  
The first section of the core course curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography II - Physical (MPO 502), Oceanography III - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MGG majors only.
MGG511 Earth Surface Systems
3.00 credits  Fall
An introduction to the elements of the earth surface environment and their interactions with an emphasis on the application to understanding the geologic record. Course includes discussions of the processes and agents that influence and shape the character of the earth's surface, the attributes of the resultant sedimentary features, and the use of these features to unravel geologic and geomorphic history. Focus is placed on systems dynamics and interactions among sedimentologic, geomorphic, biotic, and hydrologic processes.

MGG513 Introductory Geochemistry
3.00 credits  Fall
Fundamentals of atomic structure and quantum mechanics applied to Chemistry. Topics include origin and distribution of the elements, chemical bonding and substitution, basic thermodynamics of solids, liquids, and gases. Applications of these concepts to such geochemical processes as magmatic differentiation, rock-water interactions, low temperature aqueous geochemistry, and the geochemical cycling of the elements is also included.

MGG514 Geophysics
3.00 credits  Fall
Course topics include seismology, gravity, heat flow, thermal history, geomagnetism, plate tectonics, and their importance in understanding the Earth's crust, mantle, and core.

MGG525 Applied Environmental Geophysics
3.00 credits  Offered By Announcement Only
Application of subsurface geophysical tools to environmental problems. Course includes the theory and application of shallow refraction and reflection seismology, conducting field experiments and processing both marine and land seismic data, other marine survey techniques such as side-scan sonar surveying, potential field techniques (gravity, magnetics, EM), ground penetrating radar, and borehole geophysics.

MGG541 Field Evaluation of Fossil Platforms, Margins, and Basins
2.00 credits  Offered By Announcement Only
Field investigation of classic rock sequences formed within ancient platform, margin, and basin environments. The use of ancient exposures as a guide to the interpretation of modern marine environments.

MGG550 Mathematical Methods for Geoscientists
3.00 credits  Fall
Background mathematics needed to solve problems in the geosciences. Applications in tectonics, geodynamics, structural geology, seismology, and hydrology. Topics include linear inverse problems, least squares, linear algebra, matrix theory, vectors, dimensional analysis, probability and scientific inference, continuum mechanics, transform and numerical methods to solve differential, and partial differential equations.
MGG570 Continental Tectonics
3.00 credits  
Spring
Reviews major research techniques used in the study of the structure and evolution of continental crust and topical discoveries, with an emphasis on the Neogene to Recent time. The course begins with brief introductions to the fields of structural geology, seismology, and geodesy as they relate to continental tectonics. New research in areas such as the rheology of the lithosphere, plate motion models, deformation of continental crust in plate boundary zones, oblique subduction, and earthquake hazard assessment are also discussed.

MGG579 Plate Tectonics
3.00 credits  
Fall, Spring
The theory of plate tectonics, sea floor spreading, and continental drift. Mathematical description of plate motions, finite and instantaneous rotation poles, consequences of plate tectonics, mountain building, rifting, erosion, and recycling of continental materials are also discussed.

MGG580 Geological and Environmental Remote Sensing
3.00 credits  
Spring
This one semester course will cover major remote sensing techniques used in the geological and environmental sciences. The course will begin with an introduction to the basic physics of remote sensing, followed by a review of major remote sensing techniques used in aircraft and satellite platforms, including IR and near IR, optical and microwave systems. We will then discuss specific terrestrial and coastal applications using a case history approach, including geologic, soil and biomass mapping, environmental monitoring, and natural hazard assessment. The course is aimed at graduate students and senior undergraduates with some background in math and physics. Grades are based on problems sets (a minimum of three), a mid-term test, and a report or lab exercise involving image processing, due at the end of the semester.

MGG583 Scanning Electron Microscopy
2.00 credits  
Spring
Theory and practical application of the SEM and the electron probe to research problems. Lectures and laboratory with emphasis on independent operation of the SEM, special preparation techniques, and interpretation of results are included. Course is designed to provide students with a broad and thorough background in scanning electron microscopy.

MGG584 Special Topics
1.00 - 4.00 credits  
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

MGG585 Special Topics
1.00 - 4.00 credits  
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.
MPO502 Oceanography II (Physical)
2.00 credits
Fall
The second section of the course core curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography I - Geological (MGG 501), Oceanography I - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MPO majors only.

MPO503 Physical Oceanography
3.00 credits
Fall
Introduction to properties of seawater, instruments and methods, heat budget, general ocean circulation, formation of water masses, dynamics of circulation, regional oceanography, waves, tides, and sea level. A mathematical and problem solving course for majors in MPO.

MPO511 Geophysical Fluid Dynamics I
3.00 credits
Fall
The basic equations of state, continuity, and motion. Topics include wave motions, group velocity, theory of stratified fluids and internal waves turbulence.

MPO524 APPLIED DATA ANALYSIS
3.00 credits
Offered By Announcement Only

MPO531 Physical Meteorology
3.00 credits
Offered By Announcement Only
Electromagnetic and acoustic wave propagation, absorption, and emission. Application to remote sensing, basic physics of dry aerosols, clouds and precipitation, fundamentals of atmospheric electricity, charge separation processes, and electrical field effects are also discussed. Other topics include air pollution physics, dispersal, and removal of particulate and gaseous materials from natural and anthropogenic sources.

MPO532 Broadcast Meteorology
3.00 credits
Spring
Students will learn the proper techniques involved in preparing and presenting a complete and professional weathercast with a heavy emphasis on communication skills, computer graphics, and on-camera delivery.

MPO542 Physics of Remote Sensing I - Passive Systems
3.00 credits
Fall
Course discusses basic physical principles of remote sensing. Topics include an introduction, sampling issues, fundamental laws of electromagnetic waves, passive sensing, active sensing, and a brief survey of satellite sensors.

MPO551 Introduction to Atmospheric Science
3.00 credits
Fall
Thermodynamics of dry and moist processes; elementary dynamical meteorology; description of weather systems and phenomena on all scales; structure and mechanics of the general circulation. Corequisite: MPO 552.
MPO561 Tropical Atmosphere and Ocean  
3.00 credits  
Spring  
Observed structure of large-scale tropical circulations, including the Trades, the intertropical Convergence Zone, the Walker circulation, and equatorial wave disturbances. An overview of tropical climate, including El Nino/Southern Oscillation, and tropical monsoons is included as well as the formation, structure, and dynamics of tropical cyclone interactions between tropical convection and large-scale circulations, equatorial waves, and flow instabilities.

MPO563 Mesoscale Meteorology and Severe Storms  
3.00 credits  
Offered By Announcement Only  
Course topics include the structure and dynamics of clouds, thunderstorms, and mesoscale convective systems, radar and satellite observations of clouds and precipitation, severe storm forecasting, mesoscale disturbances, frontal and orographic clouds, and precipitation.

MPO581 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO582 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO583 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO584 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO585 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

Marine Science  
MSC100 Ecology of Fishes  
2.00 credits  
Summer  
Ecology and population dynamics of the major zooplankton groups in open ocean and coastal habitats. Lecture, lab and field trip.

MSC101 Survey of Oceanography  
3.00 credits  
Fall, Spring & Summer  
Introduction to the oceans and their significance to mankind, encompassing geological, physical, chemical, and biological processes; man's role in and on the sea, including fisheries, pollution, and ocean management. Not for major or minor.
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Undergraduate Course Listing
School of Marine & Atmosphere Science
Marine Science

MSC102 Introduction to Weather and Climate
3.00 credits  
Spring
The structure, physics, dynamics and thermodynamics of the atmosphere. Weather, weather forecasting, climate and climate change.

MSC103 Survey of Modern Meteorology
3.00 credits  
Fall
Dynamics and thermodynamics of the atmosphere as they relate to contemporary issues in meteorology. Overview of numerical weather prediction techniques and new technologies for monitoring weather and climate. Open to majors or minors with permission of instructor.

MSC104 MOLECULES OF LIFE
3.00 credits  
Spring
Topics include: basic composition and chemistry of the atmosphere; chemical processes involved in regional air pollution and acid rain; health effects of air pollution; global change in the composition and climate of the atmosphere; stratospheric ozone, and global warming. The treatment will only utilize basic pre-calculus mathematics and high-school level chemistry.

MSC105 Introduction to Aquaculture
1.00 credit  
Summer
The laboratory explores the basic tools and techniques of aquaculture; selection of species, water quality, life cycles and growth dynamics. Practical projects and data presentation required.

MSC106 Hurricanes and Society
3.00 credits  
Fall, Spring
An interdisciplinary course on the meteorology of hurricanes, a review of historically-significant storms, forecasting methods, and the societal and economic impact of the storms.

MSC107 Life in the Sea
3.00 credits  
Spring

MSC111 Introduction to Marine Science
0.00 - 3.00 credits  
Fall
Geological, physical, chemical and biological processes of the world's oceans. The role of the oceans in global dynamics and man's role in and on the sea, including fisheries, pollution and ocean management. Enrollment limited to Marine Science/Marine Affairs majors and minors. Lecture and discussion, 3 hours. Field trips.

MSC115 Marine Environments of South Florida
2.00 credits  
Offered By Announcement Only
A field and lecture study of selected marine environments around South Florida, with emphasis on the interaction between organisms and the geological substrate. Field trips. Fee required.

MSC118 Current Weather Topics
1.00 credit  
Spring
Weather- and Climate-related phenomena such as hurricanes, severe storms, global warming, and acid rain. (Notes and analysis materials provided)
MSC120 Topics in Broadcast Meteorology
1.00 credit
Fall
Broadcast Meteorology, including the production of weather briefings and weather news for TV, radio and print media.

MSC172 Special Topics in Marine Science
2.00 - 6.00 credits
Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in class schedule.

MSC180 Seminar in Marine Science
1.00 credit
Spring

MSC201 Introduction to Research Diving Laboratory
2.00 credits
Fall
Skills required for using SCUBA as a tool for research. Introduction to biological, geological, archaeological and physical oceanography methods for underwater data collection.

MSC204 Environmental Statistics
3.00 credits
Fall, Spring
This introductory course provides an overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data. (Not open to students with credit in MTH 224, BIL 311, PSY 204 or equivalent).

MSC205 Mathematical Methods for Marine Science
3.00 credits
Spring

MSC210 The Dynamic Oceans
3.00 credits
Fall
The course will describe the principal means of observing and quantifying oceanic circulation and will include descriptive treatments of ocean circulation at various time and length scales, including eddies, gyres, and strong currents such as the Gulf Stream. The course covers sea water properties, water masses and their distributions. The main concepts introduced are conservation principles and forcing mechanisms of the ocean circulation. The role of the oceans in earth's climate and climate variability are also treated.

MSC215 Chemical Oceanography
3.00 credits
Spring
An introduction to the chemistry of the oceans. Descriptive chemical oceanography of the components of ocean waters (metals, gases, organic compounds and nutrients). Biogeochemical cycles in oceanic systems.

MSC216 Chemical Oceanography Laboratory
1.00 credit
Spring
Chemical and physical methods in chemical oceanography. Analytical and instrumental techniques used to determine density, salinity, chlorinity, dissolved oxygen, nutrients and components of the carbonate system. Corequisite: MSC 215.

MSC220 Climate and Global Change
3.00 credits
Fall
The Earth's climate system and the role of natural and anthropogenic processes in shaping climate change.
MSC230 Introduction to Marine Biology  
3.00 credits  
Fall  

MSC232 Introduction to Marine Biology Laboratory  
1.00 credit  
Fall  
Ecology, physiology, and behavior of marine organisms in south Florida marine habitats. Laboratory Techniques.

MSC243 Weather Forecasting  
3.00 credits  
Fall  
Application of physical principles to weather forecasting. Use and interpretation of computer-generated forecast guidance products of the U.S. Weather Service.

MSC264 Tropical Coastal Ecosystems  
3.00 credits  
Spring  
This course will cover basic concepts of the ecology, management, conservation, and restoration of tropical marine ecosystems. The ecosystems and habitats to be discussed include coral reefs, seagrass beds, and mangrove forests. Given the importance of these ecosystems and their recent declining trajectories, we will discuss status and trends as well as disturbance factors affecting these resources. In addition to the ecology and conservation of these systems, we will cover basic concepts of population and community ecology, sampling design, and monitoring methods. Special attention will be given to the management tools presently used to protect and recover these resources, including the design and implementation of Marine Protected Areas and advances in the field of Restoration Ecology. Assigned readings will come from the two textbooks as well as the primary literature. The grading in this course will be based on two exams (midterm and final) as well as an oral or multimedia presentation.

MSC300 Water Resources: History, Management, and Policy  
3.00 credits  
Summer  
An overview of the issues and problems surrounding the management of aquatic resources in the broadest sense including water quality of natural waters, drinking water, water pollution, water quantity and supply issues, watershed management, wetland protection, and coastal management. We will explore the available strategies to wisely manage the various aquatic resources, policy options and their socio-economic aspects, legal frameworks, and institutional arrangements. The examples and cases discussed in the course will largely come from China, Vietnam, and the US.

MSC301 Introduction to Physical Oceanography  
3.00 credits  
Spring  
Application of the laws of physics to the study of the properties and circulation of the world’s oceans and atmosphere.

MSC303 Meteorological Instrumentation  
3.00 credits  
Spring  
Techniques for measuring meteorological variables at the ground and in the free atmosphere. (Selected readings)

MSC305 Atmospheric Thermodynamics  
3.00 credits  
Fall  
Equation of State; water vapor and moist air thermodynamics; phase changes and latent heat; buoyancy and atmospheric convection; thermodynamic diagrams.
MSC306 Advanced Principles in Broadcast Meteorology
3.00 credits  Fall, Spring
Broadcast meteorology including the production of professional weather briefings and weather news for on-camera delivery. Emphasis on accurately communicating complex meteorological concepts, use of computer graphics, and on-camera delivery.

MSC307 Introduction to the physics of climate
3.00 credits  Spring
The physical mechanisms which govern the earth's climate and climate variability.

MSC310 Living Resources of the Ocean
3.00 credits  Spring
Marine fish and shellfish of major commercial and recreational value: biology, techniques of harvesting, and resource management.

MSC313 Coastal Law
3.00 credits  Fall
Basic doctrines and public policy related to the use and regulation of the United States coastal zone and seabed.

MSC314 Ocean Law
3.00 credits  Spring
The principles of international ocean law regarding ocean management; ocean delimitation and issues of environmental ocean regulation within international legal framework.

MSC315 Marine Biota and Biogeochemical Cycles
3.00 credits  Spring
The distribution of dissolved and particulate materials in the sea is not uniform in time and space. This variability reflects the diverse sources, transformations, and sinks of chemical constituents in the sea. This course focuses on the role of marine organisms in marine biogeochemical cycling and the marine carbon cycle and its interaction with the terrestrial biosphere and atmosphere.

MSC316 Global Primary Production
3.00 credits  Offered By Announcement Only
Photosynthesis supports the vast majority of life on planet earth. This course reviews the magnitude and the processes that shape primary production in terrestrial, oceanic, and freshwater habitats. It includes the fate of primary production in the earth's biomes, and the role of terrestrial and aquatic productivity in regulating, and responding to, variable climate.

MSC321 Scientific Programming in the Atmospheric Sciences
3.00 credits  Fall
An introduction to scientific programming in a linux environment using the FORTRAN 90/95 language with specific applications to Meteorology.

MSC323 Invertebrate Zoology
4.00 credits  Offered By Announcement Only
Biology of invertebrates, with emphasis on tropical and subtropical marine forms. Field work and combined lecture-laboratory sessions.

MSC324 The Biology of Fishes
3.00 credits  Offered By Announcement Only
Selected topics on the ecology and physiology of fishes. Lectures on reproduction, respiration, osmoregulation, sense systems, hormonal control.
MSC325 Biological Oceanographic Techniques
3.00 credits  Spring
Field sampling for plankton biomass and productivity; benthic biomass, and of selected physical parameters. Applications of molecular techniques and remote sensing to oceanographic problems.

MSC326 Marine Genomics
3.00 credits  Spring
Intensive lecture/laboratory course with emphasis on using genomic tools to address an independent research project of importance in the marine sciences.

MSC340 Ocean Policy
3.00 credits  Spring
Analysis of ocean policy issues in US fisheries, marine conservation and marine protected areas, marine pollution, coastal management and regulation of offshore oil and gas activities.

MSC345 Economics of Natural Resources and the Environment
3.00 credits  Spring
A comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout is sustainable development defined as maximizing the net benefits of economic development while maintaining the services and quality of natural resources over time. We will use economic reasoning to examine causes and consequences of environmental and resource problems, and measures for dealing with them.

MSC346 Climate Science and Policy
3.00 credits  Spring

MSC350 Survey of Marine Mammals
3.00 credits  Fall
The evolution and ecology of the cetaceans, pinnipeds, manatees, and allies: Natural history, zoogeography, physiology, husbandry, and biomedical aspects.

MSC364 Life in Moving Fluids
3.00 credits  Fall
The physical characteristics of air and water are described in relation to various flow phenomena that play a part in life functions. Adaptations of form and function reflect the very different properties of the media (air and water) of terrestrial and aquatic life. Energy conversion and transfer limit form and function and enable a wide variety of survival strategies.

MSC371 Readings in Marine Science
1.00 - 3.00 credits  Fall, Spring & Summer
Library research with faculty supervision. Bibliography to be submitted in preparation for laboratory and/or field research project.

MSC372 Special Topics in Marine Science
2.00 - 6.00 credits  Offered By Announcement Only
Content varies by semester and is indicated in parentheses following course number and title in class schedule.
MSC400 Water Quality Assessment and Environmental Forensics
3.00 credits Summer
The scientific basis for understanding water quality issues and how water pollution can adversely affect the health of humans and ecosystems. The course will have a capstone research project that will involve both laboratory and field investigations into a specific pollution problem.

MSC403 Introduction to Ocean Engineering
3.00 credits Fall
This course provides an introduction to fundamental concepts in Ocean Engineering for senior level students with a background in other engineering disciplines or mathematics through differential equations. The goal will be to provide a foundation from which marine related problems can be addressed in a quantitative way. It will cover basic hydromechanics, linear ocean surface wave theory and applications and introduce wave-structure interactions.

MSC405 Atmospheric Dynamics I
3.00 credits Spring
Derivation and scaling of the equations of atmospheric motion; hydrostatic and geostrophic balance; circulation and vorticity.

MSC406 Atmospheric Dynamics II
3.00 credits Fall
Baroclinic and barotropic instability; boundary layer dynamics; mathematical principles of numerical weather prediction; maintenance of the general circulation.

MSC407 Weather Analysis
4.00 credits Spring
Three-dimensional analysis of synoptic-scale weather systems; application of the fundamental laws of atmospheric dynamics to observed weather patterns; practical questions of worldwide data exchange and display.

MSC409 CLOUD PHYSICS AND RADIATION
3.00 credits Spring
Atmospheric radiation; absorption and scattering principles of remote sensing of the atmosphere; cloud microphysics; nucleation, coalescence, ice crystal growth, atmospheric electricity and lightning.

MSC410 Marine Conservation Science
3.00 credits Offered By Announcement Only
Nature of marine biodiversity, what threatens it, and what can be done to recover the biological integrity of estuaries, coastal seas, and oceans. Topics include: distinctive aspects of marine populations and ecosystems; threats to marine biological diversity, singly and in combination; place-based management of marine ecosystems; and the human dimensions of marine conservation.

MSC411 Projects in Marine Science
1.00 - 3.00 credits Fall, Spring & Summer
Individual, independent research projects with faculty supervision. A formal written report is required.

MSC412 Advanced Meteorological Instrumentation
1.00 credit Fall, Spring & Summer
Includes lectures and labs involving field experience during a one-week cruise on the Royal Caribbean Explorer of the Seas.
MSC415 Coral Reef Science and Management
3.00 credits Spring
The interdisciplinary nature of coral reef science and management: biological, environmental, ecological and socioeconomic aspects of coral reef science, coral reef management problems and approaches at local to global scales, and the implications of climate change for coral reef science and management.

MSC420 Political Ecology of the Galapagos
3.00 credits Spring
This field course in the Galapagos National Park offers a rare chance to examine the human interactions in this highly politicized landscape of conservation. Students practice the political ecology approach for doing ethnographic field work and explore how it can lead to wiser resource management. Part of UGalapagos semester.

MSC421 Terrestrial Biology and Adaptations of the Galapagos.
3.00 credits Spring
This course will examine the terrestrial plant and animal life of Isabela Island, discuss the biology and how it adapted to life on Isabela. Through field and laboratory exercises we will explore the power of organisms’ DNA in shaping life into unique forms like those famously present in today’s Galapagos. Part of UGalapagos semester.

MSC422 Marine Ecology of the Galapagos
3.00 credits Spring
This course focuses on marine ecosystems of the Galapagos, emphasizing near-shore environments. Topics will include how the unique location and oceanography of the Galapagos have shaped the species composition of resident and migrant marine animals. The role of genetic drift, local habitat characteristics and natural selection on marine ecosystems will be examined. This is a field intensive course with time spent in intertidal, near-shore and off-shore island environments. Part of UGalapagos semester.

MSC423 Marine Conservation Biology & Fisheries of the Galapagos
3.00 credits Spring
The Galapagos are located in a uniquely productive area of the sea, which has allowed the development of rich and unique marine biota. The first week of the course will carry the students through the dynamic, climatic, and oceanographic circumstances that determine the unique character of the Galapagos. The second week will cover scientific evaluation of the threats to the marine biodiversity of the Galapagos, focusing on sharks, penguins, sea turtles and other at-risk species and habitats. Part of UGalapagos semester.

MSC424 Origin and Geology of the Galapagos Islands.
3.00 credits Spring
This course will explore the origin and geology of volcanic oceanic islands, using the Galapagos Islands as a natural laboratory. Though all share a common origin in plate tectonic theory, each island presents a host of environments that originate in the processes of volcanic action, erosion and hydrology. Individual islands therefore develop distinctive ecosystems within which organisms interact and evolve. The emphasis of this course will be to lay out the underlying geological processes that have led to the formation of the islands and to their present state, and then to explore the ways the physical environment has influenced adaptation and biodiversity. Part of UGalapagos semester.
MSC425 Galapagos Community-Based Research and Service  
2.00 credits  
Spring

MSC432 Comparative Ecology of Terrestrial and Marine Systems  
3.00 credits  
Spring

MSC460 Spatial Applications in Marine Science  
3.00 credits  
Fall, Spring

The concepts and marine applications of Geographic Information Systems. Every class period will entail short class lectures and hands on computer based GIS exercise on marine science related issues. Students will learn how to use ArcGIS 9.2 and create simple GIS models primarily using vector data.

MSC463 Marine Conservation Genetics  
3.00 credits  
Spring

MSC465 Marine Comparative Immunology  
3.00 credits  
Fall

The course will cover immune function in diverse marine taxa from sponges to fish and the evolution of innate and adaptive immune mechanisms from a comparative point of view, with an emphasis on shark and fish immunology. Adaptations related to living in a microbe-rich marine environment will be highlighted. Potential applications of research findings will be addressed with respect to conservation and aquaculture. The role of invertebrate and vertebrate models in the study of the evolution of the immune system and applications for human health and medicine will be discussed.

MSC466 Environmental Physiology: Oxygen, Water and Ionoregulatory Stress  
3.00 credits  
Fall

This is an intensive laboratory course that combines and elaborates on concepts learned in BIL 360. Topics will include homeostasis, interactions with the external environment, and life with limited oxygen and water. Lectures will be highly discussion-based; students will be expected to read primary research articles as suggested by the professor before lecture to foster participation in those discussions and form hypotheses about accompanying laboratory. Each lab will be written up as a formal laboratory report (i.e., Introduction, Materials and Methods, Results and Discussion).

MSC491 Special Studies in Marine Science  
1.00 - 3.00 credits  
Fall, Spring

Interdisciplinary capstone course in Marine Science. Content of course will vary by semester. Content in any semester will be expressed in parentheses following Special Studies in the class schedule.

RSMAS General

RSM500 Research Diving Techniques  
3.00 credits  
Offered By Announcement Only

This course is designed to introduce students to the practices and policies of scientific diving. The object is to prepare students to use SCUBA as a research tool for the marine sciences. The course content will qualify students as RESEARCH DIVERS under the UM/RSMAS Scientific Diving Program and will meet the standards set by the American Academy of Underwater Sciences (AAUS).

RSM512 Statistics for Environmental Management  
3.00 credits  
Fall

This course covers the statistical theory, tools, and methods required for management analysis and improvement, emphasizing marine science applications.
RSM520 Climate and Society
3.00 credits  Spring
This course is designed to provide students from different disciplinary backgrounds with an overview of physical processes, general concepts and policy debates surrounding climate issues.

RSM545 SCIENTIFIC COMMUNICATION
0.00 credit  Spring

RSM560 Investigating Nature through Science Teacher Active Research (INSTAR)
2.00 credits  Summer
This is a graduate level marine science course that provides a hands-on approach to education focused on geological and meteorological research in South Florida environment. The course provides training in marine science content, field techniques, state-of-the-art field, computer technology, and science educational reform measures. Participants work collaboratively with marine and atmospheric scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: geology, hydrology and meteorology. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

RSM561 INSTAR for Physical Sciences Follow-up
1.00 credit  Summer
This is a follow-up course for participants in MGG 560 and is designed to test the application of the methods learned in MGG 560 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in MGG 560.

RSM562 Investigating Nature through Science Teacher Active Research in Biological Science
2.00 credits  Summer
This is a graduate level marine science course that provides a hands-on approach to education focused on marine science research and technology in South Florida coastal environments. The course provides training in marine science content, field techniques, state-of-the-art field and computer technology, and science educational reform measures. Participants work collaboratively with marine scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: coral reefs and marine fisheries. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

RSM563 INSTAR Biological Sciences Follow-up
1.00 credit  Summer
This is a follow-up course for participants in RSM 562 and is designed to test the application of the methods learned in RSM 562 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in RSM 562.

RSM565 Fish Ecology and Oceanography
3.00 credits  Fall
This course is intended to introduce students to key biological, ecological, oceanographic, and climatic processes of direct relevance to fishery species, with a view toward development of an ecosystem perspective.
RSM567 Motorboat Operator Certificate Course
1.00 credit        Fall, Spring

RSM570 Carbon and Climate
3.00 credits  Offered By Announcement Only
This course is designed to provide students from different disciplinary backgrounds with an overview of the underlying processes, concepts, and policy debates surrounding the issue of carbon emissions and climate change. Individual faculty from RSMAS and elsewhere will lecture on cutting-edge research areas. Topics covered include: climate modeling; and climate policy.

RSM571 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures and research projects in special topics related to Marine and Atmospheric Science.

RSM572 Special Topics
1.00 - 4.00 credits Fall, Spring & Summer
Lectures and research projects in special topics related to Marine and Atmospheric Science.
DAN102 Stretching and Body Work
1.00 credit 
Fall, Spring & Summer
Stretching techniques and examination of various body therapy concepts.

DAN111 Modern Dance, Level One
2.00 credits 
Fall, Spring & Summer
Introduction to the discipline of modern dance designed to develop understanding and skill in the basic vocabulary. Open to all students. (Repeatable up to four times).

DAN121 Ballet, Level One
2.00 credits 
Fall, Spring
Introduction to the discipline of classical ballet designed to develop understanding and skill in the basic vocabulary. Open to all students. (Repeatable up to four times).

DAN130 Orientation to Dance
2.00 credits 
Offered By Announcement Only
Introduction to dance as an art form for those interested in career opportunities in dance education. Required for prospective dance minors. Open to all students.

DAN140 Theatre Dance Forms
2.00 credits 
Fall
Introduction to movement skills and stylistic elements of theatrical forms of dance. (Repeatable).

DAN190 Improvisation
2.00 credits 
Offered By Announcement Only
Experience in selective and basic processes of movement involvement both individual and group. Course may be repeated.

DAN211 Modern Dance, Level Two
3.00 credits 
Fall, Spring & Summer
Continuing exploration of modern dance techniques and theoretical concepts. Open to all students. Course may be repeated up to 4 times.

DAN221 Ballet, Level Two
3.00 credits 
Fall, Spring
Study of ballet designed to extend technical skill and prepare student for advanced level work. Open to all students. Course may be repeated up to 4 times.

DAN240 Cultural Dance Forms
2.00 credits 
Fall, Spring
Introduction to movement skills and stylistic elements of dance forms from various cultures. Course may be repeated.

DAN250 World History of the Dance
3.00 credits 
Fall, Spring & Summer
Introductory exploration of dance history in relation to life, thought, and culture.

DAN280 Dance Composition Level 1
3.00 credits 
Fall
Introduction to choreography through creative problem solving by exploring And experimenting with the basic elements of dance; space, time, energy, And motion. Emphasis is on compositional studies versus the creation of fully Developed dances.
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Undergraduate Course Listing
Frost School of Music
Dance

DAN285 Creative Dance for Children
2.00 credits
Fall
Introduction to theories and methods of teaching dance to children of elementary school age.

DAN286 Teaching Dance to Children
2.00 credits
Spring
Theory and practice of teaching dance to preschool and school age children.

DAN290 Introduction to Dance-Movement Therapy
2.00 credits
Spring
Introduction to dance-movement therapy theory and practice.

DAN291 Dance Movement Therapy
3.00 credits
Spring
This course will provide a continued investigation into the theoretical and Experiential techniques and practices of dance therapy as well as career Options for students majoring in education and the healing professions.

DAN311 Modern Dance, Level Three
3.00 credits
Fall, Spring & Summer
Study of modern dance techniques and theoretical concepts. Course may be repeated for credit.

DAN321 Ballet Level Three
3.00 credits
Fall, Spring
Study of classical ballet at intermediate/advanced level. Open to all students. Course may be repeated for credit.

DAN380 Dance Composition Level 2
3.00 credits
Spring
Continuation of creative problem solving by exploring, Experimenting, and combining the basic elements of Dance: space, time, energy and motion. Emphasis is on Expansion of ideas for stage productions depending on The quality of the work.

DAN385 Methods of Teaching Dance (K-12)
3.00 credits
Fall, Spring
Content for teaching dance in a variety of settings including public school grades K-12.

DAN411 Modern Dance; Level Four
3.00 credits
Fall, Spring
Study of modern dance technique and theoretical concepts. Open to dance minors and by permission.

DAN450 History of Modern Dance
3.00 credits
Offered By Announcement Only
Study of development, philosophies, and theories of American and European modern dance.

DAN550 Women in Theatrical Dance
3.00 credits
Offered By Announcement Only
Women in Dance; the most prominent dancers and choreographers from the 19th and 20th centuries who helped shape western theatrical dance art.
DAN585 Methods of Teaching Dance K-12 (Advanced)  
3.00 credits  
Offered By Announcement Only  
An advanced study of the Dance curriculum content in a variety of settings including public schools, grades K-12.

DAN593 Special Topics Dance  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Supervised topics and other activities in specific areas of Dance

Instrumental Performance

MIPBAA Bassoon  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Vivaldi Concerto, Bourdeau - Premier solo, Galliard, Handel, Marcello, Nino Rota Procaccini.

MIPBAB Bassoon  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Vivaldi Concerto, Bourdeau - Premier solo, Galliard, Handel, Marcello, Nino Rota Procaccini.

MIPBAC Bassoon  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Bourdeau - Second Solo, David, Domenico, Dubois, Fasch, Kozeluh, Pierne, Telemann, Vivaldi.

MIPBAD Bassoon  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Bourdeau - Second Solo, David, Domenico, Dubois, Fasch, Kozeluh, Pierne, Telemann, Vivaldi.

MIPBAE Bassoon  
1.00 - 2.00 credits  
Fall, Spring  

MIPBAF Bassoon  
1.00 - 2.00 credits  
Fall, Spring  

MIPBAG Bassoon  
1.00 - 2.00 credits  
Fall, Spring  
MIPBAH Bassoon
1.00 - 2.00 credits  
Fall, Spring  

MIPBHA Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

MIPBHB Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

MIPBHC Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bordogni-Rochut, Peters, Jones, Vivaldi.

MIPBHD Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bordogni-Rochut, Peters, Jones, Vivaldi.

MIPBHE Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Fink Stevens, Maxime-Alphones, Jacob, Hartley.

MIPBHF Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Fink Stevens, Maxime-Alphones, Jacob, Hartley.

MIPBHG Baritone Horn
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Charlier, Bozza, Uber, Horovitz Bellstedt; band and orchestral excerpts.
University of Miami Bulletin, 2013-2014
Undergraduate Course Listing
Frost School of Music
Instrumental Performance

**MIPBHH Baritone Horn**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Charlier, Bozza, Uber, Horovitz Bellstedt; band and orchestral excerpts.

**MIPCDA Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCDB Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCDC Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCDD Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCDE Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCDF Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCDG Conducting**
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

**MIPCHA Clarinet**
1.00 - 2.00 credits  
Fall, Spring  
Frost School of Music
Instrumental Performance

MIPCLB Clarinet
1.00 - 2.00 credits  Fall, Spring

MIPCLC Clarinet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Cavillini Caprices, and Opperman Intermediate Velocity Studies. Repertoire: Weber, Hindemith, Burgmuller.

MIPCLD Clarinet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Cavillini Caprices, and Opperman Intermediate Velocity Studies. Repertoire: Weber, Hindemith, Burgmuller.

MIPCLE Clarinet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Jean Jean 16 or 18 Etudes, and Opperman Advanced Velocity Studies. Repertoire: Poulenc, Stravinsky, Bernstein, Brahms.

MIPCLF Clarinet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Jean Jean 16 or 18 Etudes, and Opperman Advanced Velocity Studies. Repertoire: Poulenc, Stravinsky, Bernstein, Brahms.

MIPCLG Clarinet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Opperman Virtuoso Velocity Studies. Repertoire: Debussy, Rozsa, Muczynski, Berg.

MIPCLH Clarinet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Opperman Virtuoso Velocity Studies. Repertoire: Debussy, Rozsa, Muczynski, Berg.

MIPDBA Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.
MIPDBB Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPDBC Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPDBD Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPDBE Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPDBF Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPDBG Double Bass
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPFHA French Horn
1.00 - 2.00 credits  Fall, Spring

MIPFHB French Horn
1.00 - 2.00 credits  Fall, Spring
MIPFHC French Horn
1.00 - 2.00 credits  
Fall, Spring

MIPFHD French Horn
1.00 - 2.00 credits  
Fall, Spring

MIPFHE French Horn
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continued transposition study, further skills development, scales and arpeggios. Studies by Bach, Maxime-Alphonse, Gallay; Belloli; orchestral repertoire. Repertoire: Mozart, Strauss, Hindemith, Dukas, Chabier.

MIPFHF French Horn
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continued transposition study, further skills development, scales and arpeggios. Studies by Bach, Maxime-Alphonse, Gallay; Belloli; orchestral repertoire. Repertoire: Mozart, Strauss, Hindemith, Dukas, Chabier.

MIPFHG French Horn
1.00 - 2.00 credits  
Fall, Spring

MIPFHH French Horn
1.00 - 2.00 credits  
Fall, Spring

MIPFLA Flute
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Berbigier - 18 Études, Andersen Little Caprices. All major and minor scales, two octaves; Moyse - De la Sonorite, 24 Petite Melodies Vol. I. Repertoire: Handel Sonatas, Godard Allegretto.
MIPFLB Flute  
1.00 - 2.00 credits  
Fall, Spring

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Berbiguer - 18 Etudes, Andersen Little Caprices. All major and minor scales, two octaves; Moyse - De la Sonorite, 24 Petite Melodies Vol. I. Repertoire: Handel Sonatas, Godard Allegretto.

MIPFLC Flute  
1.00 - 2.00 credits  
Fall, Spring


MIPFLD Flute  
1.00 - 2.00 credits  
Fall, Spring


MIPFLE Flute  
1.00 - 2.00 credits  
Fall, Spring


MIPFLF Flute  
1.00 - 2.00 credits  
Fall, Spring


MIPFLG Flute  
1.00 - 2.00 credits  
Fall, Spring


MIPFLH Flute  
1.00 - 2.00 credits  
Fall, Spring

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Credits</th>
<th>Terms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIPGUA Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
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<tr>
<td>MIPGUB Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
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<td>MIPGUC Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
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<tr>
<td>MIPGUD Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPGUE Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPGUF Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPGUG Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPGUH Guitar</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPHAA Harp</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPHAB Harp</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
<tr>
<td>MIPHAC Harp</td>
<td>1.00 - 2.00</td>
<td>Fall, Spring</td>
<td>1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.</td>
</tr>
</tbody>
</table>
MIPHAD Harp
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPHAE Harp
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPHAF Harp
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPHAG Harp
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPHAH Harp
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPOBA Oboe
1.00 - 2.00 credits  Fall, Spring

MIPOBB Oboe
1.00 - 2.00 credits  Fall, Spring

MIPOBC Oboe
1.00 - 2.00 credits  Fall, Spring

MIPOBD Oboe
1.00 - 2.00 credits  Fall, Spring
MIPOBE Oboe
1.00 - 2.00 credits  
Fall, Spring

MIPOBF Oboe
1.00 - 2.00 credits  
Fall, Spring

MIPOBG Oboe
1.00 - 2.00 credits  
Fall, Spring

MIPOBH Oboe
1.00 - 2.00 credits  
Fall, Spring

MIPPEA Percussion
1.00 - 2.00 credits  
Fall, Spring

MIPPEB Percussion
1.00 - 2.00 credits  
Fall, Spring

MIPPEC Percussion
1.00 - 2.00 credits  
Fall, Spring
MIPPED Percussion
1.00 - 2.00 credits
Fall, Spring

MIPPEE Percussion
1.00 - 2.00 credits
Fall, Spring

MIPPEF Percussion
1.00 - 2.00 credits
Fall, Spring

MIPPEG Percussion
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of advanced repertory and preparation for the final recital. Etudes and works on marimba, vibraphone, snare drum, timpani, multi-percussion, and orchestral excerpts. At least one piece at the final concert has to be a concerto-like composition performed with piano or percussion ensemble.

MIPPEH Percussion
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of advanced repertory and preparation for the final recital. Etudes and works on marimba, vibraphone, snare drum, timpani, multi-percussion, and orchestral excerpts. At least one piece at the final concert has to be a concerto-like composition performed with piano or percussion ensemble.

MIPSAA Saxophone
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPSAB Saxophone
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.
MIPSAC Saxophone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPSAD Saxophone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPSAE Saxophone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPSAF Saxophone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPSAG Saxophone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPSAH Saxophone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTBA Trombone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, articulation, sound, and slide technique. Appropriate major and minor scales. Works by Arban, Blazhevich, Pares, Rochut, Tyrell, and others. Solo literature as appropriate for the student's abilities.

MIPTBB Trombone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, articulation, sound, and slide technique. Appropriate major and minor scales. Works by Arban, Blazhevich, Pares, Rochut, Tyrell, and others. Solo literature as appropriate for the student's abilities.

MIPTBC Trombone
1.00 - 2.00 credits \hspace{1cm} \text{Fall, Spring}
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of previous aspects of technical development. Works as previously listed, followed by Blume, and solo literature as appropriate for the student's abilities. Introduction of orchestral excerpts as both literature and as an aid to technical and musical development.
MIPTBD Trombone
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of previous aspects of technical development. Works as previously listed, followed by Blume, and solo literature as appropriate for the student's abilities. Introduction of orchestral excerpts as both literature and as an aid to technical and musical development.

MIPTBE Trombone
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of technical development including upper register, advanced slide technique, and refined articulation. Works as previously listed, followed by Masson and Bitsch. Solo literature as appropriate for the student's abilities, and continuation of selected orchestral excerpts.

MIPTBF Trombone
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of technical development including upper register, advanced slide technique, and refined articulation. Works as previously listed, followed by Masson and Bitsch. Solo literature as appropriate for the student's abilities, and continuation of selected orchestral excerpts.

MIPTBG Trombone
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of all technical aspects of performance. Works by Masson and Bitsch, and solo literature geared towards recital performance.

MIPTBH Trombone
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of all technical aspects of performance. Works by Masson and Bitsch, and solo literature geared towards recital performance.

MIPTPA Trumpet
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Clarke, Hering, Schlossberg; orchestral excerpts.

MIPTPB Trumpet
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Clarke, Hering, Schlossberg; orchestral excerpts.
Frost School of Music
Instrumental Performance

MIPTPC Trumpet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTPD Trumpet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTPE Trumpet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTPF Trumpet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTPG Trumpet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTPH Trumpet
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MIPTUA Tuba
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Concone, Arban, Bordogni, Haddad, Hartley.

MIPTUB Tuba
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Concone, Arban, Bordogni, Haddad, Hartley.

MIPTUC Tuba
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Vasiliev, Kopprash, Gallay, Frankenpohl, Nelhybel, Bernstein.
MIPTUD Tuba
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Vasiliev, Kopprash, Gallay, Frankenpohl, Nelhybel, Bernstein.

MIPTUE Tuba
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bach/Bobo Ostrander, Kotsier, Hindemith, Wilder.

MIPTUF Tuba
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bach/Bobo Ostrander, Kotsier, Hindemith, Wilder.

MIPTUG Tuba
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Cimera, Maenz, Broughton, Persichetti, orchestral excerpts.

MIPTUH Tuba
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Cimera, Maenz, Broughton, Persichetti, orchestral excerpts.

MIPVAA Viola
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Right hand and left hand position evaluation and adjustment if necessary. Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major.

MIPVAB Viola
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Right hand and left hand position evaluation and adjustment if necessary. Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major.

MIPVAC Viola
1.00 - 2.00 credits        Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major.
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Frost School of Music
Instrumental Performance

MIPVAD Viola
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

MIPVAE Viola
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2-4 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

MIPVAF Viola
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

MIPVAG Viola
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

MIPVAH Viola
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

MIPVCA Violoncello
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of basic bow strokes, vibrato, and position changes. Appropriate major scales and arpeggios. Etudes as needed. Repertoire: Vivaldi Sonatas, Saint-Saens Concerto, Hayden C Major Concerto, Beethoven Sonata 1 or 2, Bach Suite 1 or 2.

MIPVCB Violoncello
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of basic bow strokes, vibrato, and position changes. Appropriate major scales and arpeggios. Etudes as needed. Repertoire: Vivaldi Sonatas, Saint-Saens Concerto, Hayden C Major Concerto, Beethoven Sonata 1 or 2, Bach Suite 1 or 2.
MIPVCC Violoncello
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: All major and minor scales and arpeggios. Etudes as needed. Repertoire: Lalo Concerto, Boccherini B-flat, Beethoven or Brahms Sonatas, Bach Suite No. 3.

MIPVCD Violoncello
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: All major and minor scales and arpeggios. Etudes as needed. Repertoire: Lalo Concerto, Boccherini B-flat, Beethoven or Brahms Sonatas, Bach Suite No. 3.

MIPVCE Violoncello
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Duport etudes. Repertoire: Dvorak Concerto, Hayden D Major Concerto, Shostakovitch Sonata, Bach Suite No. 4.

MIPVCF Violoncello
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Duport etudes. Repertoire: Dvorak Concerto, Hayden D Major Concerto, Shostakovitch Sonata, Bach Suite No. 4.

MIPVCG Violoncello
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Piatti etudes. Repertoire: Schumann Concerto, Bach Suites No. 5 or No. 6.

MIPVCH Violoncello
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Piatti etudes. Repertoire: Schumann Concerto, Bach Suites No. 5 or No. 6.

MIPVNA Violin
1.00 - 2.00 credits Fall, Spring

MIPVNB Violin
1.00 - 2.00 credits Fall, Spring
MIPVNC Violin
1.00 - 2.00 credits  
Fall, Spring

MIPVND Violin
1.00 - 2.00 credits  
Fall, Spring

MIPVNE Violin
1.00 - 2.00 credits  
Fall, Spring

MIPVNF Violin
1.00 - 2.00 credits  
Fall, Spring

MIPVNG Violin
1.00 - 2.00 credits  
Fall, Spring

MIPVNH Violin
1.00 - 2.00 credits  
Fall, Spring

MIP001 Brass Forum
0.00 credit  
Fall, Spring
An informal recital setting and performance class for brass principals and majors with guest and faculty presentations.

MIP002 Guitar Forum
0.00 credit  
Fall, Spring
An informal recital setting and performance class for guitar principals and majors with guest and faculty presentations.
Frost School of Music
Instrumental Performance

MIP005 Percussion Forum
0.00 credit  Fall, Spring
An informal recital setting and performance class for Percussion principals and majors with guest and faculty presentations.

MIP007 String Forum
0.00 credit  Fall, Spring
An informal recital setting and performance class for string principals and majors with guest and faculty presentations.

MIP009 Woodwind Forum
0.00 credit  Fall, Spring
An informal recital setting and performance class for woodwind principals and majors with guest and faculty presentations.

MIP120 Class Guitar I for Non-Music Majors
1.00 credit  Fall, Spring

MIP121 Class Guitar I for Jazz Majors
1.00 credit  Fall, Spring

MIP130 Afro-Caribbean Hand Drumming, Level I
1.00 credit  Fall, Spring
The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. This class is taught in a workshop format.

MIP131 Afro-Caribbean Hand Drumming, Level II
1.00 credit  Fall, Spring
The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Level II is a performance ensemble.

MIP135 Percussion Contemporary Chamber Music
1.00 credit  Fall, Spring
mandatory for all classical percussionists, this course focuses on the contemporary unconducted chamber music repertoire. The goal is for students to develop and use an advanced listening/communicating skill set, while playing music with others. This course also targets to improve students' capabilities in contemporary music interpretation and performance.

MIP138 Trombone Choir
1.00 credit  Fall, Spring
The study and performance of literature for small and large trombone ensembles.

MIP139 Brass Chamber Music
1.00 credit  Fall, Spring
The study and performance of literature for small ensembles of similar or mixed brass instruments.

MIP140 Flute Choir
1.00 credit  Fall, Spring
Reading, rehearsing, and performing the flute choir repertoire (duets, trios, quartets, quintets).
Instrumental Performance

MIP141 Saxophone Ensemble
1.00 credit  
Fall, Spring
The study and performance of classical and jazz literature for small saxophone ensembles.

MIP143 Woodwind Chamber Music
1.00 credit  
Fall, Spring
Exploring the woodwind chamber music repertoire as represented by various combinations of instruments.

MIP144 Woodwind Chamber Ensemble
1.00 credit  
Fall, Spring
Woodwind chamber ensemble is designed to give students knowledge of the most important literature for woodwinds through practice, rehearsal, and performance of major works for woodwind chamber ensemble.

MIP145 String-Keyboard Chamber Music
1.00 credit  
Fall, Spring
The study and performance of literature from the Baroque Period through the 20th Century for two or more players for string instrumentalists and strings with keyboard.

MIP170 Marching Band
1.00 credit  
Fall
The Band of the Hour Marching Band is open to all qualified undergraduate and graduate students, regardless of major. The band performs at all home Miami Hurricane football games and selected away games.

MIP171 Symphonic Winds
1.00 credit  
Fall, Spring
Symphonic Band is a large wind band that performs significant repertoire for wind and percussion instruments. It is open to all qualified undergraduate and graduate students, regardless of major.

MIP172 University Band
1.00 credit  
Spring
University Band is a large ensemble offering students the opportunity to play standard repertoire of the wind band. This group is open to all wind and percussion players throughout the university, regardless of major.

MIP174 Brass Choir
1.00 credit  
Fall, Spring
Major works for Brass Choir are studied. Special emphasis is given to orchestral repertoire.

MIP176 Wind Ensemble
1.00 credit  
Fall, Spring
This course offers performance opportunities for qualified wind and percussion players. Repertoire includes significant literature written for the small and large wind band.

MIP180 Symphony Orchestra
1.00 credit  
Fall, Spring
The Symphony Orchestra performs significant repertoire for large orchestra. It is open to all qualified undergraduate students by audition.
MIP181 Instrumental Conducting I
1.00 credit Fall
This course provides practical procedures and materials for beginning instrumental conducting students. Students demonstrate basic conducting patterns, preparations, and releases in all meters.

MIP182 Instrumental Conducting II
1.00 credit Spring
This course provides practical procedures and materials for advancing instrumental conducting students. Students demonstrate refined skill in conducting musical styles and independence of gestures.

MIP191 Tuba Ensemble
1.00 credit Fall, Spring
The study and performance of compositions and/or transcriptions written for an ensemble of tubas and/or euphoniums.

MIP192 Classical Guitar Ensemble
1.00 credit Fall, Spring
This course focuses on sight reading, rhythm recognition, and ensemble performance through the study of exercises, scales, and diverse repertoire.

MIP220 Class Guitar II for Non-music Majors
1.00 credit Fall, Spring

MIP281 Instrumental Conducting III
1.00 credit Fall
This course provides a synthesis of the skills demonstrated in Instrumental Conducting I and II while developing error detection skills in common performance errors.

MIP282 Instrumental Conducting IV
1.00 credit Spring
Students demonstrate knowledge of instruments, instrumentation of the wind band and orchestra, and analyze scores for conception, interpretation, rehearsal, and performance.

MIP307 Skills Ensemble V: Classical Improvisation
1.00 credit Fall, Spring
Introduce students to the process of improvisation in all styles of classical music.

MIP308 Skills Ensemble VI: Composition as Applied Improvisation
1.00 credit Spring
Moving from the world of improvisation to composition, this course re-focuses musical expression into written form encompassing pre-tonal, tonal and post-tonal techniques through analysis, written improvisation, and model-composition.

MIP317 Basic Conducting
1.00 credit Fall, Spring
A study of the basic techniques of all rhythms, patterns, subdivisions of beats, dynamics, starting, stopping, and giving cues. Course provides an elementary study of scores as to form and harmonic intent.
MIP399 Junior Recital
1.00 credit  Fall, Spring
A public recital of one half-hour or more. Course is required of all instrumental
performance majors.

MIP407 Skills Ensemble VII: Basic Conducting/Arranging
1.00 credit  Fall
This course in basic conducting and arranging is designed to acquaint the student
by application, with the basic beat, patterns (symmetrical and asymmetrical), preparatory
beats, releases, dynamics, fermati, tempo changes, elementary score study and rehearsal
techniques. Elements of practical arranging will be explored as students arrange
excerpts for their specific skills ensemble that address areas of conducting technique.

MIP418 Instrumental Conducting
1.00 credit  Spring
Course covers Baton technique, score reading, and interpretation. Actual experience
in rehearsing instrumental ensembles is included.

MIP493 SPECIAL PROJECTS IN INSTRUMENTAL PERFORMANCE
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised readings and other activities in specific areas of Instrumental Performance.

MIP494 SPECIAL TOPICS IN INSTRUMENTAL PERFORMANCE
1.00 - 3.00 credits  Fall, Spring & Summer

MIP499 Senior Recital
1.00 credit  Fall, Spring
A public recital of one hour or more. Required of all performance majors.

MIP541 Bassoon Repertoire and Pedagogy
1.00 - 2.00 credits  Fall
Solo and small ensemble literature of the bassoon since 1600.

MIP542 Clarinet Repertoire and Pedagogy
1.00 - 2.00 credits  Fall
Solo and small ensemble literature of the clarinet since 1600.

MIP543 Flute Repertoire and Pedagogy
1.00 - 2.00 credits  Fall
Solo and small ensemble literature of the flute since 1600.

MIP544 Oboe Repertoire and Pedagogy
1.00 - 2.00 credits  Fall
Solo and small ensemble literature of the oboe since 1600.

MIP545 Brass Repertoire and Pedagogy
1.00 - 2.00 credits  Spring
Solo and small ensemble literature of brass instruments since 1600.

MIP546 Percussion Repertoire and Pedagogy
1.00 - 2.00 credits  Spring
Solo and small ensemble literature of percussion instruments since 1600.
MIP547 Saxophone Repertoire and Pedagogy  
1.00 - 2.00 credits  
Fall  
Solo and small ensemble literature of the saxophone since 1600.

MIP548 Guitar Repertoire and Pedagogy  
1.00 - 2.00 credits  
Fall  
Solo and small ensemble literature of the guitar since 1600.

MIP549 String Repertoire and Pedagogy  
1.00 - 2.00 credits  
Fall  
An exploration of teaching string playing. Areas covered include problem-solving and communication techniques, and practical considerations in establishing a teaching studio. Students participate in hands-on teaching opportunities.  
PREREQUISITE: Advanced standing in Music and permission of instructor.

MIP550 Bach Cello Suites  
1.00 credit  
Spring  
The study and performance of the six suites for unaccompanied cello of Johann Sebastian Bach.

MIP580 Orchestral Audition Preparation  
1.00 credit  
Fall, Spring  
The study of the more difficult excerpts from the orchestral literature for violin, viola, violoncello, or double bass. Course may be repeated for credit.

MIP593 SPECIAL PROJECTS IN INSTRUMENTAL PERFORMANCE OR CONDUCTING  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Supervised topics and other activities in specific areas of Instrumental Performance.

Keyboard Performance  
MKPHCA Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPHCB Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPHCC Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPHCD Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPHCE Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.
MKPHCF Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPHCG Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPHCH Harpsichord  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

MKPORA Organ  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique and Pedal Technique. Repertoire: Gleason, Method of Organ Playing: Compositions for Manuals, Studies and Compositions for Manuals and Pedal; selected chorale preludes and smaller-scale preludes and fugues by Bach, Buxtehude, Brahms, and others; basics of hymn playing.

MKPORB Organ  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique and Pedal Technique. Repertoire: Gleason, Method of Organ Playing: Compositions for Manuals, Studies and Compositions for Manuals and Pedal; selected chorale preludes and smaller-scale preludes and fugues by Bach, Buxtehude, Brahms, and others; basics of hymn playing.

MKPORC Organ  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique, Pedal Exercises and Scales. Repertoire: Gleason, Method of Organ Playing: selected Compositions for Manuals and Pedals; intermediate-level works by Bach, Mendelssohn, Franck, and others; Additional hymn playing techniques.

MKPORD Organ  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique, Pedal Exercises and Scales. Repertoire: Gleason, Method of Organ Playing: selected Compositions for Manuals and Pedals; intermediate-level works by Bach, Mendelssohn, Franck, and others; Additional hymn playing techniques.
MKPORE Organ
1.00 - 2.00 credits  
Fall, Spring

MKPORF Organ
1.00 - 2.00 credits  
Fall, Spring

MKPORG Organ
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Nilson, A System of Technical Studies in Pedal Playing for the Organ; selected exercises. Repertoire: Selected works by composers from all style periods, with an emphasis on the French Romantic and Modern French schools. Advanced service-playing techniques.

MKPORH Organ
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Nilson, A System of Technical Studies in Pedal Playing for the Organ; selected exercises. Repertoire: Selected works by composers from all style periods, with an emphasis on the French Romantic and Modern French schools. Advanced service-playing techniques.

MKPPIA Piano
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

MKPPIB Piano
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

MKPPIC Piano
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

MKPPID Piano
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.
Frost School of Music
Keyboard Performance

**MKPPIE Piano**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2-credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Junior Recital as required.
Repertoire: Appropriate repertoire as required.

**MKPPIF Piano**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Junior Recital as required.
Repertoire: Appropriate repertoire as required.

**MKPPIG Piano**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Senior Recital as required.
Repertoire: Appropriate repertoire as required.

**MKPPIH Piano**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Senior Recital as required.
Repertoire: Appropriate repertoire as required.

**MKP006 Piano Forum**
0.00 credit  
Fall, Spring
A non-credit performance class for all piano majors and principals. Majors are required to perform once each semester with the approval of the applied teacher.

**MKP111 Non-Major Class Piano I**
1.00 credit  
Fall, Spring
This course is designed for the adult beginner who has an interest in playing keyboard instruments for pleasure. Students with no previous musical or keyboard experience learn the fundamentals of music theory and apply them to playing the keyboard at the beginning level.

**MKP112 Non-Major Class Piano II**
1.00 credit  
Fall, Spring
Designed for the adult beginner who has an interest in playing keyboard instruments for pleasure, this course builds on the concepts introduced in MKP 111. Students continue to learn the fundamentals of music theory and apply them to playing the keyboard.

**MKP140 Keyboard Studies I**
1.00 credit  
Fall
Major and minor five finger patterns, beginning repertoire, major scales and arpeggios, basic chord progressions, for types of triads, dominant seventh chords, beginning sight reading, harmonization, transposition, and improvisation skills.

**MKP141 Keyboard Studies II**
1.00 credit  
Spring
Minor scales and arpeggios, modal scales, five types of seventh chords and inversions, and more extensive chord progressions. Study of repertoire and the development of sight-reading, harmonization, transposition, and improvisation skills are continued.
MKP185 Musical Theatre Accompanying
1.00 credit Fall, Spring
A class designed to improve the skills of pianists with a particular interest in musical theatre piano accompaniment. Students will study in a classroom setting.

MKP186 Vocal Accompanying I
1.00 credit Fall, Spring
Pianists will attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

MKP187 Vocal Accompanying II
1.00 credit Fall, Spring
Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

MKP189 Accompanying, Level I
1.00 credit Fall, Spring
Development of sightreading skills and score preparation.

MKP190 Accompanying, Level II
1.00 credit Fall, Spring
Progressive development of individual vocal/instrumental and ensemble accompanying, sightreading, score reading, and improvising from a lead sheet.

MKP191 Accompanying, Level III
1.00 credit Fall, Spring
Progressive development of all types of accompaniment skills including: clef and score reading, transposition, possible recital, opera theater, choral ensemble, and/or orchestral accompanying.

MKP220 COMPUTERS, KEYBOARDS, AND MUSIC
2.00 credits Fall, Spring
An introduction to basic computing skills for the musician that explores computers, keyboards, and other MIDI- (Musical Instrument Digital Interface) related instruments as tools for the musician. Topics include electronic keyboards, computer hardware and software, MIDI sequencing, computer-assisted musical notation, and teaching strategies using new technologies. Students gain hands-on experience while completing projects in each of the above areas.

MKP240 Keyboard Studies III
1.00 credit Fall
Dominant seventh arpeggios, secondary dominates, and work more extensively with chord progressions. Students also learn Theme and Variation form, Sonata form, and characteristics of the musical style periods. Study of repertoire and the development of sight-reading, harmonization, and the improvisation skills are continued. Transposition of instrumental music to concert pitch, and beginning choral and instrumental score reading are introduced. Students will continue playing major and minor scales at an increased level of difficulty.
MKP241 Keyboard Studies IV
1.00 credit  Spring
Diminished seventh arpeggios, augmented, and Neapolitan sixth chords, Three-Part Rondo forms, extended chord structures, and a variety of chord Progressions that modulate. Study of repertoire and the development of sight-reading, harmonization, transposition, and improvisation skills are continued. Choral and instrumental score reading, modal scales, and major and minor scales are performed at an increased level of difficulty.

MKP399 Junior Recital
1.00 credit  Fall, Spring
A public recital of one half-hour or more. Course is required of all performance majors.

MKP493 SPECIAL PROJECTS IN KEYBOARD PERFORMANCE
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised readings and other activities in specific areas of Keyboard Performance.

MKP499 Senior Recital
1.00 credit  Fall, Spring
A public recital of one hour or more. Course is required of all performance majors.

MKP547 Keyboard Pedagogy
3.00 credits  Fall
Methods and materials for teaching keyboard instruments with a focus on private lesson instruction. Topics include teacher profile, general teaching considerations, the business of teaching, the beginning student, second- and third-year students, teaching materials, and an introduction to new technology in piano teaching.

MKP548 Intermediate to Advanced Repertoire
3.00 credits  Spring
A class dedicated to a survey and discussion of a wide range of teaching materials including teaching exercises, etudes, and performance literature both well known and under appreciated. Topics include reference literature and web resources, piece assigning considerations and leveling, and detailed discussion of selected materials with specific teaching and remedial strategies. Annotated bibliography with MIDI-file attachments of incipits to be submitted at the end of the semester for a grade.

MKP549 Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics
3.00 credits  Fall
1st class of each week: round-table discussion of private teaching strategies using video taped performance excerpts of students at various levels. 2nd class of each week: a focus on a wide range of teaching repertoire covering intermediate to advanced levels with an emphasis on problem prevention and solving.

MKP550 Keyboard Pedagogy III: Practice Strategies
3.00 credits  Fall, Spring
Focus on practice strategy at the keyboard using Philip Johnston's Practice Revolution as a springboard for discussion. Topics also include recent findings and leading researchers in cognitive neuroscience and brain-based learning, as well as resources available for musician wellness and injury prevention.
MKP589 Keyboard Accompanying Program in Salzburg, Austria
2.00 - 4.00 credits
Spring
Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive coaching in piano and accompanying from Dr. Posnak and other internationally acclaimed guest artists. Piano students study piano (2 cr.) and accompanying (1 cr.).

MKP593 SPECIAL PROJECTS IN KEYBOARD PERFORMANCE
1.00 - 3.00 credits
Fall, Spring & Summer
Supervised topics and other activities in specific areas of Keyboard Performance.

Music Education and Therapy
MED010 Music Therapy Forum
0.00 credit
Fall, Spring
The course provides a weekly forum for sharing information about issues, current developments, and other matters related to music therapy as a field of study and as a profession.

MED015 Music Education Forum
0.00 credit
Fall, Spring
The course provides a weekly forum for sharing information about issues, current developments, and other matters related to music education as a field of study and as a profession. The course is required for all undergraduate MED majors during each semester, except during the semester of the internship.

MED149 Functional Techniques in Music Therapy I
1.00 credit
Fall, Spring
Students acquire functional guitar and piano skills while learning repertoire and techniques for leading and accompanying music therapy experiences.

MED159 Introduction to Music Therapy
2.00 credits
Fall
An overview of the field of music therapy, including history, theory and clinical practice. Includes field observations.

MED240 Woodwind Techniques
1.00 credit
Fall, Spring
Course provides group instruction in woodwind instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

MED241 Brass Techniques
1.00 credit
Fall, Spring
Group instruction in brass instruments with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

MED242 Percussion Techniques
1.00 credit
Fall, Spring
Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drum set, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.
MED243 String Techniques
1.00 credit  
Fall, Spring
The study of stringed instruments (violin, viola, cello, bass) in a heterogeneous class with emphasis on general principles of string playing and teaching methods for use in beginning and intermediate instruction in the schools. Course may be repeated for credit.

MED244 Vocal Techniques
1.00 credit  
Fall, Spring
Class instruction in fundamentals of singing, breath control, tone production, and solo singing for music majors.

MED245 Functional Music Techniques
1.00 credit  
Fall, Spring
Group instruction in the functional use of the guitar, autoharp, and recorder for classroom or music therapy uses. Functional skills, teaching methods, and materials are emphasized.

MED249 Functional Techniques in Music Therapy II
1.00 credit  
Fall
Students acquire functional piano skills while learning repertoire and techniques for leading and accompanying music therapy experiences. Vocal skills are also emphasized.

MED259 Music Therapy Pre-Practicum
2.00 credits  
Spring
Students will learn a treatment-planning model for clinical practice. Topics include: assessment, goal setting, intervention design and data collection.

MED340 Marching Band Fundamentals
1.00 credit  
Fall
A study of all types of marching band activities and methods of presentation.

MED359 Music Therapy Practicum 1A
1.00 credit  
Fall, Spring
Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 1A practicum is to observe and assist the on-site music therapist and to engage in limited co-leading.

MED360 Music therapy Practicum 1B
1.00 credit  
Fall, Spring
Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 1B practicum is to observe and assist the on-site music therapist and to co-lead for half of all sessions.

MED361 Music Therapy Practicum 2A
1.00 credit  
Fall, Spring
Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 2A practicum is to observe and assist the on-site music therapist and to co-lead for 60% of all sessions.

MED362 Music Therapy Practicum 2B
1.00 credit  
Fall, Spring
Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 2B practicum is to observe and assist the on-site music therapist and to co-lead for 75% of all sessions.
MED363 Music Therapy Practicum 3A
1.00 credit
Fall, Spring
Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 3A practicum is to observe and assist the on-site music therapist and to co-lead all sessions following one initial observation.

MED364 Music Therapy Practicum 3B
1.00 credit
Fall, Spring
Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 3B practicum is to independently design and lead all sessions.

MED430 Teaching Jazz/Popular Music in Secondary Schools
2.00 credits
Fall
A survey of materials, methods, and techniques for instructing jazz and popular music in secondary schools. Review of standard literature, program organization, and in-class performance is emphasized. Designed specifically for music education majors.

MED433 Seminar for Teaching Associates.
1.00 credit
Fall, Spring
Discussion of teaching, rehearsal techniques, and the organization and presentation of music materials related to the internship experiences. Course is required of all Music Education majors. To be taken in conjunction with Internship, MED 471.

MED450 Introduction to Research Methods in Music
3.00 credits
Fall
This course is designed to help undergraduate students integrate research findings into their clinical and/or educational practice, implement research techniques into their work (e.g. through data collection or scholarly writing) and gain exposure to research if needed for future graduate students.

MED471 Associate Teaching in Elementary School Music
6.00 credits
Fall, Spring
A comprehensive program in observation and supervised teaching in elementary school music. The student spends full time for one half a semester in an elementary school, participating in all activities of the music teacher under the guidance of school and university personnel.

MED473 Associate Teaching in Secondary School Music
6.00 credits
Fall, Spring
A comprehensive program in observation and supervised teaching in secondary school music. The student spends full time for one half a semester in a secondary school, participating in all activities of the music teacher under the guidance of school and university personnel.

MED475 Student Teaching in Music
12.00 credits
Fall, Spring
A comprehensive program in observation and supervised teaching in elementary, middle, or secondary school music settings for a full semester under the guidance of school and university personnel.
**MED493 SPECIAL PROJECTS IN MUSIC EDUCATION**  
1.00 - 3.00 credits  
*Fall, Spring & Summer*  
Supervised readings and other activities in specific areas of Music Education.

**MED541 Musical Instrument Maintenance**  
0.00 credit  
*Fall, Spring*  
Mechanical development, care, and maintenance of musical instruments. Separate sections for wind, percussion, string, and keyboard instruments.

**MED542 Teaching Elementary General Music (K-5)**  
3.00 credits  
*Fall*  
Curriculum, methods, and materials designed for elementary music, K-6. Observation, planning, and teaching experience are emphasized.

**MED543 Teaching Elementary and Secondary Instrumental Music**  
3.00 credits  
*Spring*  
A study of elementary and secondary instrumental music instruction including program organization, teaching techniques, materials, and field experiences of music instruction in schools.

**MED544 Teaching Secondary General Music (7-12)**  
3.00 credits  
*Spring*  
Curriculum, methods, and materials designed for junior/senior high school general music programs.

**MED545 Music in Rehabilitation**  
3.00 credits  
*Spring*  
Review of development and functioning for neurologically-based sensorimotor behavior. Survey of disabilities and diseases that typically result in sensorimotor deficits is included. Demonstration and practice of therapeutic techniques for sensorimotor deficits are also covered.

**MED546 Music Psychotherapy**  
3.00 credits  
*Spring*  
Survey and practical application of music as therapy in the treatment of psychiatric disorders and in promoting mental health.

**MED548 Music for Special Learners**  
3.00 credits  
*Spring*  
This course is designed for music educators who will be working in schools with children and youth who have various disabilities. The purpose of MED 548 is to acquaint students with the characteristics of children and youth with disabilities, and introduce adaptive strategies in music education, K-12, for instructing children and youth with disabilities.

**MED549 Teaching Secondary Choral Music**  
3.00 credits  
*Fall*  
Course covers curriculum, vocal/rehearsal techniques, and literature. Teaching music in secondary schools through the medium of choral performance.

**MED555 Elementary Music Workshop**  
3.00 credits  
*Summer*  
Course is designed for in-service elementary school classroom teachers and music supervisors. Survey and experience with contemporary methodology and materials in elementary school music education is emphasized.
MED556 Secondary General Music Workshop
3.00 credits  Summer
Course is designed for teachers of general music classes in middle, junior high, and senior high schools. Practical experience with methods and materials designed for non-performance music classes, grades 7-12 is emphasized.

MED559 Internship in Music Therapy
3.00 credits  Summer
Course provides students with a six month opportunity as a music therapy intern in an approved training facility.

MED560 Internship in Music Therapy II
0.00 credit  Summer

MED562 Psychology of Music I
3.00 credits  Spring
Psychological foundations of music with an emphasis on problems of perception, experimental esthetics, functional music, and measurement and diagnosis of musical ability and achievement. Related literature of experimental investigation is reviewed.

MED575 Preschool Music Workshop
1.00 - 3.00 credits  Offered By Announcement Only
Workshop is designed to prepare class members to initiate, administer, and teach music programs for preschool children. Materials which address the teacher, the child, and the parent are used. The daily schedule includes demonstration classes with children, lectures, and active participation of and discussion with class members. Emphasis is placed on working with a planning guide for teachers which offers articles on the major areas of the curriculum and clear, succinct statements focusing on the central issues of each lesson.

MED576 Music and Development
3.00 credits  Fall
Review of development in cognitive, communication, and musical domains. Survey of developmental disabilities most commonly found in child populations is included as well as demonstration and practice of therapeutic techniques for cognitive and communication deficits.

MED581 Teaching Classroom Guitar I
2.00 credits  Summer
This class is designed for students and teachers, guitarist or non-guitarist, who wish to initiate, enhance, and teach guitar in a multi-level classroom setting. The course includes demonstration classes with elementary and secondary students. Topics include organization and teaching performance materials in a hands-on setting.

MED593 SPECIAL PROJECTS IN MUSIC EDUCATION AND MUSIC THERAPY
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised topics and other activities in specific areas of Music Education.

Music, Media and Industry

MMICBA Contemporary Bass
1.00 - 2.00 credits  Fall, Spring
1 hour lesson for students enrolled for 2 credits; 1/2 hour lesson for students enrolled for 1 credit. Technical Requirements: Basic grooves and bassline construction. Analysis of different styles of rock, pop, rhythm & blues, and funk music. Introduction to acoustic, six-string electric, and fretless electric basses. Knowledge of beginning functional harmony and sight-reading skills will also be addressed.
MMICBB Contemporary Bass  
1.00 - 2.00 credits  
Fall, Spring  
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Basic grooves and bassline construction. Analysis of different styles of rock, pop, rhythm & blues, and funk music. Introduction to acoustic, six-string electric and fretless electric basses. Knowledge of beginning functional harmony and sight-reading skills will also be addressed.

MMICBC Contemporary Bass  
1.00 - 2.00 credits  
Fall, Spring  
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of important bass players and styles, including Carol Kaye, James Jamerson, Larry Graham, Jack Bruce and others. Studies in intermediate harmony and introduction to standard American popular repertoire. Sight-reading, chart reading, and basic rhythm section arranging.

MMICBD Contemporary Bass  
1.00 - 2.00 credits  
Fall, Spring  
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of important bass players and styles, including Carol Kaye, James Jamerson, Larry Graham, Jack Bruce and others. Studies in intermediate harmony and introduction to standard American popular repertoire. Sight-reading, chart reading, and basic rhythm section arranging.

MMICBE Contemporary Bass  
1.00 - 2.00 credits  
Fall, Spring  
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of classic rhythm sections recorded throughout the last 50 years, including concentration on important and influential drummers in different styles of rock, pop, R&B, funk, latin, and jazz idioms. Live performance skills and studio techniques. Studies in jazz and modal harmony. Introduction to improvisation.

MMICBF Contemporary Bass  
1.00 - 2.00 credits  
Fall, Spring  
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of classic rhythm sections recorded throughout the last 50 years, including concentration on important and influential drummers in different styles of rock, pop, R&B, funk, latin, and jazz idioms. Live performance skills and studio techniques. Studies in jazz and modal harmony. Introduction to improvisation.

MMICBG Contemporary Bass  
1.00 - 2.00 credits  
Fall, Spring  
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Advanced jazz harmony and improvisation. World music and odd meter studies, including non-traditional styles and grooves. Advanced concepts of recording and performance, including starting and working within the context of an original band project. Elements of professionalism in the music business.
MMICBH Contemporary Bass
1.00 - 2.00 credits  Fall, Spring
One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Advanced jazz harmony and improvisation. World music and odd meter studies, including non-traditional styles and grooves. Advanced concepts of recording and performance, including starting and working within the context of an original band project. Elements of professionalism in the music business.

MMICDA Contemporary Drumset
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking techniques, basic hand/foot patterns. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading.

MMICDB Contemporary Drumset
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking techniques, basic hand/foot patterns. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading.

MMICDC Contemporary Drumset
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced sticking techniques, advanced hand/food patterns. Transcription/analysis of important drumset artists in major styles. Advanced chart reading.

MMICDD Contemporary Drumset
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced sticking techniques, advanced hand/food patterns. Transcription/analysis of important drumset artists in major styles. Advanced chart reading.

MMICDE Contemporary Drumset
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

MMICDF Contemporary Drumset
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.
MMICDG Contemporary Drumset
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

MMICDH Contemporary Drumset
1.00 - 2.00 credits
Fall, Spring

MMICGA Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring

MMICGB Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring

MMICGC Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced harmony. Advanced accompanying. Transcription/analysis of important guitar artists in major styles. Advanced chart reading and capoing techniques. Beginning alternate tunings.

MMICGD Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced harmony. Advanced accompanying. Transcription/analysis of important guitar artists in major styles. Advanced chart reading and capoing techniques. Beginning alternate tunings. Successful completion of Level D to move to Level E.

MMICGE Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring
MMICGF Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring

MMICGG Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring

MMICGH Contemporary Guitar
1.00 - 2.00 credits
Fall, Spring

MMICKA Contemporary Keyboard
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning Gospel harmony (triads in all inversions), basic add-nine pop harmony. Beginning accompanying. Analysis of rock, pop, rhythm and blues, Latin, and jazz styles. Basic chart reading.

MMICKB Contemporary Keyboard
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning Gospel harmony (triads in all inversions), basic add-nine pop harmony. Beginning accompanying. Analysis of rock, pop, rhythm and blues, Latin, and jazz styles. Basic chart reading.

MMICKC Contemporary Keyboard
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Gospel harmony. Advanced accompanying. Transcription/analysis of important keyboard artists in major styles. Advanced chart reading.

MMICKD Contemporary Keyboard
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Gospel harmony. Advanced accompanying. Transcription/analysis of important keyboard artists in major styles. Advanced chart reading.
MMICKE Contemporary Keyboard
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop improv. Beginning functional jazz harmony (thirds and sevenths). Basic jazz performance elements. Transcription/analysis of important keyboard artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Keyboard equipment, maintenance, patch libraries and sound editors.

MMICKF Contemporary Keyboard
1.00 - 2.00 credits  Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop improv. Beginning functional jazz harmony (thirds and sevenths). Basic jazz performance elements. Transcription/analysis of important keyboard artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Keyboard equipment, maintenance, patch libraries and sound editors.

MMICKG Contemporary Keyboard
1.00 - 2.00 credits  Fall, Spring

MMICKH Contemporary Keyboard
1.00 - 2.00 credits  Fall, Spring

MMICMA Contemporary Media
1.00 - 2.00 credits  Fall, Spring

MMICMB Contemporary Media
1.00 - 2.00 credits  Fall, Spring

MMICMC Contemporary Media
1.00 - 2.00 credits  Fall, Spring

MMICMD Contemporary Media
1.00 - 2.00 credits  Fall, Spring

MMICME Contemporary Media
1.00 - 2.00 credits  Fall, Spring

MMICMF Contemporary Media
1.00 - 2.00 credits  Fall, Spring
Frost School of Music
Music, Media and Industry

**MMICMG Contemporary Media**
1.00 - 2.00 credits  
Fall, Spring

**MMICMH Contemporary Media**
1.00 - 2.00 credits  
Fall, Spring

**MMICVA Contemporary Voice**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Beginning chart writing. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

**MMICVB Contemporary Voice**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Beginning chart writing. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

**MMICVC Contemporary Voice**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic knowledge of musical styles and historical periods of contemporary music, effective communication of songs in a variety of contemporary styles. Intermediate chart writing. Beginning improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

**MMICVD Contemporary Voice**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic knowledge of musical styles and historical periods of contemporary music, effective communication of songs in a variety of contemporary styles. Intermediate chart writing. Beginning improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

**MMICVE Contemporary Voice**
1.00 - 2.00 credits  
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and Appropriate modification of resonators, ability to self-prepare a song, advance knowledge of music styles and historical periods of contemporary music, effective communication of original songs. Advanced chart writing. Intermediate improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.
MMICVF Contemporary Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, advance knowledge of music styles and historical periods of contemporary music, effective communication of original songs. Advanced chart writing. Intermediate improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

MMICVG Contemporary Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required contemporary styles, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performance with accuracy in pitch, rhythm, good posture, breath management, phonation, resonance, and microphone technique. Advanced chart writing and studio vocal arranging techniques. Advanced improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

MMICVH Contemporary Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required contemporary styles, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performance with accuracy in pitch, rhythm, good posture, breath management, phonation, resonance, and microphone technique. Advanced chart writing and studio vocal arranging techniques. Advanced improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

MMI013 Music Engineering Forum
0.00 credit
Fall, Spring
A weekly forum for all Music Engineering Technology and Audio Engineering majors, both undergraduate and graduate. Presentations include faculty lectures, guest lectures by industry professionals, as well as dissemination of information pertaining to audio studios and laboratories.

MMI014 Music Industry Forum
0.00 credit
Fall, Spring
A weekly forum for all Music Industry majors, both graduate and undergraduate, for the purpose of updating current teaching material with the latest developments, presentations of guest speakers from the industry, lectures, and reports from faculty on current employment opportunities.

MMI015 Creative American Music Forum
0.00 credit
Fall, Spring

MMI102 Record Company Practicum
1.00 credit
Fall, Spring
The course focuses on practical techniques and procedures employed by record companies.
MMI107 Contemporary Skills Ensemble I
1.00 credit  Fall
A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

MMI108 Contemporary Skills Ensemble II
1.00 credit  Spring
A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

MMI139 Small Contemporary Ensemble
1.00 credit  Fall, Spring
A performing ensemble of student-generated contemporary musical repertoire.

MMI151 Desktop Audio Production
1.00 credit  Spring
Introduction to MIDI technology and computer based tools for music production.

MMI160 Ensemble Recording Workshop I
1.00 credit  Fall
Assisting recording and sound reinforcement engineers in the assigned performance ensemble in both rehearsal and performance. Students also perform in a studio ensemble where they act as both recording engineer and musician.

MMI161 Ensemble Recording Workshop II
1.00 credit  Spring
Students are responsible for the audio needs of an assigned ensemble in both rehearsal and performance. Lectures address audio equipment and practices. Students also perform in a studio ensemble where they act as the recording engineer and musician. Open to MUE majors only.

MMI172 Audio Design Workshop III
1.00 credit  Spring
Digital audio system design and architecture including analog-digital conversion, digital I/O hardware specifications, audio effects processors and digital audio recorder alignment techniques. Students design and troubleshoot audio projects including A/D converters, S/PDIF I/O, and DAT recorders. Open to MUE and EAN Majors only.

MMI173 Multinational Recorded Music Industry
3.00 credits  Fall, Spring
An introductory course presenting a structural overview of the music business and entertainment industries and the Music Industry Program. Historical development of music as a business and the development of the market place for both music and musicians. Emphasis is placed on contemporary music business practices. Topics include songwriting, publishing, musical instrument sales, artist management, arts management, professional organizations, copyright law, record industry, unions and guilds, and career development.

MMI178 Entertainment Industry Survey
3.00 credits  Spring
An overview of the entertainment industry. Concentration on the legal, marketing and financial aspects of different areas of the industry including film, television, music, broadcasting, cable, publishing, video games, sports, performing arts, and theme parks.
MMI201 Introduction to Music Recording  
0.00 - 3.00 credits  
Fall  
An overview study of the theory and practice of music recording, with emphasis on modern recording studio practices. Topics include physics of sound, psychoacoustics, studio design, microphones, loudspeakers, consoles, signal processing, digital audio, MIDI, and synchronization.

MMI207 African-American Song Workshop  
1.00 credit  
Fall  
A learning ensemble focusing on the various African American song traditions from early plantations songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel. Students will develop a portfolio of original works in traditional African-American styles.

MMI208 Anglo-American Song Workshop  
1.00 credit  
Spring  
A learning ensemble focusing on the various Anglo-American song traditions from English and Irish folk ballads, to shape-note and Sacred Harp hymnody, to early folk, country and bluegrass. Students will develop a portfolio of original works in traditional Anglo-American styles.

MMI240 Music Technology Studies I  
1.00 credit  
Fall  
Basic digital audio principles. Basic audio and midi projects from set up to final mixdown. Recording of live instruments, MIDI sequencing, software synthesizers, basic editing, and audio looping. Basic microphone techniques.

MMI241 Music Technology Studies II  
1.00 credit  
Spring  
Configuring personal studios and DAWQ sessions, external controllers, managing sessions and tracks, understanding timescales, virtual instruments and plug-ins, editing MIDI and audio, understanding automation, use of sends, returns, and plug-ins.

MMI250 ESSENTIAL TECHNOLOGIES FOR MUSICIANS  
0.00 credit  
Fall, Spring  
Basic MIDI and digital audio principles from set-up to final mix, recording of live Instruments using basic microphone techniques, MIDI sequencing, software synthesizers, basic editing, and audio looping.

MMI273 Artist Development and the Live Entertainment Industry  
3.00 credits  
Spring  
Views of the live entertainment industry from the perspective of the performing artist, artist manager, talent agent, attorney, and concert promoter. Consideration is given to the interpersonal, business, and contractual relationships and their impact on the performing artist's career. Strategies for career development are addressed and the ground rules of publicity, public relations, and promotion explored and applied in practical situations through special individual and team projects.

MMI274 Introduction to Music Copyright Law  
3.00 credits  
Spring  
A study of essential provisions of the 1976 Copyright Act and the Protection of Intellectual Property, covering the principles and practices of modern music publishing and international co-publishing. Students examine the complexities of copyright right law as it relates to the music industry.
MMI307 Modern American Pop Workshop I
1.00 credit  
Fall
A learning ensemble focusing on American Popular Music from the late-1950s to the late-1970s. Students will develop a portfolio of original songs in modern American styles.

MMI308 Modern American Pop Workshop II
1.00 credit  
Spring
A learning ensemble focusing on American Popular Music from the 1980s to the present. Students will develop a portfolio of original songs in modern American styles.

MMI310 Music Business Essentials
3.00 credits  
Fall, Spring
An introductory course presenting a structural overview of the music industry and related entertainment business. Emphasis is placed on contemporary music business practices. Topics include music publishing and licensing, musical products, the live music industry, unions and guilds, the recording industry, marketing and promotion of recorded music, music in the media, and music in the digital age.

MMI320 Contemporary Lyric Writing
3.00 credits  
Fall
This course explores modern lyric writing techniques, song lyric theory, and song form. Students will analyze a variety of lyrics by modern songwriters, focusing on their use of literary devices, imagery and metaphors. Students will compose a number of original lyrics for the course.

MMI361 Acoustics
3.00 credits  
Fall
A study of the theoretical principles of acoustics. Principle topics include basic properties, acoustical phenomena, superposition, Fourier Theorem, symmetry, vibrating strings and columns, and musical instruments; a study of architectural acoustics such as growth and decay, absorption coefficients, normal modes, diffusion, isolation, and mass law; design applications such as structural techniques and materials, live end-dead end, room geometry, tuning, TDS and other measurement techniques.

MMI377 Royalties in the Music Publishing Industry
1.00 credit  
Spring
A practical study of royalty payment formulas and procedures used in the music publishing industry.

MMI378 Entertainment Industry Contract Basics.
3.00 credits  
Fall
Business relations between the record company, artist, producer and licensees, both domestic and foreign. Analysis of actual contracts between parties, implications of newer technology on the industry.
MMI401 Audio Electronics
0.00 - 3.00 credits
Fall
An introductory course in audio electronics theory and professional audio applications such as recording studio equipment and audio effects design. Course work includes basic electronic components and theories, passive filtering, transformers, operational amplifiers, vacuum tubes, non-linear elements including diodes and JFETs, graphic, parametric and shelving equalizers, compressors, limiters, gates, microphone preamps, analog effects including reverb, flanging, and chorusing. Students will design custom audio circuits and use computer simulations to understand theory of operation.

MMI436 Audio Postproduction
3.00 credits
Spring
Basic audio for video and film postproduction, including the study of time code, synchronization, electronic editing, video and film transports, dolby stereo, equipment interfacing, and future developments.

MMI445 Senior Project/Portfolio
1.00 credit
Spring
This course is the capstone of the Creative American Music Program. Students will develop a portfolio of recordings of original songs. Students will also be required a public performance of their original songs.

MMI454 Entertainment Industry Practicum
1.00 credit
Fall, Spring
Practical experience in an entertainment industry organization.

MMI455 Internship in Entertainment Industry
2.00 credits
Fall, Spring & Summer
Practical experience in different areas of the entertainment industry under the supervision of professional firms and the faculty advisor.

MMI456 Internship in Entertainment Industries II
0.00 credit
Fall, Spring & Summer
Continuation of MMI 455.

MMI460 Recital Recording and Sound Reinforcement
1.00 credit
Fall, Spring
Practical experience in live concert recording, editing and mastering, and sound reinforcement, under supervision of professional on-campus engineers.

MMI465 Internship in Music Engineering
1.00 - 3.00 credits
Fall, Spring & Summer
Practical experience in the music engineering industry such as work in a recording studio, broadcast company, hardware or software manufacturer, under professional supervision.

MMI493 SPECIAL PROJECTS IN MUSIC MEDIA & INDUSTRY
1.00 - 3.00 credits
Fall, Spring & Summer
Supervised readings and other activities in specific areas of Music Media and Industry.

MMI494 SPECIAL TOPICS IN MUSIC MEDIA & INDUSTRY
1.00 - 3.00 credits
Fall, Spring & Summer
MMI501 Transducer Theory  
3.00 credits  
Spring  
Course covers the fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspension, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses. Open to MUE and EAN Majors only.

MMI502 Digital Audio I  
0.00 - 3.00 credits  
Fall  
A study of the theory and practice of digital audio topics including discrete time sampling, quantization, dithering, PCM, A/D and D/A conversion, digital filtering, oversampling, modulation codes, timebase, error correction codes, magnetic storage, DAT, and optical storage.

MMI503 Digital Audio II  
3.00 credits  
Spring  
A study of the theory and practice of digital audio topics including fiber optics and networks, compact disc, interconnection, psychoacoustics, low bit-rate perceptual coding, MPEG, digital audio broadcasting, sigma-delta conversion, noise shaping, digital video, and emerging technologies. Open to MUE and EAN Majors only.

MMI504 Audio Analysis and Synthesis  
3.00 credits  
Offered By Announcement Only  
Theory, design, and development of computer audio synthesizers and analyzers. Students implement software synthesizers including analog and physical modeling, wave-table, wave-shaping, and FM designs. Classical and modern theories of timbre and time-frequency analysis are included.

MMI505 Advanced Audio Signal Processing  
3.00 credits  
Spring  
Theory, design and development of audio signal processing techniques. Topics include DSP architectures, systems design, algorithm development, and applications. DSP development tools used to write, debug, and test programs including time-domain based effects such as reverb, chorus, flanging, and digital delay as well as frequency-domain projects such as FIR, IIR, and FFT filters and vocoders.

MMI530 Entrepreneurship for Musicians  
3.00 credits  
Spring  
Course explores a wide range of options for musicians who want to pursue music business careers in their regional music markets. Students examine opportunities in performance, recording, composition, education, and more. Emphasis is placed on the packaging of musical skills in the marketplace and on the financial management of a small proprietary music business. As a result, the student musician will be prepared to make career decisions with foresight and planning.

MMI537 RECORDED MUSIC OPERATIONS  
3.00 credits  
Spring  
A study of the activities involved in commercially exploiting recorded music. Includes an analysis of activities involved in the production, manufacturing, distribution, and marketing of a recorded music product; as well as related royalty accounting, mechanical licensing and master-use licensing activities.
MMI541 TOUR MANAGEMENT AND PRODUCTION
3.00 credits  Fall, Spring
Students will become familiar with the responsibilities of a tour planner. Individual tour planning projects are assigned which will give the students insight into the management and production of a tour.

MMI543 MARKETING AND PROMOTION IN THE ENTERTAINMENT INDUSTRY
3.00 credits  Fall, Spring
Students learn how to fulfill demand and influence consumer behavior through effective marketing techniques. The course provides the students with information on the latest technologies being employed to reach and communicate with target consumers.

MMI545 MUSIC PLACEMENT AND EXPLOITATION
3.00 credits  Fall

MMI573 International Music Publishing
2.00 credits  Spring
An in-depth study of the international publishing industry with an emphasis on catalog development and exploitation.

MMI578 Royalties in the Recorded Music Industry
1.00 credit  Fall
A practical study of royalty payment formulas and procedures used in the recorded music industry.

MMI593 SPECIAL PROJECTS IN MUSIC, MEDIA, AND INDUSTRY
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised topics and other activities in specific areas of Music Media and Industry.

Theory and Composition
MTC012 Composition Forum
0.00 credit  Fall, Spring
A weekly forum for all Music Theory/Composition majors, both undergraduate and graduate. Course involves guest lectures by visiting composers and performers, presentations of faculty compositions, and group discussions of important compositional and theoretical issues.

MTC015 Media Writing and Production forum
0.00 credit  Fall, Spring
This course provides a weekly forum for sharing information about issues, current developments, and other matters related to commercial music composition and production as a field of study and as a profession. The course is required for all undergraduate MWP majors during each semester.

MTC101 Composition I
2.00 credits  Fall
Course covers elementary principles of composition; class performance of composition projects is also included. Required of theory-composition majors.

MTC102 Composition II
2.00 credits  Spring
Continuation of MTC 101.
MTC107 Skills Ensemble I
1.00 credit  
Fall
Chamber-music ensemble (vocal or instrumental) for intensive work on aural skills (transcription, sight-singing, etc.), analysis of literature in and through performance, and improvisation, with focus on music of the Baroque and Classical periods.

MTC108 Skills Ensemble II
1.00 credit  
Spring
Chamber-music ensemble (vocal or instrumental) for intensive work on aural skills (transcription, sight-singing, etc.), analysis of literature in and through performance, and improvisation, with focus on music of the Baroque and Classical periods.

MTC109 Music Theory Skills I
3.00 credits  
Fall
A first course in music theory and musicianship for non-music majors; covers basic literacy, fundamentals, tonal harmony, and elements of musical form in a wide variety of traditional and contemporary styles and genres. Includes intensive training in aural and singing skills.

MTC110 Music Theory Skills II
3.00 credits  
Spring
Course is designed for students deficient in the knowledge of the basic fundamentals of music. Includes the study of notation, keys, scales, and chord construction. Credits do not count toward music degree requirements.

MTC111 MUSIC THEORY I
1.00 - 3.00 credits  
Fall
Introduction to basic concepts of melody, harmony, rhythm, and formal structure through analysis and writing. Topics include intervals, scales, elementary melodic and four-part writing, phrase structure and cadences, and diatonic harmony. Laboratory: MTC 121.

MTC125 The Nature of Music
3.00 credits  
Fall, Spring
A study of sound, pitch, rhythm, meter, melody, scales, intervals, tempo, expression terms, and highlights of music in history. Enrollment is limited to honors students who are non-music majors.

MTC140 Music Theory I
2.00 credits  
Fall
Study of tonal harmony, voice leading, and elements of musical form, covering diatonic procedures and basic modulation, using the chorales of J.S. Bach, with other repertoire, as models for composition.

MTC141 Music Theory II
2.00 credits  
Spring
Continuation of MTC 140, enlarging the study of tonal harmony and voice leading, covering harmony of the Classical period and sectional musical forms through small rondo and compound ternary, culminating in a large independent model-composition project for each student.

MTC148 Electronic Music Ensemble
1.00 credit  
Fall, Spring
An in-depth study and performance of electroacoustic music compositions.
MTC182 Composition Workshop  
1.00 credit  
Fall, Spring  
Variety of composition concepts and problems are dealt with through assignments and projects with special emphasis on practical considerations.

MTC197 Studio Rhythm Section  
1.00 credit  
Fall, Spring  

MTC199 The Other Music Ensemble  
1.00 credit  
Fall, Spring  
An in-depth study and performance of 20th century music.

MTC201 Composition III  
2.00 credits  
Fall  
Principles of composition with special emphasis on stylistic considerations.

MTC202 Composition IV  
2.00 credits  
Spring  
Continuation of MTC 201.

MTC203 Pop Composition I  
2.00 credits  
Fall  
Introduces students to the concept of form in commercial music through a survey of representative past and current works. Emphasis is placed on acoustic repertoire. Assignments include leadsheet transcriptions and an introduction to the 3, 4, and 5-piece rhythm section.

MTC204 Pop Composition II  
2.00 credits  
Spring  
Continuation of MTC 203. Survey of lyrics from different pop genres. Compositional assignments are for rhythm section and vocalist, and include the writing and setting of lyrics.

MTC207 Skills Ensemble III  
1.00 credit  
Fall  
Chamber-music ensemble for intensive work on aural skills (transcription, sight-singing, sight-reading, etc.), analysis of literature excerpts in performance, and improvisation, with focus on tonal music of the Classical period and the nineteenth century.

MTC208 Skills Ensemble IV  
1.00 credit  
Spring  
Chamber-music ensemble for intensive work on aural skills (transcription, sight-singing, sight-reading, etc.), analysis of literature excerpts in performance, and improvisation, with focus on selected music of the twentieth century.

MTC240 Music Theory III  
2.00 credits  
Fall  
Continuation of MTC 141; study of advanced tonal harmony, voice leading, and larger musical forms, based primarily on music of the Classical period and the nineteenth century.
MTC241 Music Theory IV  
2.00 credits  
Spring  
Continuation of MTC 240; study of materials and techniques in composition of music from the early and middle twentieth century, based on works by Debussy, Stravinsky, Schoenberg, Bartok, and other models.

MTC301 Composition V  
2.00 credits  
Fall, Spring  
Individual compositional projects with an emphasis on smaller formal structure.

MTC302 Composition VI  
2.00 credits  
Fall, Spring  
Individual compositional projects including all media with an emphasis on extended formal structures.

MTC303 Music for Media  
3.00 credits  
Fall  
Project-based lecture course designed to provide students the opportunity to compose and realize a varied array of music projects for media applications including music branding logos radio/television ID packages, and 30-second television ads. Particular emphasis is placed on technical considerations, aesthetic issues and the psychology of music as they relate to advertising on radio and television.

MTC304 Multimedia Projects.  
3.00 credits  
Spring  
Project-based lecture course designed to provide students the opportunity to compose and realize the music for a series of commercial multimedia including television program themes/bumpers, sound design and FX, film trailers, and corporate/industrial videos. Emphasis is placed on making appropriate stylistic and compositional choices, as well as developing real-world deadline/time-management skills.

MTC311 Analysis and Exper  
3.00 credits  
Fall, Spring & Summer  
Musical analysis and its relationship to listening and performance. An introduction to musical aesthetics is also included.

MTC312 Twentieth Century Techniques  
3.00 credits  
Fall, Spring  
Analysis of twentieth century compositional resources. Topics include Impressionism, expanded tonal resources, Neo-classicism, serialism, post-serialism, aleatoric procedures, minimalism, and other recent trends.

MTC313 18th Century Counterpoint  
3.00 credits  
Fall, Spring  
Two-part keyboard counterpoint in the style of J. S. Bach, beginning with a modified species approach and including composition of dance-suite movements and inventions. Introduction to three-part writing is also included.

MTC401 Composition VII  
2.00 credits  
Fall, Spring  
Individual compositional projects including all media with an emphasis on advanced problems in composition.
MTC402 Composition VIII
2.00 credits
Advanced Composition. Continuation of MTC 401.

MTC403 Advanced Music Editing.
3.00 credits
Project-based practicum course designed to provide students the opportunity to compose, record and reproduce a wide variety of music projects that combine the use of pre-existing as well as new musical elements. Particular emphasis is placed on technical considerations, aesthetic issues, and the commercial viability of the end product.

MTC404 Live Performance Musical Direction
3.00 credits
Project-based practicum course in collaboration with other Performance department, designed to provide students the opportunity to prepare music for a live concert and serve as Musical Director (MD) thereof. Particular emphasis is placed on musical material (repertoire, arrangements, score/parts preparation), rehearsal techniques, and real-time/live performance direction/conducting.

MTC416 Orchestration
3.00 credits
The uses and possibilities of orchestral instruments as well as scoring for various instrumental groups, including the symphony orchestra.

MTC452 Media Production Project Lab
2.00 credits
Laboratory component to MTC 404. Course can only be taken concurrently with MTC404.

MTC493 SPECIAL PROJECTS IN MUSIC THEORY & COMPOSITION
1.00 - 3.00 credits
Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

MTC499 Senior Recital
1.00 credit
A public recital of original compositions required of all Music Composition majors.

MTC501 The Aesthetics of Music
3.00 credits
Survey of thought and discourse about the nature, roles, values, experiences, and meanings of music. Variety of perspectives, including those of the listener, performer, and composer are addressed. Application to musical interpretation and criticism is included.

MTC505 Analysis and History of Electroacoustic and Acousmatic Music
2.00 credits
Course examines electroacoustic and acousmatic music from both a historical/literature and analytical perspective. Analytical techniques with a focus on an ecological analysis approach will be conducted as well as a survey of electroacoustic, acousmatic, and digital music.
MTC506 DIGITAL EDITING AND SEQUENCING
2.00 credits  
Computers as control devices for music synthesis and digital manipulation of pre-recorded sounds. Topics include interfacing sequencing software with software synthesizers, performance techniques, and sound design using samples.

MTC507 STUDIO LICENSING
2.00 credits  
Licensing for access to Digital Arts and Media Writing Studios. Topics covered include digital audio recording and editing, sound synthesis/design, audio signal processing, sound analysis and spatial placement of sound. Course includes studio-use qualifying exams.

MTC511 Film Scoring I
2.00 credits  
Seminar in the aesthetics and psychology of mood music, sound-film synchronization, timing techniques, and scoring procedures. Analysis and performance of student projects is included.

MTC512 Film Scoring II
2.00 credits  
Adaptation of previous semester's techniques to television scripts and performed music. Pre-recording, direct recording, and dubbing procedures are included as well as preparation and performance of complete film cues. Each student is required to conduct his/her project.

MTC515 Choral Arranging
3.00 credits  
Arranging for choir and vocal groups with and without instrumental accompaniment in all styles.

MTC516 Advanced Orchestration
3.00 credits  
Scoring for the symphonic orchestra with an emphasis on recent techniques.

MTC517 Analysis of Popular Music Since 1950
3.00 credits  
Course examines popular music in the second half of the Twentieth Century from a music analytical perspective. Critical skills needed for this analysis are identified and developed. Analytical techniques for understanding the determination and utilization of musical elements and structures in contemporary popular music are applied. Various contemporary genres and some precursors are examined and particular stylistic determinants of their compositional and performance models are discussed.

MTC518 Advanced Counterpoint
3.00 credits  
Three-voice fugal writing in Bach's style, followed by compositional projects in a variety of twentieth-century contrapuntal styles.
Undergraduate Course Listing
Frost School of Music
Theory and Composition

MTC521 Multimedia for Musicians
3.00 credits Offered By Announcement Only
Presents an overview and introduction to the creation of multimedia projects for presentation on the Web. Focus is placed on building websites, and the creation of multimedia content for online delivery. Software tools for the manipulation of digital media, including audio and video, are utilized in the realization of course projects.

MTC567 Electronic and Computer Music Seminar
1.00 - 3.00 credits Fall, Spring
Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

MTC593 SPECIAL PROJECTS IN MUSIC THEORY OR COMPOSITION
1.00 - 3.00 credits Fall, Spring & Summer
Supervised topics and other activities in specific areas of Music Theory-Composition.

Musicology

MCY007 B.A. in Music Forum
0.00 credit Fall, Spring
Forum for this major will provide programs on and discussion of the role of the musical arts in society for people in a wide range of careers.

MCY016 Musicology Forum
0.00 credit Offered By Announcement Only
A weekly forum for all Musicology majors. This course involves guest lectures by local and visiting scholars, presentations of student and faculty research, and group discussions centered on principal ideas, methods, and approaches in the field.

MCY101 THE WORLD OF MUSIC
1.00 - 3.00 credits Spring
For all new music majors, a novel introduction to music now and then, here and there; its ideas, its relations to other arts, and its role in human life.

MCY124 The Evolution of Jazz
3.00 credits Fall, Spring & Summer
A study of the origin, development, and styles of jazz music and its exponents.

MCY127 Evolution of Rock
3.00 credits Fall, Spring & Summer
Rock music from its sources to the present. Aural recognition of rock styles and selected performing artists are included.

MCY131 Understanding Music
3.00 credits Fall, Spring
A general introduction to the musical elements and the history of music from antiquity to the present. Primarily focuses on classical music, but also includes exposure to pop, jazz, and music traditions.

MCY140 Experiencing Music
2.00 credits Fall
A broad introduction to musical elements, genres, periods, styles, and composers in the classical, jazz, popular, and world music traditions.
MCY141 Musical Trends and Traditions  
2.00 credits  
Spring  
A study of genres, periods, styles, and composers in the classical, jazz, and popular music traditions.

MCY211 African-American Song Traditions  
3.00 credits  
Fall  
A study of the origins, development, and styles of African American song traditions from early plantation songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel. Areas to be explored include the development of an African American cultural consciousness and the political and socio-economic influences on the content and musical styles.

MCY212 Anglo-American Song Traditions  
3.00 credits  
Spring  
A study of the origins, development, and styles of Anglo-American song traditions from English and Irish folk ballads, to shape-note and Sacred Harp hymnody, to early folk, country and bluegrass. Areas to be explored include the development of an American cultural identity and the political and socio-economic influences on the content and musical styles.

MCY311 Modern American Pop Music I  
3.00 credits  
Fall  
A study of the development and styles of American Popular Music from the late-1950s to the late-1970s. Areas to be explored include influential songwriters and performers and stylistic development in their political and socio-economic context.

MCY312 Modern American Pop Music II  
3.00 credits  
Spring  
A study of the development and styles of American Popular Music from the early-1980s to the present. Areas to be explored include influential songwriters and performers and stylistic development in their political and socio-economic context.

MCY313 Music of Latin America  
3.00 credits  
Fall, Spring  
An introduction to the music of Latin America, with special emphasis on Mexico, Brazil, Argentina, the Andes, and the Caribbean. Covers folk, popular, and classical music traditions. Open to non-music majors.

MCY324 Music in Hebrew Culture  
3.00 credits  
Spring  
A study of the folk, traditional, liturgical, and art music of the Jews. Particular attention is given to music on Jewish subjects, music employing traditional Jewish resources, and music by contemporary Jewish and Israeli composers.

MCY333 Introduction to Cuban Music  
3.00 credits  
Fall, Spring  
A survey of Cuban Music from the early European settlement to the present. Course addresses African and Caribbean influences and the amalgamation into new national styles, as well as current musical activity on the island and in expatriate communities.

MCY493 SPECIAL PROJECTS IN MUSICOLOGY  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.
MCY494 SPECIAL TOPICS IN MUSICOLOGY
1.00 - 3.00 credits
Fall, Spring & Summer

MCY520 History and Literature of the Wind Band
3.00 credits
An historical survey of wind band literature, the evolution of the military band, the wind band, and the wind orchestra.
Fall

MCY521 Symphonic Literature
3.00 credits
A survey of orchestral music from the end of the seventeenth century to the present.
Spring

MCY522 Operatic Literature
3.00 credits
The history and literature of opera from the end of the sixteenth century to the present.
Spring

MCY524 Contemporary Music
3.00 credits
Music of the 20th century, with emphasis on developments since 1945.
Fall

MCY525 Art Song Literature
3.00 credits
A survey of the solo vocal literature from the 16th century to the present, with particular emphasis on the 19th-century French and German repertoire.
Spring

MCY526 Keyboard Literature I
3.00 credits
A survey of keyboard literature from its beginning to approximately 1750 emphasizing changes in styles of writing and expression, development of techniques suited to the primary instruments in use (including the early organ, clavichord, harpsichord and fortepiano), ornamentation both specified and improvised, forms, and ideas for interpretation based on historical sources.
Fall

MCY527 Keyboard Literature II
3.00 credits
A survey of solo keyboard literature from approximately 1750 to the present emphasizing changes in styles of writing and expression, development of technique suited to the primary instruments in use (including the clavichord, harpsichord, fortepiano and modern piano), embellishment both specified and improvised, forms, and ideas for interpretation based on historical sources (including facsimiles, printed scores, written records and sound recordings, particularly those by the composers themselves).
Spring

MCY528 Music Bibliography
3.00 credits
Course presents research materials, including dictionaries, encyclopedias, historical collections, scholarly editions, complete works, books, articles, and lists dealing with specialized areas of music history and literature.
Fall

MCY529 Music of the Baroque Period
3.00 credits
Literature and history of music from the end of the sixteenth to the middle of the eighteenth centuries.
Spring
MCY530 Music of the Classical Period  
3.00 credits  
Fall  
The musical styles which developed between the mid-eighteenth century and the nineteenth century.

MCY532 History of Chamber Music  
3.00 credits  
Fall  
Styles and forms in chamber music literature from the seventeenth century to the present.

MCY533 Music of the Romantic Period  
3.00 credits  
Spring  
The musical styles which developed during the nineteenth century.

MCY535 Choral Literature I  
2.00 credits  
Fall  
Choral music of the sixteenth through the eighteenth centuries. A combination of lecture-discussion and class performance.

MCY536 Choral Literature II  
2.00 credits  
Fall  
Choral music of the nineteenth and twentieth centuries. A combination of lecture-discussion and class performance.

MCY537 Music in the United States  
3.00 credits  
Spring  
A survey of music in the United States from colonial times to the present, with emphasis on the social, economic, and political conditions which affected it. Art music (sacred and secular), popular music in all idioms, the music industry as it evolved in the U.S., and the influence of American music on the music of other countries.

MCY538 Music, Gender, and Sexuality  
3.00 credits  
Spring  
An exploration of music from around the world from the perspective of women. We will examine the roles women have played, and still play, as creators and performers in art music and popular music traditions. Representations of women and gender ideologies will also be discussed.

MCY541 Music of the Mediaeval, Renaissance, and Baroque Periods  
3.00 credits  
Fall & Summer  
A comprehensive, in-depth study of the musical styles and genres of the Mediaeval, Renaissance, and Baroque Eras. Important musical figures of these periods and analytical studies of important pieces of music from these periods are addressed.

MCY542 Music of the Classical, Romantic, and Modern Periods  
3.00 credits  
Spring & Summer  
A comprehensive, in-depth study of the musical styles and genres of the Classical, Romantic, and Modern Eras of important musical figures of these periods, and analytical studies of important pieces of music from these periods.

MCY553 Miami’s Musical Heritage  
3.00 credits  
Spring & Summer  
A study of the musical traditions and practices of the various cultures that are part of Miami's unique multi-ethnic society.
Frost School of Music

Musicology

MCY554 Music Cultures of the World: Argentina and Brazil
3.00 credits
Offered By Announcement Only
A study of music culture of the region including the music of folk societies, popular artists, and classical musicians. Open to non-majors.

MCY562 Music of Argentina and Brazil.
3.00 credits
Spring
An in-depth study of Argentine and Brazilian musical cultures covering folk, popular, and classical traditions. Open to non-majors.

MCY564 Seminar in Latin American Music Collections
3.00 credits
Fall
Examines Latin American music materials at the Cuban Heritage Collection and Special Collections at the Richter Library. Focuses on interpreting original documents and acquiring archival techniques.

MCY583 History of the American Musical Theatre
3.00 credits
Fall
An examination of the development of musical theatre from its European opera and operetta background to an indigenous American art form. The areas to be explored include the rise and fall of various genre of musical shows, integration of story, song and dance, important producers, directors, lyricists, composers, and new fields such as director-choreographer. The development of an American cultural consciousness and political and socio-economic trends of various decades that greatly influenced the content and form of musical shows is also examined.

MCY593 SPECIAL PROJECTS IN MUSICOLOGY
1.00 - 3.00 credits
Fall, Spring & Summer
Supervised topics and other activities in specific areas of Musicology.

MCY594 SPECIAL TOPICS IN MUSICOLOGY
1.00 - 3.00 credits
Fall, Spring & Summer

Studio Music and Jazz

MSJJBA Jazz Bass
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic techniques, sight-reading. Major, minor, diminished, and whole tone scales. Chord structure and analysis. Bass line construction, basis of walking lines. Voice leading for bass lines and improvisation. Etudes and studies in all styles. Repertoire: Standards and Jazz.

MSJJBB Jazz Bass
1.00 - 2.00 credits
Fall, Spring

MSJJBC Jazz Bass
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to solo bass techniques. Advanced arpeggios and scales. Pentatonic theory and applications. Improvisational vocabulary (traditional).

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MSJJBD Jazz Bass
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to solo bass techniques. Advanced arpeggios and scales. Pentatonic theory and applications. Improvisational vocabulary (traditional).

MSJJBE Jazz Bass
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to advanced harmonic applications. Expanding traditional improvisational vocabulary. Creating original vocabulary.

MSJJBF Jazz Bass
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to advanced harmonic applications. Expanding traditional improvisational vocabulary. Creating original vocabulary.

MSJJBG Jazz Bass
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to recital preparation.

MSJJBH Jazz Bass
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to recital preparation.

MSJJDA Jazz Drumset
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking technique, basic hand/foot patterns. Analysis of styles, history of drum set. Rhythm section interaction. Basic transcription, chart reading.

MSJJDB Jazz Drumset
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking technique, basic hand/foot patterns. Analysis of styles, history of drum set. Rhythm section interaction. Basic transcription, chart reading.

MSJJDC Jazz Drumset
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced analysis or major drum set artists. Advanced transcription. Soloing over form using motives, dynamics, and subdivision, comping patterns.
MSJJDD Jazz Drumset
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced analysis or major drum set artists. Advanced transcription. Soloing over form using motives, dynamics, and subdivision, comping patterns.

MSJJDE Jazz Drumset
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced jazz styles and comping, odd note groupings, advanced chart reading, advanced hand/foot patterns.

MSJJDF Jazz Drumset
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced jazz styles and comping, odd note groupings, advanced chart reading, advanced hand/foot patterns.

MSJJDG Jazz Drumset
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Displacement, metric modulation, preparation for recital, developing an individual voice.

MSJJDH Jazz Drumset
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Displacement, metric modulation, preparation for recital, developing an individual voice.

MSJJGA Jazz Guitar
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Left and right hand development. Basic fretboard theory including arpeggios, voice leading (2 string studies), blues and bebop scales. Accompanying: 3-note voicings. Introduction to transcription. Application of the concepts studied to basic repertoire.

MSJJGB Jazz Guitar
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Left and right hand development. Basic fretboard theory including arpeggios, voice leading (2 string studies), blues and bebop scales. Accompanying: 3-note voicings. Introduction to transcription. Application of the concepts studied to basic repertoire.

MSJJGC Jazz Guitar
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of repertoire and continuation of technical studies. Improvisation using arpeggios with tension substitutions. Application of major and melodic minor modes. More advanced transcriptions and refinement of time feel.
MSJJGD Jazz Guitar
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of repertoire and continuation of technical studies. Improvisation using arpeggios with tension substitutions. Application of major and melodic minor modes. More advanced transcriptions and refinement of time feel.

MSJJGE Jazz Guitar
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Works by Bach, Galbraith and others. Building of standard/jazz repertoire including works by Arlen, Porter, Kern, Parker, Ellington, etc. Improvisation and harmonic studies based on the foregoing. Ear training as required. Use of Jamey Aebersold play-along series.

MSJJGF Jazz Guitar
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Works by Bach, Galbraith and others. Building of standard/jazz repertoire including works by Arlen, Porter, Kern, Parker, Ellington, etc. Improvisation and harmonic studies based on the foregoing. Ear training as required. Use of Jamey Aebersold play-along series.

MSJJGG Jazz Guitar
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. More advanced repertoire (works by Corea, Hancock, etc.). Continued expansion of harmonic concepts and exploration of chord voicings and applications. Use of Aebersold series. Assistance with senior recital preparation.

MSJJGH Jazz Guitar
1.00 - 2.00 credits  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. More advanced repertoire (works by Corea, Hancock, etc.). Continued expansion of harmonic concepts and exploration of chord voicings and applications. Use of Aebersold series. Assistance with senior recital preparation.

MSJPJA Jazz Piano
1.00 - 2.00 credits  
Students will expand and refine application of fundamental chord voicings, chord-scale relationships, be-bop and blues vocabulary, and develop a strong rhythmic base. Solo piano and ensemble/accompaniment formats will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

MSJPB Jazz Piano
1.00 - 2.00 credits  
Students will expand and refine application of fundamental chord voicings, chord-scale relationships, be-bop and blues vocabulary, and develop a strong rhythmic base. Solo piano and ensemble/accompaniment formats will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.
MSJJPC Jazz Piano
1.00 - 2.00 credits
Fall, Spring
Students will expand and refine knowledge of chord voicings, chord scale relationships, and rhythmic integrity in swing and other styles. Modal, chromatic, and non-traditional harmonic concepts will be introduced. Advanced rhythmic approaches to improvisation and accompaniment will be explored. Expressive aspects of performance will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

MSJJPD Jazz Piano
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Arpeggiation of major, minor, diminished and augmented seventh chords, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to melodic harmonization through practice of Shearing Style and Drop Two scaler exercises. Introduction of the ii-V7-I chord progression in all keys as applied to tunes which have a harmonic rhythm of two changes per bar such as Confirmation (Parker) and in Your Own Sweet Way (Brubeck). Literature: Study of the I Got Rhythm chord progression. Memorization of at least two tunes per lesson in their original key, at least 75% of which should be tunes in the American standard format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of above to be performed with bass accompaniment, or in solo piano format. Study, performance and analysis of transcribed solos such as those found in the Omnibook (Parker). Introduction to solo piano format through study of transcribed pieces.

MSJJPE Jazz Piano
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the American standard format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.
MSJJPF Jazz Piano
1.00 - 2.00 credits
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the American standard format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

MSJJPG Jazz Piano
1.00 - 2.00 credits
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the American standard format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

MSJJPH Jazz Piano
1.00 - 2.00 credits
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the American standard format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.
MSJJSASJ Jazz Saxophone
1.00 - 2.00 credits                            Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Introduction to principals of saxophone acoustics; introduction to tone production, intonation, tonal color, and blend; basic technique, chords and scale studies; jazz phrasing; establishment of a tune list (repertoire); study of improvised Solos through transcription; major scales full range, thirds, diatonic seventh chords in level A and in level B, melodic minor scales full range, thirds, diatonic seventh chords.

MSJJSBSB Jazz Saxophone
1.00 - 2.00 credits                            Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Introduction to principals of saxophone acoustics; introduction to tone production, intonation, tonal color, and blend; basic technique, chords and scale studies; jazz phrasing; establishment of a tune list (repertoire); study of improvised Solos through transcription; major scales full range, thirds, diatonic seventh chords in level A and in level B, melodic minor scales full range, thirds, diatonic seventh chords.

MSJJSCE Jazz Saxophone
1.00 - 2.00 credits                            Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of earlier levels as needed; diminished scales; pentatonic scales/patterns; extended range exercises; application of melodic minor/pentatonic scales; chromatic scale extensions; tritone substitutions.

MSJJSFD Jazz Saxophone
1.00 - 2.00 credits                            Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of earlier levels as needed; diminished scales; pentatonic scales/patterns; extended range exercises; application of melodic minor/pentatonic scales; chromatic scale extensions; tritone substitutions.

MSJJSE Jazz Saxophone
1.00 - 2.00 credits                            Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of tone and technique as needed; augmented scale; rhythmic exercises from drum methods; continue extended range studies; a cappella improvisation; studies in melodic/rhythmic development.

MSJJSEF Jazz Saxophone
1.00 - 2.00 credits                            Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of tone and technique as needed; augmented scale; rhythmic exercises from drum methods; continue extended range studies; a cappella improvisation; studies in melodic/rhythmic development.
MSJJSG Jazz Saxophone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Recital Preparation. Building of repertoire; concentration on selected influential composers: Ellington, Shorter, Hancock, Miller, Silver, Jobim, Golson, Lieberman, etc. Review of teaching methods, materials. Advanced technique studies: Bozza Etudes Caprices, Lacour 8 Difficult studies. Topics of interest as decided by student in consultation w/teacher. Total 80 tunes (minimum) by end of H level.

MSJJSH Jazz Saxophone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Recital Preparation. Building of repertoire; concentration on selected influential composers: Ellington, Shorter, Hancock, Miller, Silver, Jobim, Golson, Lieberman, etc. Review of teaching methods, materials. Advanced technique studies: Bozza Etudes Caprices, Lacour 8 Difficult studies. Topics of interest as decided by student in consultation w/teacher. Total 80 tunes (minimum) by end of H level.

MSJTBA Jazz Trombone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Daily routine/classical etudes. Major, melodic minor, diminished scales, Dorian and Mixolydian modes, dominant 7th arpeggios, minor 7th arpeggios. All major and minor 3rds followed by respective dominant 7ths.

MSJTBB Jazz Trombone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Daily routine/classical etudes. Major, melodic minor, diminished scales, Dorian and Mixolydian modes, dominant 7th arpeggios, minor 7th arpeggios. All major and minor 3rds followed by respective dominant 7ths.

MSJTBC Jazz Trombone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to blues and rhythm changes in 12 keys. Voice Leading (3rds and 7ths). Transcription techniques/assigned transcriptions. Standard tunes (1 per week).

MSJTBD Jazz Trombone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to blues and rhythm changes in 12 keys. Voice Leading (3rds and 7ths). Transcription techniques/assigned transcriptions. Standard tunes (1 per week).

MSJTBE Jazz Trombone  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material, in addition to standard tunes (2 per week). 251 licks in major and minor. Diminished patterns.
MSJTBF Jazz Trombone
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material, in addition to standard tunes (2 per week). 251 licks in major and minor. Diminished patterns.

MSJTBG Jazz Trombone
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to augmented scales and patterns. Pentatonic scales and patterns. Recital preparation.

MSJTBH Jazz Trombone
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to augmented scales and patterns. Pentatonic scales and patterns. Recital preparation.

MSJTPA Jazz Trumpet
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Concentration on basic trumpet skills, utilizing the Arbans and Clarke technical studies book. Proper breathing techniques. Major and diminished whole tone scales. Jazz tonguing. Standard jazz repertoire.

MSJTPB Jazz Trumpet
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Concentration on basic trumpet skills, utilizing the Arbans and Clarke technical studies book. Proper breathing techniques. Major and diminished whole tone scales. Jazz tonguing. Standard jazz repertoire.

MSJTPC Jazz Trumpet
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of basic skills in addition to range studies utilizing the Wedge breath. Transcribing jazz trumpet solos. A cappella blues in all keys.

MSJTPD Jazz Trumpet
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of basic skills in addition to range studies utilizing the Wedge breath. Transcribing jazz trumpet solos. A cappella blues in all keys.

MSJTPE Jazz Trumpet
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of range studies in addition to advanced etudes such as Bitsch and Charlier. Advanced jazz repertoire. Diminished and augments scales. Studio techniques.
MSJTPF Jazz Trumpet
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of range studies in addition to advanced etudes such as Bitsch and Charlier. Advanced jazz repertoire. Diminished and augments scales. Studio techniques.

MSJTPG Jazz Trumpet
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Study of advanced jazz repertoire. Recital preparation.

MSJTPH Jazz Trumpet
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Study of advanced jazz repertoire. Recital preparation.

MSJVOA Jazz Voice
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirement: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Repertoire: 25 Songs: 6 swing, 6 traditional ballad, 5 bossa/samba, 2 blues/funk, contemporary ballad, 4 student choice.

MSJVOB Jazz Voice
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirement: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Repertoire: 25 Songs: 6 swing, 6 traditional ballad, 5 bossa/samba, 2 blues/funk, contemporary ballad, 4 student choice.

MSJVOC Jazz Voice
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 24 Songs: 16 selections from Swing, Ballad, Jazz Waltz and Latin idioms. 4 Rock/Funk/R&B arrangements in coordination with MSJ 301. Mini-Concert (4 song set) Note: Sophomore proficiency.

MSJVOD Jazz Voice
1.00 - 2.00 credits Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 24 Songs: 16 selections from Swing, Ballad, Jazz Waltz and Latin idioms. 4 Rock/Funk/R&B arrangements in coordination with MSJ 301. Mini-Concert (4 song set) Note: Sophomore proficiency.
MSJVOE Jazz Voice  
1.00 - 2.00 credits  Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, continuation of standard repertoire at more advance and complex level, including bebop, original material, modal tunes and selections of harmonic and melodic complexity with improvisation.

MSJVOF Jazz Voice  
1.00 - 2.00 credits  Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, continuation of standard repertoire at more advance and complex level, including bebop, original material, modal tunes and selections of harmonic and melodic complexity with improvisation.

MSJVOG Jazz Voice  
1.00 - 2.00 credits  Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, same styles as above, Recital preparation, review of repertoire list and audition preparation.

MSJVOH Jazz Voice  
1.00 - 2.00 credits  Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, same styles as above, Recital preparation, review of repertoire list and audition preparation.

MSJ003 Jazz Forum  
0.00 credit  Fall, Spring  
A weekly meeting of jazz students and faculty for performance, master classes, clinics presented by students, faculty and guest artists.

MSJ011 Saxophone Forum  
0.00 credit  Fall, Spring  
Course provides a weekly forum for all saxophone principals. Student performances, guest artists, master classes, and listening to selected recordings are part of the curriculum.

MSJ018 Jazz Vocal Forum  
0.00 credit  Fall, Spring  
A weekly meeting of the jazz vocal students and faculty dedicated to student performances, ensemble performances, and guest artist performances and workshops.

MSJ088 Jazz Piano Forum  
0.00 credit  Fall, Spring  
Jazz Piano Forum is a weekly performance venue for jazz piano principals and majors which may include guest clinicians and artists.

MSJ107 Skills Ensemble I  
1.00 credit  Fall  
Chamber music performance of selected repertoire with a concentration in Bebop and the music of Charlie Parker, Dizzy Gillespie, and Thelonius Monk, along with secondary figures from the Be-Bop era 1945-1955. Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills, (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.
MSJ108 Skills Ensemble II
1.00 credit  Spring
Chamber music performance of selected repertoire with a concentration in Jazz and popular music in America in the 1950's, including the repertoire of prominent popular music composers such as George Gershwin, Cole Porter, Richard Rodgers, and others. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

MSJ111 Jazz Vocal Techniques I
1.00 credit  Fall
Analysis and application of singing styles and attendant skills, techniques and repertoire required in performance and recording of jazz, popular music, and other current idioms.

MSJ113 Analysis and Evolution of Jazz Styles I
3.00 credits  Spring
An overview of the musical styles and genres of the late nineteenth and early twentieth century leading to the development of Jazz music. Then an in-depth study of early Jazz in America and its innovators, including Louis Armstrong, Jelly Roll Morton, and Duke Ellington. Also, a survey of the major style periods of Modern Jazz from 1945 to the present, including prominent artists from each style period.

MSJ124 Introduction to Jazz Improvisation
3.00 credits  Fall, Spring
Introduction to the harmonic, melodic, and rhythmic techniques of Jazz Improvisation.

MSJ125 Introduction to Jazz Vocal Improvisation.
3.00 credits  Spring
Introduction to the harmonic, melodic, and rhythmic techniques of Jazz Improvisation.

MSJ134 E.C.M. Ensemble
1.00 credit  Fall, Spring
This ensemble performs music typical of the contemporary European jazz styles such as those characterized by the Edition of Contemporary Music (E.C.M.) Recording Company.

MSJ139 Small Jazz Vocal Ensemble
1.00 credit  Fall, Spring
A group consisting of 1 to 6 vocalists and 3 to 6 instrumentalists to gain experience in jazz solo and ensemble performance in a small group setting. Exploration of traditional and contemporary jazz literature will be emphasized. Performance of original music by ensemble members is also encouraged.

MSJ140 Small Jazz Ensemble
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.
MSJ141 Small Jazz Ensemble I
1.00 credit Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble’s repertoire. This course is a continuation of MSJ 140: Small Jazz Ensemble.

MSJ142 Small Jazz Ensemble II
1.00 credit Fall, Spring
This ensemble focuses on sectional playing, blend, and musical interpretation. Students will be required to perform in sections of four to eight trombones with a rhythms section. The literature also requires the student to improvise. Students are encouraged to write for the ensemble.

MSJ143 Small Jazz Ensemble III
1.00 credit Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ144 Small Jazz Ensemble IV
1.00 credit Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ145 Small Jazz Ensemble V
1.00 credit Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ146 Small Jazz Ensemble VI
1.00 credit Fall, Spring
Freshmen level group that focuses on the music of Charlie Parker, Dizzy Gillespie, and Thelonius Monk. Issues of modern jazz harmony and rhythm as well as cultivating Bebop vocabulary for improvisation are discussed.

MSJ147 Small Jazz Ensemble VII
1.00 credit Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ150 Studio Jazz Band
1.00 credit Fall, Spring
This ensemble performs music in the recent big band tradition, from leaders such as Duke Ellington, Count Basie, Buddy Rich, Bob Brookmeyer, and Thad Jones. The group performs on campus with an emphasis on studio recording.
Undergraduate Course Listing
Frost School of Music
Studio Music and Jazz

MSJ151 Concert Jazz Band
1.00 credit  Fall, Spring
The Concert Jazz Band is the premiere big band at the Frost School of Music. Students are required to perform at an advanced level, and work with a variety of guest artists. Requirements include the ability to sight read difficult material, and to improvise in various styles.

MSJ153 Jazz Band III
1.00 credit  Fall, Spring
Big Band designed for freshmen and sophomores to gain experience with classic Big Band repertoire.

MSJ155 Monk/Mingus Ensemble
1.00 credit  Fall
This ensemble is dedicated to the study and performance of the music of the influential jazz composers Charles Mingus and Thelonious Monk.

MSJ156 Funk/Fusion Ensemble
1.00 credit  Fall, Spring
Small jazz ensemble focusing on contemporary electric jazz/rock/fusion/Latin styles. Emphasis is placed on original compositions by the members of the ensemble. The most common instrumentation is bass, drums, piano/synthesizer, guitar, and saxophone.

MSJ157 Horace Silver Ensemble
1.00 credit  Spring
This ensemble is dedicated to the study and performance of the music of Horace Silver.

MSJ158 FROST Sextet
1.00 credit  Fall, Spring
An advanced ensemble dedicated to the performance of original and standard repertoire in the jazz idiom.

MSJ159 Rhythm and Blues Ensemble
1.00 credit  Fall, Spring
Mid-level ensemble for both instrumentalists and vocalists designed to familiarize students with classic Rhythm and Blues material from the 50's, 60's, and 70's, while preparing for a series of concerts throughout the semester. Students are guided through the process of putting a working band together and preparing it for performances and recordings, including what is expected of and from instruments, vocalists, producers, promoters, and other industry personnel.

MSJ160 Avant Garde Ensemble
1.00 credit  Fall
This ensemble offers students the opportunity to develop the free form improvisation in either the bebop based style of Ornette Coleman or the fusion oriented style as typified by Bill Laswell.

MSJ162 Jazz Saxophone Ensemble
1.00 credit  Offered By Announcement Only
An ensemble dedicated to the study of jazz and contemporary repertoire for the saxophone Quartet/quintet. Skills addressed include sight-reading, intonation and blend, phrasing, rhythmic Accuracy, may include rhythm section accompaniment depending on availability.
MSJ164 Contemporary Rhythm Section Techniques I
1.00 credit
Fall
Introduces students to various styles of rhythm section playing--from swing and modern Jazz through Rock, Funk, R&B, and other commercial styles of music. Concepts of sound, groove, balance and blend, repertory, and accompaniment are also discussed.

MSJ165 Contemporary Rhythm Section Techniques II
1.00 credit
Spring
Fundamentals of rhythm section playing for guitarists, pianists, bassists, and drummers. It covers a variety of contemporary styles within the rock, jazz, Latin, and pop idioms. Students are grouped into ensembles which perform in class weekly.

MSJ166 Small Jazz Ensemble Lab
0.00 credit
Fall, Spring
Performance Lab designed to work in conjunction with all of the 140 level ensembles. Provides an environment in which students are required to perform on a regular rotating schedule throughout the semester. These performances are critiqued by the institution and other faculty, as well as students, in order to nurture a critical but positive atmosphere.

MSJ167 Salsa Ensemble
1.00 credit
Spring
An ensemble of instrumentalists and singers performing a wide variety of Salsa and Latin jazz styles with emphasis on improvisation.

MSJ169 Jazz Guitar Ensemble I
1.00 credit
Fall, Spring
A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

MSJ170 Jazz Guitar Ensemble II
1.00 credit
Fall, Spring
A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

MSJ171 Jazz Guitar Ensemble III
1.00 credit
Fall, Spring
A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

MSJ172 Jazz Guitar Ensemble (Workshop I)
1.00 credit
Fall
A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

MSJ173 Jazz Guitar Ensemble (Workshop II)
1.00 credit
Spring
A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

MSJ195 Jazz Vocal Ensemble I
1.00 credit
Fall, Spring
A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.
MSJ196 Jazz Vocal Ensemble II
1.00 credit Fall, Spring
A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

MSJ197 Jazz Vocal Ensemble III
1.00 credit Fall, Spring
A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

MSJ203 Jazz Piano Class I
1.00 credit Fall, Spring
This class covers the rudiments of jazz piano. Students will learn to play basic II V I progressions in major and minor. These progressions will be utilized while learning basic jazz standards.

MSJ204 Jazz Piano Class II
1.00 credit Fall, Spring
A continuation of MSJ 203, alternate versions of the II V I progression are discussed. Students will also learn to play the blues and rhythm changes progressions with a walking bass line. Jazz standards will be played as solo melody with chordal accompaniment.

MSJ207 Skills Ensemble III
1.00 credit Fall
Chamber music performance of selected repertoire with a concentration in the music of Miles Davis in the 1950's. Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

MSJ208 Skills Ensemble IV
1.00 credit Spring
Chamber music performance of selected repertoire from the Hard Bop period (1955-1962) including Blue Note artists. Additional repertoire from a list of American standard will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

MSJ211 Jazz Vocal Techniques III
1.00 credit Fall
Course provides performance experience in the Rock/Funk and Rock Ballad idioms that require strong vocal projection and presentation.

MSJ212 Jazz Vocal Techniques IV
1.00 credit Spring
Advanced techniques for the Jazz/Pop Vocalist in live performance.

MSJ213 Analysis & Evolution of Jazz Styles II.
3.00 credits Spring
An overview of the musical styles and genres of the middle and late twentieth century encompassing the evolution of Modern Jazz music including an in-depth study of each period of Modern Jazz and its innovators. Also included is a survey of the major style periods of Rock music from 1945 to the present with prominent artists from each style period.
**Frost School of Music**

**Studio Music and Jazz**

**MSJ220 Basic Drumset Styles and Techniques (Part 1)**
3.00 credits  Fall
This course explores the basic sticking, swing, backbeat drumset techniques, basic world drumset styles, and chart reading.

**MSJ240 Jazz Skills I**
3.00 credits  Fall
Jazz Skills I covers the fundamentals of Jazz theory and performance. The class is keyboard based. Material includes the basics of melody, harmony and rhythm in the tradition of the Jazz art form. Specific topics include chord construction, chord voicings, progressions, voice leading, rhythmic interpretation and aural recognition.

**MSJ241 Jazz Skills II**
3.00 credits  Spring
Jazz Skills II is a continuation of Jazz Skills I. Material includes a more in depth study of chord/scale theory, polyrhythmic studies, expansion of keyboard skills via increasingly longer or complicated progressions, aural recognition and transcription.

**MSJ305 Jazz Piano Class III**
1.00 credit  Fall, Spring

**MSJ306 Jazz Piano Class IV**
1.00 credit  Fall, Spring

**MSJ320 Basic Drumset Styles and Techniques (Part 2)**
3.00 credits  Spring
This course is a continuation of MSJ 220. It explores advanced sticking, swing, backbeat drumset techniques, advanced world drumset styles, and chart reading.

**MSJ340 Jazz Skills III**
3.00 credits  Fall
Jazz Skills III continues to build on skills acquired in the previous two semesters. Material includes continued development of keyboard skills and aural recognition through expansion of repertoire, modal and non-dominant/tonic harmonic schemes, bass lines and counterpoint, harmonization of melodies, and re-harmonization of basic progressions and transcription.

**MSJ341 Jazz Skills IV**
3.00 credits  Spring
Jazz Skills IV is the culmination of the four level Jazz Skills sequence. Students are expected to understand and aurally recognize advanced harmonic, melodic, and rhythmic material. New material may include Latin and other straight-eighth rhythms, multi-voice counterpoint, advanced re-harmonization, and improvising at the keyboard. Keyboard skills run concurrent with Jazz Arranging II techniques (MSJ 520).
MSJ342 Technology Skills III
2.00 credits  Fall, Spring
Music Technology III is a continuation of MMI 240 Technology Skills I and MMI 241 Technology Skills II. Recording projects combining acoustic instruments with software based instruments in a Digital Audio Workstation. Studio recording techniques including microphone placement will be demonstrated in a lab environment. Projects will be based on student compositions and/or arrangements. Post-production will include mixing, mastering and CD manufacturing.

MSJ371 Jazz Improvisation I
3.00 credits  Fall, Spring
Fundamentals of jazz harmony with emphasis on simple chord progressions, altered scales, and modes.

MSJ372 Jazz Vocal Improvisation I
3.00 credits  Spring
Fundamentals of jazz harmony with emphasis on complex harmonic progressions and tunes.

MSJ493 SPECIAL PROJECTS IN STUDIO MUSIC & JAZZ
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised readings and other activities in specific areas of Studio Music and Jazz.

MSJ494 SPECIAL TOPICS IN STUDIO MUSIC & JAZZ
1.00 - 3.00 credits  Fall, Spring & Summer

MSJ499 Senior Recital
1.00 credit  Fall, Spring
A public recital of one hour or more. Course is required of all performance majors.

MSJ509 Jazz Composition I
2.00 credits  Fall
Application of advanced composition techniques to various contemporary Jazz styles making extensive use of analysis of established compositions. Emphasis is placed on small group performance.

MSJ510 Jazz Composition II
2.00 credits  Spring
This course is a continuation of MSJ 500 with an emphasis on melody writing, reharmonization techniques, pentatonic/blues composition, and an introduction to advanced harmonic materials.

MSJ516 Jazz Vocal Arranging
2.00 credits  Spring
Analysis and techniques of jazz vocal writing.

MSJ519 Advanced Modern Arranging I
3.00 credits  Fall
Advanced arranging and composition for the Jazz and studio ensemble.

MSJ520 Advanced Modern Arranging II
3.00 credits  Spring
Advanced arranging and composition for the Jazz and studio ensemble.
MSJ521 Advanced Modern Arranging III  
3.00 credits  
Spring  
Course addresses scoring for large jazz ensemble, utilizing chord scale voicings and line writing techniques. Emphasis is placed on orchestration styles such as Duke Ellington, Gil Evans, and Thad Jones.

MSJ522 Introduction to Midi Sequencing and Digital Workstations  
2.00 credits  
Fall, Spring  
An introduction to Midi Sequencing with hands-on experience working with a computer sequencing workstation. Topics include sequencing, quantizing, editing, mixing, and effects processing.

MSJ544 Jazz Pedagogy and Administration  
3.00 credits  
Spring  
The philosophy, methods, and materials of instruction pertinent to the teaching and management of a jazz and commercial curriculum at the high school and college level. Includes preparation of model curricula and supervised instruction.

MSJ560 Advanced Jazz Improvisation Theory  
3.00 credits  
Fall  
Review of fundamentals and introduction of advanced topics in jazz harmony and scale resources for improvisation.

MSJ565 Advanced Improvisation I  
3.00 credits  
Spring  
Use of stylistic nuance with emphasis on melodic development, complex harmonies, time-feel, and phrasing. Open only to senior or graduate majors in Studio Music and Jazz.

MSJ566 Advanced Improvisation II  
3.00 credits  
Fall  
Refinement of improvisation concepts leading towards the establishment of a personal style of playing. Open only to senior or graduate majors in Studio Music and Jazz.

MSJ593 SPECIAL PROJECTS IN STUDIO MUSIC AND JAZZ  
1.00 - 3.00 credits  
Fall, Spring  
Supervised topics and other activities in specific areas of Studio Music and Jazz.

Vocal Performance  

MVPVOA Voice  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate a beginning concept of breath management, legato connection for moderate length phrases, clear articulation and projection of vowels and consonants in English, emotional connection to and communication of text, release of vibrato in sustained singing, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

MVPVOB Voice  
1.00 - 2.00 credits  
Fall, Spring  
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate a beginning concept of breath management, legato connection for moderate length phrases, clear articulation and projection of vowels and consonants in English, emotional connection to and communication of text, release of vibrato in sustained singing, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).
MVPVOC Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate consistent breath support, firmly established legato line, evidence of musical phrasing, consistent vibrato, ability to execute technical exercises evenly throughout the range, and jury repertoire, language, and performing (See Guidelines for Voice Study).

MVPVOD Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate consistent breath support, firmly established legato line, evidence of musical phrasing, consistent vibrato, ability to execute technical exercises evenly throughout the range, and jury repertoire, language, and performing (See Guidelines for Voice Study).

MVPVOE Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and Appropriate modification of resonators, ability to self-prepare a song, knowledge of musical styles and historical periods of music, effective communication of song literature, an established warm-up regiment and technical exercises as prescribed by the voice teacher, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

MVPVOF Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and Appropriate modification of resonators, ability to self-prepare a song, knowledge of musical styles and historical periods of music, effective communication of song literature, an established warm-up regiment and technical exercises as prescribed by the voice teacher, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

MVPVOG Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required lyric languages, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performing with accuracy in pitch, rhythm, good posture, breath management, phonation, and resonance in addition to jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

MVPVOH Voice
1.00 - 2.00 credits
Fall, Spring
1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required lyric languages, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performing with accuracy in pitch, rhythm, good posture, breath management, phonation, and resonance in addition to jury repertoire, language, and performance requirements (See Guidelines for Voice Study).
MVP008 Voice Forum
0.00 credit  Fall, Spring
A weekly informal recital setting and performance class for voice principals and majors with guest artists, master classes, and faculty presentations. Required for all two, three, and four credit applied voice students.

MVP101 Voice Class for Voice Principals
1.00 - 2.00 credits  Fall
Class instruction for beginning voice principals. Fundamentals of singing, breath control, and tone production are taught. Appropriate solo repertoire is assigned.

MVP144 Vocal Techniques for Non-Majors
1.00 credit  Fall, Spring
Class instruction in fundamentals of singing, breath control, tone production, diction, and solo singing for non-music majors. Basic music reading skills are taught.

MVP147 Men's Chorale
1.00 credit  Fall, Spring
This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

MVP148 Women's Chorale
1.00 credit  Fall, Spring
This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

MVP167 Music Theatre Workshop
1.00 credit  Fall, Spring
Participation in a fully-staged production or supervised classwork and projects which integrate the skills of the musical theatre singer/actor.

MVP180 Symphonic Choir
1.00 credit  Fall, Spring
Study and performance of choral literature appropriate for large choir, including choral orchestral masterworks.

MVP181 Choral Conducting I
1.00 credit  Fall
This course provides practical procedures and materials for beginning conducting students. Students demonstrate basic conducting patterns, preparations, and releases in all meters.

MVP182 Choral Conducting II
1.00 credit  Spring
This course provides practical procedures and materials for advanced conducting students. Students demonstrate refined skills in conducting musical styles and independence of gesture. A strong emphasis is placed on conducting of mixed meters.
MVP184 Chamber Singers
1.00 credit  
**Fall, Spring**
An ensemble of eighteen to twenty undergraduate and graduate students, the ensemble performs challenging chamber choir repertoire from the Renaissance through the Twentieth Century.

MVP185 UM Chorale
1.00 credit  
**Fall, Spring**
This ensemble performs significant choral literature with an emphasis on music of the Twentieth-Century and on choral/orchestral works including opera. Open to all qualified undergraduate students, regardless of major.

MVP188 Opera Theater I
1.00 credit  
**Fall**
Typically taken in the first semester of freshman year by vocal performance majors. Basic stage techniques will be studied and mastered. The learning process repertoire, basic acting and performance techniques will be addressed. Methods of communication of text and emotion will be studied and applied. Emphasis will be on solo repertoire with possible participation in fall opera production.

MVP189 Opera Theater II
1.00 credit  
**Spring**
Typically taken in the second semester of the first year by vocal performance majors. Further research, development and application of stage deportment, character development, acting skills, communication of emotion and text. Repertoire will include solo songs, arias and small ensembles and possible participation in spring opera production.

MVP196 Singing for the Stage I-A
1.00 credit  
**Spring**
The selection, learning process, and performance of Musical Theatre Songs with emphasis on tone production and style.

MVP197 Singing for the Stage I-B
1.00 credit  
**Spring**
Continuation of MVP 196.

MVP205 Acting for Opera
2.00 credits  
**Fall**
This course is designed to combine acting techniques with singing, dealing specifically with challenges presented to the singing actor and including musical styles and periods, period fashion and props, movement, and stage techniques for recitative, aria and ensemble performance.

MVP206 Acting for Opera - Intermediate
2.00 credits  
**Spring**
Course designed to continue to develop acting and character development skills for operatic performance.

MVP210 Score Reading for Stage Management Majors
1.00 credit  
**Fall**
Course designed to teach stage managers to read a piano/vocal score in order to call light and sound cues. Students will study time signatures, rhythms, and tempo indications as well as understand the basic forms of music.
MVP250 English Diction for Singers
1.00 credit  
Fall
Class designed for voice majors and principals, focus on development of pronunciation skills for teaching and singing in English. International Phonetic Alphabet is presented as a learning tool.

MVP251 Italian Diction for Singers
1.00 credit  
Spring
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching in Italian and Latin. International Phonetic Alphabet is presented as a learning tool.

MVP252 German Diction for Singers
1.00 credit  
Fall
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in German. International Phonetic Alphabet is presented as a learning tool.

MVP253 French Diction for Singers
1.00 credit  
Spring
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in French. International Phonetic Alphabet is presented as a learning tool.

MVP281 Choral Conducting III
1.00 credit  
Fall
This course provides a synthesis of the skills demonstrated in Choral Conducting I and II, while developing error detection skills in musical scores.

MVP282 Choral Conducting IV
1.00 credit  
Spring
This course focuses on quality choral literature for middle school and high school ensembles.

MVP288 Opera Theater III
1.00 credit  
Fall
Taken by vocal performance majors in the first semester sophomore year, this course is designed to combine acting techniques with singing, dealing specifically with challenges unique to the singing actor and including musical styles and periods, period fashion and props, movement, and stage technique for recitative, aria and ensemble performances. Movement will be more specific to stage requirements, but include dance steps and period movement.

MVP289 Opera Theater IV
1.00 credit  
Spring
Typically taken in the 2nd semester, sophomore year by vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I, II, and III.

MVP294 Singing for Actors
1.00 credit  
Fall
The preparation of song literature and audition material for actors (can be repeated for credit).
MVP296 Singing for the Stage II-A  
1.00 credit  
Instruction in auditioning methods and materials for American musical theatre.  

MVP297 Singing for the Stage II-B  
1.00 credit  
Instruction in preparing vocal material for musical scenes drawn from American musical theatre.  

MVP388 Opera Theater V  
1.00 credit  
Typically taken in the first semester, junior year vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I, II, III and IV.  

MVP389 Opera Theater VI  
1.00 credit  
Typically taken in the 2nd semester, junior year by vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-V.  

MVP399 Junior Recital  
1.00 credit  
A public recital of one half-hour or more. Course required of all Vocal Performance majors.  

MVP415 Auditioning I  
2.00 credits  
Students prepare three to five audition pieces, photos, and resumes. Income tax, unions, opportunity, and methods of searching for and obtaining work is included. Course culminates in a seven to ten daytrip to New York attending auditions.  

MVP416 Auditioning II  
2.00 credits  
Continuation of MVP 415.  

MVP420 Musical Theatre Studio  
3.00 credits  
Participation in a full production to be directed, choreographed, acted and designed by faculty or students.  

MVP431 Musical Theatre Styles I  
3.00 credits  
Course topics include creating a character through song and dialogue, making transition from songs in to and out of scenes, and becoming comfortable and familiar with the style and performance unique to musical theatre.  

MVP432 Musical Theatre Styles II  
3.00 credits  
Continuation of MVP 431.
Frost School of Music

Vocal Performance

MVP488 Opera Theater VII
1.00 credit
Fall
Typically taken by Vocal Performance majors in the first semester, senior year. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-VI.

MVP489 Opera Theater VIII
1.00 credit
Spring
Typically taken by Vocal Performance majors in the 2nd semester, senior year. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-VIII.

MVP493 SPECIAL PROJECTS IN VOCAL PERFORMANCE
1.00 - 3.00 credits
Fall, Spring & Summer
Supervised readings and other activities in specific areas of Vocal Performance.

MVP494 SPECIAL TOPICS IN VOCAL PERFORMANCE
1.00 - 3.00 credits
Fall, Spring & Summer

MVP499 Senior Recital
1.00 credit
Fall, Spring
A public recital of one hour or more. Course is required of all performance majors.

MVP508 Choral Score Study
2.00 credits
Fall
In depth study of selected choral or choral/orchestral works related to literature being performed by university ensembles during the academic year.

MVP538 Vocal Pedagogy
2.00 - 3.00 credits
Fall
Course covers methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production with practical application, observing and teaching individual and class voice in a supervised environment.

MVP552 Vocal Performance Preparation
1.00 credit
Fall, Spring
Musical preparation of a wide range of assigned vocal literature from all periods for performance in forums, juries, and recitals. Special emphasis is on musical values, styles, translations of texts, diction, pronunciation of Italian, German, French, and English, and memorization.

MVP580 Opera Production
1.00 credit
Fall, Spring
Opera production for main stage production, scenes, and other productions. Open only to students that are cast in productions, as determined by audition and faculty decision. Typically taken by vocal performance majors.

MVP588 Voice Performance in Salzburg, Austria
2.00 - 4.00 credits
Summer
Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive vocal training from University of Miami faculty as well as distinguished guest artists. A class in vocal repertoire is also included.
MVP593 SPECIAL PROJECTS IN VOCAL PERFORMANCE OR CHORAL CONDUCTING

1.00 - 3.00 credits

Supervised topics and other activities in specific areas of Vocal Performance.
HST536 U.S. Health Care Crisis: Politics and Policies
3.00 credits  
Spring  
This course will explore key health policy issues within the U.S., along with the politics and interest groups which shape them. Fundamental concerns within the health care system such as: cost, quality and access to care will be analyzed. Major topics of discussion will include: Medicare, Medicaid, private insurance, the nursing shortage, and prescription drugs. The politics and policies surrounding issues such as bioethics, globalization, and infectious disease will also be considered.

Healthcare Sciences

HCS202 Introductory Statistics in Health Care
3.00 credits  
Fall, Spring  
Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing, health sciences and public health.

HCS205 Personal Nutrition
3.00 credits  
Spring  
Principles of nutrition integrated with cultural dietary patterns across the lifespan.

HCS206 Introduction to Public Health
3.00 credits  
Fall, Spring  
Introduction to all aspects of public health, including health services administration and health policy.

HCS207 Introduction to Pharmacology
3.00 credits  
Fall  
Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included. Emphasis is on the understanding of the different classes of drugs and their application in various health care settings.

HCS208 Introductory Epidemiology
3.00 credits  
Fall, Spring  
This course is a general introduction to epidemiology, definition of concepts and natural history of disease and levels of prevention. It also covers measures of morbidity and mortality. Epidemiologic aspects of infectious and chronic diseases.

HCS212 Human Anatomy
3.00 credits  
Fall, Spring  
Emphasis is on the understanding of the anatomical compartments of the human body and the ability to identify the bony skeleton, musculatures, blood vessels and internal organs of each compartment.

HCS213 Human Anatomy Laboratory
1.00 credit  
Fall, Spring  
Laboratory to accompany HCS 212.

HCS215 Principles of Systemic Physiology
3.00 credits  
Fall, Spring  
Emphasis is on the understanding of the Physiology and selected Pathophysiology of various organs and systems.
HCS216 Principles of Systemic Physiology Laboratory
1.00 credit
Laboratory to accompany HCS 215
Fall, Spring

HCS301 Human Sexuality and Vulnerable Populations
3.00 credits
The study of human sexuality via multidisciplinary theoretical perspectives and research. Students will examine the complex relationships of the physiological, psychological, cultural, gender, religious, historical, and political aspects of human sexuality. Human sexuality in the context of health disparities will form the foundation for the course. WRITING COURSE
Fall

HCS303 HIV/AIDS and Health Maintenance for Health Care Providers
3.00 credits
Offered By Announcement Only
Definition, diagnosis, management, and care of diverse patient populations with HIV infection and AIDS. Course is presented and discussed from an interdisciplinary health care perspective.

HCS305 Issues in Health Disparities
3.00 credits
Spring
This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy and international politics will be explored. WRITING COURSE

HCS306 Principles of nutrition integrated with cultural dietary patterns for adaptation
3.00 credits
Fall
Principles of nutrition of nutrition integrated with cultural dietary patterns for client adaptation across the lifespan.

HCS309 Health and Environment
3.00 credits
Fall
This course examines health issues, scientific understanding of causes and possible future approaches to control of the major environmental health problems. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of environmental contamination; vectors for dissemination; susceptible populations; the scientific bases for policy decisions and emerging global environmental health problems.

HCS310 Global Health
3.00 credits
Spring
Introduction to the concepts of global health and the critical links between public health and social and economic development. Determinants of health and patterns of disease and health outcomes across the globe are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. Health care delivery in developed vs. undeveloped regions of the world are emphasized.
HCS317 Theories in Growth and Development
3.00 credits
Fall, Spring
Exploration of growth and development through theories related to its five major components: physiologic, cognitive, psychosocial, moral and spiritual across the lifespan with discussion of developmental theories as they relate to nursing and health care.

HCS319 CONTEMPORARY ISSUES IN BIOETHICS FOR HEALTH CARE
3.00 credits
Offered By Announcement Only
This course will cover bioethical issues in the health care environment, including ethical principles, theories and decision making strategies. WRITING COURSE

HCS321 Health Promotion and Disease Prevention
3.00 credits
Fall
The focus of this course is on the understanding and implementation of strategies aimed at promoting health and preventing disease. It also focuses on optimal health maintenance and wellness support for individuals, families and communities. The content of the course includes health across the lifespan and resources associated with health promotion. Common health alterations will be discussed, as well as sociocultural perceptions of health and illness.

HCS322 HEALTH PROMOTION AND DISEASE PREVENTION
3.00 credits
Fall

HCS352 BIOLOGICAL PRINCIPLES OF PUBLIC HEALTH
3.00 credits
Fall
This course examines the biological basis and pathogenesis of diseases from a public health perspective and describes the impact on populations. This course also presents the basic scientific and biomedical concepts of modern public health problems and explores in depth mechanisms and models of the major categories of disease. The biologic principles presented in this course are foundations to developing and implementing public health disease prevention, control, or management programs.

HCS355 GLOBAL NUTRITION
3.00 credits
Offered By Announcement Only
This course examines nutrition related public health issues in the global setting. Nutrition related morbidity and mortality, etiologic factors, and population-focused strategies to address these issues are covered. Food relief and nutrition policies and programs at the local, national and international levels are examined. Current scientific research in international nutrition is reviewed from an epidemiological perspective.

HCS419 Contemporary Health Issues in South Florida
3.00 credits
Fall, Spring
This course will provide students with an in-depth look at public health topics relevant to communities in South Florida. Emphasis will be placed on the social, cultural, and policy issues that impact the health of vulnerable populations in our community. Interdisciplinary researcher knowledge and practice from the University of Miami and other relevant institutions will be highlighted.
HCS461 HEALTH DISPARITIES RESEARCH PRACTICUM
1.00 - 4.00 credits  
Offered By Announcement Only

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

HCS465 PUBLIC HEALTH STATISTICS AND DATA MANAGEMENT
3.00 credits  
Fall

This course is designed to give students an opportunity to apply basic principles of statistics and data management in public health. Students will learn to use statistical techniques to answer questions relating to the morbidity and mortality of health conditions and the efficacy and effectiveness of public health interventions.

HCS487 GLOBAL HEALTH PRACTICUM
3.00 credits  
Offered By Announcement Only

Collaborative clinical venture between UM/SON and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas, including MedSurg, Surgery, ICU and/or Emergency nursing units. Students will apply and synthesize basic science knowledge and skills that foster ethical, legal and culturally specific health care.

HCS490 FIELD PRACTICUM IN COMMUNITY HEALTH
3.00 credits  
Fall, Spring

This course provides students with field experiences in community health. During the didactic portion of the course, students will be introduced to the basic principles and methods used in community health assessment, program development, program implementation, and evaluation. During the field experience component of the course students will work under the supervision of lead faculty to apply the knowledge and skills they obtained during their course of study to address a public health issue.

HCS499 Selected Topics
0.00 - 6.00 credits  
Fall, Spring & Summer
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>FFA190</td>
<td>Freshman Seminars in Arts</td>
<td>3.00</td>
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<tr>
<td>FFA191</td>
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<td>FLT190</td>
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<td>FNS190</td>
<td>Freshman Seminars in Natural Science</td>
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<td>Fall</td>
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FNS191 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS192 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS193 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS194 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS195 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS196 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS197 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

FNS199 Freshman Seminars in Natural Science  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to the Natural Sciences. Topics will vary from year to year, as will faculty teaching the seminars.  

Freshman Seminar Phil/Rel  
FPR190 Freshman Seminars in Philosophy/Religion  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.  

FPR191 Freshman Seminars in Philosophy/Religion  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.  

FPR192 Freshman Seminars in Philosophy/Religion  
3.00 credits  
Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.
Freshman Seminar Phil/Rel

FPR199 Freshman Seminars in Philosophy/Religion
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to Philosophy and/or Religion. Topics will vary from year to year, as will faculty teaching the seminars.

Freshman Seminars Social

FSS190 Freshman Seminars in Social Sciences
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

FSS191 Freshman Seminars in Social Sciences
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

FSS192 Freshman Seminars in Social Sciences
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Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

FSS193 Freshman Seminars in Social Sciences
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

FSS195 Freshman Seminars in Social Sciences
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

FSS197 Freshman Seminars in Social Sciences
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

FSS199 Freshman Seminars in Social Sciences
3.00 credits
Fall
Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Honors and Acad Enhancement

HON323 Topics in Humanities
1.00 - 3.00 credits
Fall

HON330 BOOKS THAT MATTER
3.00 credits
Fall, Spring

HON333 Topics in Social Science
1.00 - 3.00 credits
Fall

HON351 Topics in the Natural Sciences
1.00 - 3.00 credits
Fall
UMX100 The Ultimate University Experience

0.00 credit  

Fall

The Ultimate University Experience (UMX 100) is a comprehensive course specifically designed to assist the first year student in making a successful transition to the University of Miami. The course creates opportunities for students to become self-managed, knowledgeable of others, and an integral part of the community.
UMI105 University Internship Part-time
0.00 - 1.00 credit Fall, Spring & Summer
A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI110 University Internship Full-time
0.00 - 1.00 credit Fall, Spring & Summer
A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI199 FRESHMAN REGISTRATION
1.00 - 15.00 credits Fall, Spring

UMI205 University Internship Part-time
0.00 - 1.00 credit Fall, Spring & Summer
A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI210 University Internship Full-time
0.00 - 1.00 credit Fall, Spring & Summer
A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI305 University Internship Part-time
0.00 - 1.00 credit Fall, Spring & Summer
A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI310 University Internship Full-time
0.00 - 1.00 credit Fall, Spring & Summer
A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI405 University Internship Part-time
0.00 - 1.00 credit Fall, Spring & Summer
A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI410 University Internship Full-time
0.00 - 1.00 credit Fall, Spring & Summer
A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.
<table>
<thead>
<tr>
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<th>Credits Range</th>
<th>Offered Terms</th>
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<td>STUDY ABROAD</td>
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<td>Fall, Spring &amp; Summer</td>
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<td>SAP001</td>
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<td>SAP203</td>
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<td>SAP204</td>
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<tr>
<td>SAP300</td>
<td>Israel: History, Culture and Society <em>(Faculty-led study trips)</em></td>
<td>3.00</td>
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<td>Course content may vary from semester to semester at selected universities.</td>
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SAP306 Independent Study - Galilee Semester
3.00 credits
Spring
Course content may vary from semester to semester at selected universities.

SAP307 Study Abroad
3.00 credits
Spring

SAP308 Study Abroad
3.00 credits
Spring
Course content may vary from semester to semester at selected universities.

SAP311 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP312 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP313 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP314 Study Abroad
0.00 - 3.00 credits
Fall, Spring

SAP315 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP316 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP317 Study Abroad
3.00 credits
Spring
Course content may vary from semester to semester at selected universities.

SAP318 Study Abroad
3.00 credits
Spring
Course content may vary from semester to semester at selected universities.

SAP319 Study Abroad
3.00 credits
Fall, Spring
Course content may vary from semester to semester at selected universities.

SAP320 Study Abroad
3.00 credits
Spring
Course content may vary from semester to semester at selected universities.

SAP321 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP322 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP323 Study Abroad
1.00 - 18.00 credits
Fall, Spring
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<td>Study Abroad</td>
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<tr>
<td>SAP335</td>
<td>Literature of Central European Coffee Houses</td>
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SAP345 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP346 Study Abroad
  3.00 - 18.00 credits
  Fall, Spring & Summer

SAP349 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring
  England - University of Southampton.

SAP350 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP351 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP352 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP353 Study Abroad
  3.00 - 6.00 credits
  Fall, Spring

SAP354 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP355 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP356 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP357 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP358 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP359 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP361 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP362 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring

SAP363 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring & Summer

SAP364 Fudan University
  1.00 - 20.00 credit
  Fall, Spring & Summer

SAP365 Study Abroad
  1.00 - 18.00 credits
  Fall, Spring
SAP366 Study Abroad  
1.00 - 18.00 credits  
Summer

SAP369 Study Abroad  
1.00 - 20.00 credit  
Fall, Spring

SAP371 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP372 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring & Summer

SAP373 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP374 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP375 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring & Summer

SAP376 Study Abroad  
3.00 credits  
Fall, Spring

SAP377 Study Abroad  
3.00 credits  
Fall, Spring

SAP378 Study Abroad  
3.00 credits  
Fall, Spring

SAP379 Study Abroad  
1.00 credit  
Spring

SAP380 Study Abroad  
3.00 credits  
Spring

SAP382 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP383 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP387 Study Abroad  
1.00 - 12.00 credits  
Summer

SAP388 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP399 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP400 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring
SAP402 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP405 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP406 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP407 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP408 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP410 Study Abroad
1.00 - 20.00 credit
Fall, Spring & Summer

SAP411 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP412 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP413 Study Abroad
3.00 - 18.00 credits
Spring
URome Semester on Location.

SAP431 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP432 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP441 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP445 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP446 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP447 Study Abroad--Denmark--Aalborg Univ.
1.00 - 18.00 credits
Fall, Spring

SAP451 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP452 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP453 Study Abroad
1.00 - 18.00 credits
Fall, Spring
SAP455 Study Abroad
1.00 - 18.00 credits                                          Fall, Spring & Summer

SAP460 Study Abroad
3.00 - 20.00 credit                                                          Spring

SAP461 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP462 Study Abroad
1.00 - 20.00 credit                                                    Fall, Spring

SAP463 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP466 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP467 Study Abroad
1.00 - 18.00 credits                                          Fall, Spring & Summer

SAP468 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP469 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP470 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP471 Study Abroad
1.00 - 18.00 credits                                          Fall, Spring & Summer

SAP472 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP474 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP475 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP476 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP477 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP478 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

SAP479 Study Abroad
1.00 - 18.00 credits                                                   Fall, Spring

Course will be taught at Universidad Carlos III de Madrid (Spain)
School of Continuing Studies
Study Abroad Program

SAP480 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP481 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP482 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP483 Spain-Universidad de las Palmas de Gran Canaria
1.00 - 18.00 credits
Fall, Spring

SAP484 Austria - University of Innsbruck
1.00 - 18.00 credits
Fall, Spring

SAP485 Spain-Universidad Politecnica de Valencia
1.00 - 18.00 credits
Fall, Spring

SAP486 Study Abroad - Czech Republic - Charles University
1.00 - 18.00 credits
Fall, Spring

SAP487 Study Abroad - Brazil - Pontificia Universidade Catolica do Rio Grande do Sul
1.00 - 18.00 credits
Fall, Spring

SAP488 Study Abroad - Technische Universitat Munchen
1.00 - 18.00 credits
Fall, Spring

SAP490 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP491 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP495 Study Abroad
1.00 - 18.00 credits
Fall, Spring & Summer

SAP496 Study Abroad
1.00 - 18.00 credits
Fall, Spring
Course will be taught at Koc University (Turkey)

SAP497 Study Abroad-Turkey-Istanbul Technical University
1.00 - 18.00 credits
Fall, Spring

SAP498 Study Abroad--Russia--State University of St. Petersburg
1.00 - 18.00 credits
Fall, Spring

SAP501 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP502 Study Abroad
1.00 - 18.00 credits
Fall, Spring

SAP503 Study Abroad
1.00 - 18.00 credits
Fall, Spring
Czech Republic - Charles University (Grad Level)
SAP572 Study Abroad  
1.00 - 12.00 credits  
Offered By Announcement Only

SAP582 Study Abroad  
1.00 - 12.00 credits  
Fall, Spring  
Holding course for those students participating in the Graduate School UM/FIU Exchange Program.

Intensive English Program

IEP011 RW Level Undetermined  
0.00 credit  
Fall, Spring & Summer  
Reading and Writing class for students whose English level has not been determined.

IEP012 OC Level Undetermined  
0.00 credit  
Fall, Spring & Summer  
Oral Communication class for students whose English level has not been determined.

IEP155 ST-UM Transition  
0.00 credit  
Fall, Spring & Summer  
This course will provide orientation, skills, assistance and support for IEP/UM students as they transition to a full load of credit courses.

IEP161 Core I  
0.00 credit  
Fall, Spring & Summer

IEP162 Core II  
0.00 credit  
Fall, Spring & Summer
MEN446 Aircraft Design
3.00 credits  
Fall
Concepts of aircraft design emphasizing on design layout including the airfoil geometry selection, propulsion integration, configuration layout, payload and landing gear system.

MEN472 Design of Aerospace Structures
3.00 credits  
Fall
Design Philosophy and principles of aerospace structures. Detailed design of wing box structure, fuselage, landing gear mechanism, fasteners and structural joints. Application of composite materials.
PREREQUISITE: MEN 470.
BMB251 SOPHOMORE SEMINAR
1.00 credit  
Spring
Students acquire and discuss basic BMB information in a group project setting. Topics are identified by the instructor but refined in response to student interest and discovery. As students create a scientific review manuscript suitable for publication, they learn about the publication process, research ethics and politics.

BMB260 Introduction to Biochemistry and Nutrition
3.00 credits  
Spring
The composition of food and the composition and functioning of a typical cell are described in chemical terms, leading to an understanding of how life processes such as digestion, and metabolism occur and are regulated at the level of individual molecule and reactions. Applications of biochemistry and nutrition are discussed.

BMB401 BIOCHEMISTRY FOR THE BIOMEDICAL SCIENCES
3.00 credits  
Fall, Spring
The biochemical composition, structure, and cellular metabolism of proteins, carbohydrates, lipids, and nucleic acids are rigorously described, emphasizing problem solving strategies required of biomedical field applications.

BMB501 SENIOR SEMINARS
1.00 credit  
Fall, Spring
Students attend seminars of their own choice, presented by either visiting/residing faculty or graduate/postdoctoral students on recent research topics in BMB or any other discipline in the basic biomedical sciences. Students write short reports on these seminars and critically evaluate the presentations. This course can be taken more than once.

BMB506 BIOMEDICAL CASE STUDIES
1.00 credit  
Fall
Students explore topics in BMB in the context of solving problems presented in a clinical/biomedical framework. Students work in small groups and independently to acquire, critically evaluate, synthesize and present information.

BMB507 PROTEIN STRUCTURE, FUNCTION, & BIOLOGY
3.00 credits  
Spring
The physical characteristics and behavior of proteins are described, including structure, folding, dynamics, modifications, and interactions. In addition, experimental approaches to protein structure and function are addressed. Readings include both textbook assignments and current research articles, and a term paper is written and submitted for writing credit.

BMB509 MOLECULAR BIOLOGY OF THE GENE
3.00 credits  
Fall
Biochemical processes involved in the flow of genetic information in both prokaryotes and eukaryotes are described, including DNA replication, repair, genetic recombination, RNA transcription and processing, protein synthesis, control of gene expression, cell differentiation, and recombinant DNA technology. Extensive classroom discussion is mandatory. Reading includes BMB primary research papers, course notes and a textbook.
BMB511 TOPICS IN BMB
2.00 - 3.00 credits Fall, Spring & Summer
Students independently explore the literature in BMB with guidance by a BMB Faculty mentor. BMB primary research literature in an area of mutual interest to the student and the Faculty mentor (usually a content expert in that area) is discussed. Students prepare a paper or other appropriate product (e.g. computer software, a structural model, a dynamic simulation) for evaluation. Writing credit is available for papers.

BMB545 RESEARCH PROBLEMS IN BMB
2.00 - 3.00 credits Fall, Spring & Summer
Students actively participate in the research laboratory of a faculty mentor to work on an independent research project. Students develop abilities to formulate good questions and sound hypotheses, design practical experiments, collect and analyze useful data, and make justifiable conclusions. Students maintain a weekly online journal, write a paper, and present their research in the lab. Two semesters of BMB545 is required to write a thesis (pre-requisite for graduating with honors in BMB). Writing credit is available for papers.

Biostatistics
BST510 Introduction to Statistical Collaboration
4.00 credits Fall, Spring
This course will introduce students to the art of statistical collaboration. The class will be highly interactive and will include an orientation to the process of statistical collaboration, individual and group assessment of the same consulting projects, and the completion of an individual live statistical collaboration project. For the final, live collaboration project, students will meet with the faculty and/or staff of the University of Miami who contributed their particular assigned consulting project(s). Students will need to research different statistical methods to find the best, feasible approach to address the particular consulting project. Students will present their plans for their own consulting projects in class and also help in the discussion/exploration of approaches for other student's consulting projects during class time. After finalization of the analysis plan the student will complete the statistical analyses described within the plan and create a final report.

BST525 SURVEY OF STATISTICAL COMPUTING
3.00 credits Spring
This three credit course aims to familiarize students with the basic use of SAS and R for routine statistical analysis and prepare them for more advanced courses and/ or thesis research. Statistical computation will be illustrated with examples in medical research, biological study and business. The focus of the course is on the computing environment, therefore a thorough discussion of statistical theories will not be provided. It is expected that students will already be prepared statistically.

BST575 INTRODUCTION TO GENERALIZED LINEAR MODELS
3.00 credits Spring
GLM’s are an extension of the standard linear model to permit more general outcomes. In this class, we will study GLM’s in detail. By the end of the course, we will examine recent extensions of GLMs. We will provide a unifying framework for formulation, estimation and inference. Throughout the course, real data applications from medicine will be used and extensive use of the R programming language will be made to implement ideas discussed.

Epidemiology/Public Health
EPH500 Introduction to Public Health
3.00 credits Fall
University of Miami Bulletin, 2013-2014
Undergraduate Course Listing
Graduate Medical
Epidemiology/Public Health

EPH501 Medical Biostatistics I
3.00 credits  Fall
Introduction to probability and statistics including descriptive statistics, tests of hypothesis, regression analysis, contingency tables, nonparametric tests, and life tables. Students gain hands-on experience in the analysis of medical data using several computer systems and at least one of the different statistical packages such as: BMDP, SAS, PSTAT, SYSTAT, and Minitab.

EPH502 Biostatistics II
3.00 credits  Spring
Continuation and elaboration of EPH 501. Topics include design of factorial experiments, analysis of variance and variance components, multiple linear regression, and life tables.

EPH503 Applied Data Management and Analysis
3.00 credits  Summer
The course is designed to introduce students to applied quantitative methods through both lecture-based and experimental strategies. Emphasis will be placed on data collection, data management, and conceptual use of various analytic techniques.

EPH512 Global Health
3.00 credits  Fall
This seminar examines current global public health issues, governance and decision-making challenges for the 21st Century across developing, transitioning, and developed countries. Topics of discussion include new actors for world health in the era of globalization; linking human development, poverty and health inequities; social, cultural and ethical considerations for health planning; role of industry, trade and public health; evidence based research for improved global health initiatives; foreign policy and health security challenges associated with emergence and re-emergence of infectious diseases and public and private partnerships in global health. Open only to EPH majors.

EPH513 International Health Systems
3.00 credits  Spring
Students will study international health from a broad prospective of global health issues and international health systems. This course will include a critical analysis of health systems in both developing and developed countries through comparison with the World health Organization's model and the health system in the United States. A variety of health factors will be examined including the role of public health and public health funding.

EPH520 Health Education and Behavior
3.00 credits  Spring
Educational processes with special emphasis on the social and cultural determinants of health behavior, Health education as a process of social change, and community based health education organizations. Open only to EPH majors.

EPH521 Fundamentals of Epidemiology
3.00 credits  Fall
Principles and methods of epidemiology. Descriptive epidemiology, environmental and other risk factors, detection of outbreaks, basic demography, and etiologic studies.
University of Miami Bulletin, 2013-2014
Undergraduate Course Listing
Graduate Medical
Epidemiology/Public Health

**EPH525 Ethical Issues in Epidemiology**
3.00 credits  
*Fall*

The course identifies and analyzes ethical issues in epidemiologic practice and research. Issues include data acquisition and management, confidentiality, valid consent, advocacy, public policy, subgroup stigma, research sponsorship, conflicts of interest, communication of risk, and international and intercultural difference.

**EPH540 Urban Environment and Public Health**
3.00 credits  
*Spring*

Where we live, where we work, where we go, and how we get there may all impact our behaviors and ultimately our health and well-being. This course examines the urban environment - in particular, those aspects of urban/suburban/semi-rural environments created by humans. This includes how homes, neighborhoods, cities and regions impact public health challenges such as obesity, chronic disease, mental health, infectious disease, and injuries. This course will teach students to translate scientific findings to design healthy communities, and develop interventions to promote urban health. Students will learn how to map neighborhood characteristics such as food outlets, parks and walk ability, and to develop recommendations for policymakers.

**EPH541 Integrated Aspects of Environmental Health**
3.00 credits  
*Spring*

Interdisciplinary scope of environmental health problems. Development of a practical, dynamic model for integrating fundamental concepts from a variety of environmental disciplines. Open only to EPH majors.

**EPH542 Oceans and Human Health**
3.00 credits  
*Fall*

This course provides students with introductory knowledge of the broad and relatively young field of Oceans and Human health. The focus is the present, future, and potential effects of oceanic processes and marine organisms on human health and wellbeing. These diverse factors reflect the physical, chemical, biotic and social processes which require an integration of information and knowledge from the medical, marine, and social sciences. Of growing concern in this rapidly-developing area of study is the human health effects from exposure to substances that occur widely in marine ecosystems including synthetic organic chemicals, polycyclic aromatic hydrocarbons (PHAs), metals (both introduced and anthropogenic), marine toxins, and pathogens.

**EPH561 Public Health Nutrition**
3.00 credits  
*Spring*

This course provides a dynamic, interactive approach to public Health designed to prepare students in basic policy, epidemiology, and health education related to nutrition. Recognizing the multiple social, cultural, environmental, and physiological factors leading to nutritional disease. The course includes experts from a variety of disciplines. Public health nutrition addresses issues germane to the public's health by elucidating their extent, determinants and consequences, and the policies and programs to address them. Open only to EPH majors.
EPH562 Child Policy  
3.00 credits  
Spring  
This course will focus on U.S. federal child policy. This course has been designed to provide a comprehensive, multi-disciplinary (e.g., public health, public policy and social work), and cross-sector perspective (e.g., government, private and philanthropic sectors) on child and family policies. Sessions will cover varying approaches and include presentations from a wide range of experts.

EPH571 Maternal and Child Health  
3.00 credits  
Spring  
Preventative and therapeutic concepts pertinent to the reduction of morbidity and mortality among mothers and their children.

EPH572 Public Health Law  
3.00 credits  
Fall, Spring  
This course is designed for non-law students studying in epidemiology and public health. The course will begin with a general overview of the fundamental principles and processes of the US legal system, focusing on public health law and ethics. Topics will include privacy, communications, screening and vaccinations, economic regulations and public health reform.

EPH580 Ecology and Control of Vector-Borne Diseases  
3.00 credits  
Spring  
The course will provide students with an overview of the epidemiology of major vector-borne diseases in the U.S. (e.g., Lyme Disease, West Nile Virus) and globally (e.g., malaria, dengue, filariasis, leishmaniasis, and other arboviruses), field and lab-based methodologies for vector studies to incriminate vector species and assess transmission dynamics, vector and disease surveillance, and cutting-edge vector control technology. A major focus will be on the ecology of vectors in their local environments and how transmission dynamics are affected by changes in land use, urbanization, and climate. Students will learn about new WHO-approved strategies for integrated Vector Management (IVM) and how they are applicable for the prevention and control of all vector-borne diseases.

EPH584 Special Topics  
3.00 credits  
Fall, Spring & Summer  
This course is designed to allow the listing of special topics within the Department of Epidemiology and Public Health and cross-list topics with other departments' offerings.

Physiology/Biophysics  

PHS510 Cell Physiology Biophysics  
2.00 credits  
Fall  
This course is designed as preparation for the study of mammalian physiology. Course is usually intensive, adapted to the schedule of the medical curriculum and occupying the equivalent of two to three days per week for two-three weeks. The student is introduced to general principles of cell physiology, chemical and physical structure of membranes, membrane transport, and electrical membrane phenomena. Topics include excitation, contraction, energy transduction, nerve impulse conduction, and synaptic transmission. Course utilizes lecture and laboratory.
PHS511 Neurophysiology
3.00 credits \hspace{1cm} Spring
Physiology of the mammalian nervous system. Course is intensive, adapted to the schedule of the medical curriculum and comprising roughly five hours of lecture and four hours of conference weekly for five to six weeks. A lecture course coordinated with neuroanatomy.

PHS512 Systemic Physiology
5.00 credits \hspace{1cm} Spring
Physiology of the mammalian cardiovascular, respiratory, renal, digestive, endocrine, and reproductive systems. Course is intensive and adapted to the schedule of the medical curriculum, occupying the equivalent of about two days a week for most of semester. Lecture and laboratory are included.

Physical Therapy

PTS505 Physical Therapy Private Practice Management
1.00 credit \hspace{1cm} Fall
Course focuses on establishing a private physical therapy practice, including initial development through marketing and management.
PREREQUISITE: Open to Physical Therapy majors only.

PTS506 Issues in Women's Health: Gynecology
1.00 credit \hspace{1cm} Summer
Introduction to physical therapy practice for evaluation and treatment of pelvic floor dysfunction.
PREREQUISITE: Open to Physical Therapy majors only.

PTS507 Issues in Women's Health: Obstetrics, Osteoporosis and Breast Health
1.00 credit \hspace{1cm} Fall
Introduction to physical therapy practice for evaluation and treatment of problems related to pregnancy, osteoporosis, and other disorders specific to women.
PREREQUISITE: Open to Physical Therapy majors only.

PTS509 Exercise for Persons with Spinal Cord Injuries
1.00 credit \hspace{1cm} Summer
Course provides a review of etiology and pathology of spinal cord injury as well as current methods of exercise and electrical stimulation systems and their physiological effects on the individual.
PREREQUISITE: Open to Physical Therapy majors only.

PTS511 Advanced Clinical Practice: Topics in Pediatrics
1.00 credit \hspace{1cm} Fall
The course will focus on advanced topics in pediatric physical therapy. Through lecture, seminar discuss and lab experiences, topics will include: typical and atypical development over the first year, and both motor and sensory integration examination and intervention strategies.
PREREQUISITE: Open to Physical Therapy majors only.

PTS512 Sports Physical Therapy
1.00 credit \hspace{1cm} Spring
An overview of the general aspects of sports physical therapy practice will be provided. Topics will include the various settings, evaluations, interventions, and techniques involved in Sports physical therapy practice.
PREREQUISITE: Open to Physical Therapy majors only.
PTS513 ADVANCED CLINICAL PRACTICE: EVALUATION AND TREATMENT OF THE FOOT AND ANKLE  
1.00 credit                                            Offered By Announcement Only  
This course will review the anatomy, normal and abnormal kinesiology/biomechanics, pathology, imaging, of the foot and ankle and discuss Physical Therapy evaluation and intervention based on evidence based practice. It will include an introduction to evaluation and negative casting for orthotics and cadaver prossection review.

PTS514 Certified Strength and Conditioning Specialist Preparation (NSCA)  
1.00 credit                                                                  Summer  
Evaluation and exercise planning of athletes to help them achieve their maximum physical performance without incurring injury. Case studies, a problem-solving approach, and integration of previously learned material are emphasized. Classroom instruction, exercise performance, video analysis, and case studies are utilized.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS515 Advance Clinical Practice: Taping for the Orthopedic Population.  
1.00 credit                                                                    Fall  
This seminar course is designed to introduce the participant to the concepts of taping for various musculoskeletal pathologies commonly seen in the athletic population. Athletic taping and kinesiotaping principles and uses in rehabilitation will be introduced. A lab component will allow participants to practice the various taping techniques demonstrated.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS516 Clinical Research I  
3.00 credits                                                                   Fall  
Principles, concepts, and basic skills required to conduct clinical research in physical therapy. Topics include research design, sampling, bias, reliability and validity, questionnaire design, statistical computing, conceptual review of literature, and the preparation of a research proposal.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS517 Abdominal Anatomy  
1.00 credit                                                                  Summer  
Course analyzes abdominal anatomy emphasizing structure and function. Cadaver dissection is included.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS519 Pelvic Anatomy  
1.00 credit                                                                  Summer  
Course analyzes the anatomy of the human pelvic area. Cadaver dissection is included.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS520 SPANISH FOR PHYSICAL THERAPISTS I  
1.00 credit                                                                  Summer  
This course is designed to familiarize the physical therapy student with Hispanic cultures and assist the physical therapy student with developing basic communication skills with this population. Emphasis will be on using basic Spanish language to teach skills to or interview the Spanish speaking patient in a health care setting. In addition, knowledge of Hispanic cultures will be integrated into the development of verbal and nonverbal communication skills with this population.
PTS522 Introduction to Functional Capacity Evaluations
1.00 credit  
Spring
This course introduces essential components of functional capacity evaluations and establishes entry-level proficiency. The emphasis will be on cardiovascular clearance and testing, material handling testing, positional tolerance testing, spinal inclinometry, and isometric reliability measures as identified through evidence-based practice and current research.
PREREQUISITE: Open to Physical Therapy majors only.

PTS523 Myofascial Release  
1.00 credit  
Fall
Introduction to Myofascial Release technique in rehabilitation.
PREREQUISITE: Open to Physical Therapy majors only.

PTS524 Myofascial Release II.  
1.00 credit  
Spring
A follow up to the introductory course MFR I. This course focuses on a review of bioenergy followed by practice of release techniques for trunk, extremities and head and neck. Cranial techniques and rebonding are also taught.
PREREQUISITE: Open to Physical Therapy majors only.

PTS526 Introduction to Pilates Rehabilitation I  
1.00 credit  
Fall
This non-apparatus course introduces current research in movement science, motor learning, bioenergetics, and communication science to instructional practice through six basic movement principles which are used throughout the Polestar Pilates curriculum. This course introduces Polestar Pilates Screening, which includes postural evaluation and functional testing, to prepare the student to properly design a plan to implement Pilates exercises for clients.

PTS527 Introduction to Pilates Rehabilitation II  
1.00 credit  
Spring
This course teaches the practical skills needed to become proficient with the assessment techniques, movement sequences, and selection and principles of movement learned in Pilates 1 (Polestar Principles). Exercise lab themes include basic hip disassociation, basic core stabilization, thoracic spine mobility and lower extremity alignment.

PTS528 Introduction in Pilates Rehabilitation III  
1.00 credit  
Summer
This course teaches the practical skills needed to become proficient with the assessment techniques, movement sequences, and selection and principles of movement learned in the Pilates 1 and 2 (Polestar Principles and R1). Experiential lecture and lab will address Polestar Pilates Program Design and Sequencing. Exercise labs address basic shoulder organization, spine mobility in flexion and sidebending, core strength, spine extension strength and lower extremity stretching.

PTS530 Foundations of Physical Therapy  
3.00 credits  
Summer
Historical development, philosophical foundations and contemporary practice of physical therapist as educator, consultant, administrator, and model of healthy behaviors. Health as indicated by global fitness measures will be demonstrated and experienced. Medical terminology mastered.
PREREQUISITE: Open to Physical Therapy majors only.
PTS531 Gross Anatomy for Physical Therapy
3.00 credits  
Gross anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection.
PREREQUISITE: Open to Physical Therapy majors only.

PTS532 Gross Anatomy for Physical Therapy
3.00 credits  
Gross Anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection.
PREREQUISITE: Open to Physical Therapy majors only.

PTS533 Communication in Physical Therapy Practice
2.00 credits  
Course provides an analysis of communication skills in physical therapy clinical practice. Emphasis is placed on instruction of patients and their families, supportive staff, and health care team members. In-depth examination of patient-therapist interactions is included.
PREREQUISITE: Open to Physical Therapy majors only.

PTS540 Neuroscience I
3.00 credits  
The human central nervous system with emphasis on structure-function relationships, and clinical applications. The brain, spinal cord, cranial nerves, tracts, and nuclei of major systems. Central nervous systems lesions and their clinical significance are discussed. Lecture and human dissection are included.
PREREQUISITE: Open to Physical Therapy majors only.

PTS541 Neuroscience II
3.00 credits  
The central, peripheral, and autonomic nervous systems and their physiological responses to environmental stimuli. Normal systems are contrasted with abnormal systems. The clinical significance of altered neurophysiological states is discussed.
PREREQUISITE: Open to Physical Therapy majors only.

PTS542 ELECTROTHERAPY
3.00 credits  
This course presents the physiological rationale, indications, contraindications and the application of electrical modalities, including electrical stimulation, thermal modalities, sound modalities, compressive devices, mechanical machinery, and light therapy.

PTS543 Medical Pathology Seminar I
1.00 credit  
Lectures and seminar discussion of pathological conditions with particular emphasis on musculoskeletal disorders.
PREREQUISITE: Open to Physical Therapy majors only.

PTS544 Medical Pathology Seminar II
1.00 credit  
Lectures and seminar discussion of pathological conditions with particular emphasis on neuromuscular disorders.
PREREQUISITE: Open to Physical Therapy majors only.
PTS545 Medical Pathology Seminar III  
1.00 credit  
Summer  
Lectures and seminar discussion of pathology conditions with particular emphasis on integumentary disorders.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS546 Medical Pathology Seminar IV  
1.00 credit  
Fall  
Lectures and seminar discussion of pathological conditions with particular emphasis on cardiorespiratory disorders.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS550 Pharmacology  
2.00 credits  
Fall  
Basic principles of pharmacology and pharmacotherapeutics. Contemporary drug therapies and their effects on patients undergoing rehabilitation are discussed.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS570 Clinical Skills in Physical Therapy  
3.00 credits  
Spring  
Decision making, documentation and beginning treatment skills in functional mobility and basic exercise and massage. Indications and contraindications of massage, basic active, active assisted, active resisted range of motion and isometric exercises are learned.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS571 Therapeutic Physiology  
2.00 credits  
Fall  
Physiological effects of exercise and training for the healthy and diseased individual. The use of exercise for joint and muscle mobility, muscle strength, and cardiopulmonary function is included.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS572 Clinical Kinesiology and Biomechanics  
3.00 credits  
Fall  
A study of musculoskeletal structure and function, physiological and biomechanical factor, and principles underlying the kinematics and kinetic of normal and abnormal human motion.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS574 Clinical Evaluation  
3.00 credits  
Fall  
Basic evaluation skills for patients with various diseases and dysfunctions. Skills include clinical decision making, history taking, postural and functional assessment, surface palpation, manual muscle testing, and goniometric measurement.  
PREREQUISITE: Open to Physical Therapy majors only.

PTS575 Clinical Decision Making I  
3.00 credits  
Spring  
Introduction to physical therapy diagnosis, the disablement model, measurement of function screening, and the Physical Therapy Guide to Practice.  
PREREQUISITE: Open to Physical Therapy majors only.
PTS595 Selected Topics in Physical Therapy
1.00 - 3.00 credits                         Fall, Spring & Summer
Topics in contemporary physical therapy clinical practice with focus on specialty areas such as neonatal pulmonary care, balance/vestibular dysfunction, geriatrics, pediatrics, obstetrics, and gynecology.
PREREQUISITE: Open to Physical Therapy majors only.
RST401 Responsible Conduct of Research  
0.00 credit  
Fall, Spring

RST402 Responsible Conduct of Research  
0.00 credit  
Fall, Spring

RST411 Responsible Conduct of Research  
0.00 credit  
Fall, Spring

RST412 Responsible Conduct of Research  
0.00 credit  
Fall, Spring

RST501 Responsible Conduct of Research  
0.00 credit  
Fall, Spring
Online research ethics training via CITI Program Responsible Conduct of Research course.

RST502 Responsible Conduct of Research  
0.00 credit  
Fall, Spring
Research ethics training via Ethics Programs Responsible Conduct of Research classroom course.

RST511 Responsible Conduct of Research  
0.00 credit  
Fall, Spring

RST512 Responsible Conduct Of Research  
0.00 credit  
Fall, Spring
BPH202 INTRODUCTORY STATISTICS IN Health CARE
3.00 credits
Fall, Spring
Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing, health sciences, and public health.

BPH205 PERSONAL NUTRITION
3.00 credits
Spring
Principles of nutrition integrated with cultural dietary patterns across the lifespan.

BPH206 INTRODUCTION TO PUBLIC HEALTH
3.00 credits
Fall & Summer
Introduction to all aspects of public health, including health services administration, and policy.

BPH208 INTRODUCTORY EPIDEMIOLOGY
3.00 credits
Fall, Spring
This course is a general introduction to epidemiology, definition of concepts and natural history of disease and levels of prevention. It also covers measures of morbidity and mortality. Epidemiologic aspects of infectious and chronic diseases.

BPH303 HIV/AIDS AND HEALTH MAINTENANCE FOR HEALTH CARE PROVIDERS
3.00 credits
Offered By Announcement Only

BPH305 ISSUES IN HEALTH DISPARITIES
3.00 credits
Fall
This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic, and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy, and international politics will be explored. WRITING COURSE.

BPH309 Health & ENVIRON.
3.00 credits
Fall
This course examines health issues, scientific understanding of causes and possible future approaches to control of the major environmental health problems. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of environmental contamination; vectors for dissemination; susceptible populations; the scientific bases for policy decisions and emerging global environmental health problems.

BPH310 GLOBAL HEALTH
3.00 credits
Spring
Introduction to the concepts of global health and the critical links between public health and social and economic development. Determinants of health and patterns of disease and health outcomes across the global are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. Health care delivery in developed vs. undeveloped regions of the world are emphasized.
BPH319 CONTEMPORARY ISSUES IN BIOETHICS FOR HEALTH CARE
3.00 credits Offered By Announcement Only

BPH321 HEALTH PROMOTION AND DISEASE PREVENTION
3.00 credits Fall
The focus of this course is on the understanding and implementation of strategies aimed at promoting health and preventing disease. It also focuses on optimal health maintenance and wellness support for individuals, families, and communities. The content of the course includes health across the lifespan and resources associated with health promotion. Common health alterations will be discussed, as well as socio-cultural perceptions of health and illness.

BPH322 INTRODUCTION TO HEALTH POLICY
3.00 credits Spring

BPH352 BIOLOGICAL PRINCIPLES OF PUBLIC HEALTH
3.00 credits Fall
This course examines the biological basis and pathogenesis of diseases from a public health perspective and describes the impact on populations. This course also presents the basic scientific and biomedical concepts of modern public health problems and explores in depth mechanisms and models of the major categories of disease. The biologic principles presented in this course are foundations to developing and implementing public health disease prevention, control, or management programs.

BPH408 GENETICS AND HEALTH CARE
3.00 credits Offered By Announcement Only
Exploration of basic knowledge in genomics, understanding of social, cultural, and psychological implications of genetic services, health prevention, and promotion.

BPH465 PUBLIC HEALTH STATISTICS AND DATA MANAGEMENT
3.00 credits Fall
This course is designed to give students an opportunity to apply basic principles of statistics and data management in public health. Students will learn to use statistical techniques to answer questions relating to the morbidity and mortality of health conditions and the efficacy and effectiveness of public health interventions.

BPH487 GLOBAL HEALTH PRACTICUM
3.00 credits Offered By Announcement Only
Collaborative clinical venture between UM/SON and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas, including MedSurg, ICU and/or Emergency nursing units. Students will apply and synthesize basic science knowledge and skills that foster ethical, legal, and culturally specific health care.

Nursing
NUR100 Introduction to Nursing
3.00 credits Offered By Announcement Only
This is an introductory course to explore the various roles and responsibilities of the professional nurse in American health care. Major issues within healthcare today will be discussed and the impact they have on professional nursing will be explored.
NUR 200 Summer Scholars Program

3.00 credits

Course focuses on current health care issues and the health care system as well as future directions of health care.

NUR 202 Introductory Statistics in Health Care

3.00 credits

Fall, Spring

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing and health sciences.

NUR 205 Personal Nutrition

3.00 credits

Spring

Principles of nutrition integrated with cultural dietary patterns across the lifespan. Not for nursing majors or minors.

NUR 207 Introduction to Pharmacology

3.00 credits

Offered By Announcement Only

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included. Emphasis is on the understanding of the different classes of drugs and their application in various health care settings.

NUR 301 Human Sexuality and Vulnerable Populations

3.00 credits

Fall

The study of human sexuality via multidisciplinary theoretical perspectives and research. Students will examine the complex relationships of the physiological, psychological, cultural, gender, religious, historical, and political aspects of human sexuality. Human sexuality in the context of health disparities will form the foundation for the course. WRITING COURSE

NUR 303 HIV/AIDS and Health Maintenance for Health Care Providers

3.00 credits

Offered By Announcement Only

Definition, diagnosis, management, and care of diverse patient populations with HIV infection and AIDS. Course is presented and discussed from an interdisciplinary health care perspective.

NUR 304 Adult Health I: Fundamentals of Nursing Practice

6.00 credits

Fall, Spring

This clinical course emphasizes the supervised application of health assessment skills, nursing process, and clinical nursing techniques in the clinical laboratory, community, and acute care settings.

NUR 305 Issues in Health Disparities

3.00 credits

Spring

This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy and international politics will be explored. WRITING COURSE
NUR306 Principles of Nutrition
3.00 credits
Principles of nutrition integrated with cultural dietary patterns for client adaptation across the lifespan.

NUR307 Pharmacology
3.00 credits
Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included.

NUR308 Adult Health II
8.00 credits
This course focuses on the nursing management of the client throughout the adult life cycle who experiences alterations and/or adaptations in physiologic defense mechanisms. Teaching strategies to be utilized include lecture, discussion, critical thinking exercises.

NUR310 CONTEMPORARY ISSUES IN BIOETHICS FOR Health CARE
3.00 credits
Introduction to the concepts of global health and the critical links between public health and social and economic development. Determinants of health and patterns of disease and health outcomes across the globe are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. Health care delivery in developed vs. undeveloped regions of the world are emphasized.

NUR311 Theories and Concepts of Nursing
2.00 credits
An introductory nursing course explaining the philosophy of baccalaureate nursing using the major concepts of person, environment, health, and nursing with a multicultural focus. WRITING COURSE.

NUR314 Health Assessment
3.00 credits
Introduction to health assessment using a lifespan approach. Emphasis is on the development of data collection and basic decision-making using health assessment findings.

NUR315 Pathophysiology
3.00 credits
The study of the physiologic and biologic manifestations of disease and disease processes. Emphasis is placed on physiology of altered health within the context of disruptions of structure and function of the human body as a whole.

NUR317 Theories in Growth and Development
3.00 credits
Application of growth and development theories through the lifespan with a case study approach to issues commonly encountered nursing practice in a variety of clinical settings.
NUR318 Maternal Health Nursing.  
4.00 credits  
Fall, Spring & Summer  
This course focuses on the nursing process in the care of pediatric clients and families, the obstetrical client and woman’s health. Emphasis is on the use of the nursing process to assist clients to adapt to health alterations requiring care in secondary health care settings.

NUR319 Contemporary Issues in Bioethics for Health Care  
3.00 credits  
Offered By Announcement Only  
This course will cover bioethical issues in the health care environment, including ethical principles, theories and decision making strategies. WRITING COURSE

NUR320 Pediatric Health Nursing.  
4.00 credits  
Fall, Spring & Summer  
This course focuses in the use of the nursing process to develop and implement nursing management strategies for children and their families experiencing acute, chronic, and critical multi-system health alterations within a multicultural content. Use of the nursing process to expand and develop appropriate clinical interventions and a member of the health care team. Students will build on foundational skills in critical thinking, collaboration, and leadership in the provision of nursing care.

NUR350 PATHOPHYSIOLOGY/PHARMACOLOGY FOR RN/BSN  
3.00 credits  
Offered By Announcement Only  
This course presents the study of the physiological and biologic manifestations of disease and disease processes, and introduces the basic principles of therapeutic pharmacology. Emphasis is placed on the physiology of altered health within the context of disruptions of structure and function of the human body as a whole. Special consideration of cultural beliefs and folk medicine is included.

NUR400 Theories, Research and Evidence-Based Practice  
3.00 credits  
Fall, Spring  
Course emphasis is placed on developing an understanding of the research process and application of research findings in community-based practice in multicultural settings. Course focuses on the relationship between theory, research, practice, and the development of competencies to become an informed consumer of research. Writing Credit.

NUR401 Evidence-Based Nursing Practice.  
3.00 credits  
Fall & Summer  
This course examines evidence-based practice in nursing. Focuses on the research process; location, critical appraisal, and evaluation of evidence; application and evaluation of evidence-based practice changes; and quality improvement.

NUR405 PROFESSIONALISM AND CAREER PATHWAYS  
3.00 credits  
Fall  
This nursing course focuses on the assessment and development of a career pathway for registered nurses seeking a Bachelor’s in the Science of Nursing professional nursing practice. There will be a focus on concepts of professionalism, roles in nursing, advanced practice, diversity, culture and a critical analysis of legal, ethical and political dimensions of nursing practice.
NUR408 GENETICS AND Healthcare
3.00 credits                              Offered By Announcement Only
Exploration of basic knowledge in genomics, understanding of social, cultural and psychological implications of genetic services, health prevention and promotion.

NUR411 Adult Health III
5.00 credits                             Fall, Spring
This course focuses on the adult experiencing complex multisystem alteration/adaptations in organ and system function. Emphasis is on the use of the nursing process to assist adult clients to adapt to system related insults.

NUR415 Perianesthesia Nursing
3.00 credits                             Summer
The focus of this course is on the use of the nursing process to develop and implement nursing management strategies for patients and families undergoing a surgical and/or special procedure. Emphasis is placed on the use of a multicultural nursing perspective to plan and implement nursing interventions. This course highlights Perianesthesia nursing care of surgical patients.

NUR417 PRE-IMMERSION COURSE FOR ACCELERATED OPTION STUDENTS
0.00 credit                              Spring & Summer
This course is designed to facilitate personal and professional success; this course introduces students to the purposes and processes of nursing. An emphasis is placed on study, communication, and critical thinking skills that support academic achievement. Students also examine the relationship between learning and motivation.

NUR418 PRE-IMMERSION FOR TRADITIONAL OPTION STUDENTS
0.00 credit                              Fall
This course is designed to facilitate personal and professional success; this course introduces students to the purposes and processes of nursing. An emphasis is placed on study, communication, and critical thinking skills that support academic achievement. Students also examine the relationship between learning and motivation.

NUR420 ROBERT WOOD JOHNSON MENTOR PROGRAM
0.00 credit                              Spring & Summer
This seven-week immersion program will prepare students with the fundamentals of returning to an accelerated paced academic program. Students will explore topics that will prepare them in the area of academic success strategies, life preparedness and time management. This program will also serve as an introduction to the profession of nursing and enlighten participants to the many career opportunities and leadership roles available to them with a degree in nursing.

NUR424 MATH ESSENTIALS FOR BSN STUDENTS
0.00 credit                              Fall, Spring & Summer
This course supports students with basic to advanced medical math concepts. Topics include calculating dosages, using scientific formulas and basic statistical principles.

NUR426 Leadership & Management in Nursing
5.00 credits                              Offered By Announcement Only
Analysis and synthesis of the application of professional concepts in a variety of multicultural health care delivery systems. Emphasis is placed on personal, professional, and organizational growth. Individualized and integrated clinical experiences are provided through direct clinical supervision by preceptors.
NUR430 Leadership In Nursing
3.00 credits  Fall, Spring
Theoretical and applied concepts of transition to the nursing role within the healthcare setting are explored in this course. The focus is on practice issues and responsibilities in contemporary professional nursing practice. Emphasis is placed on the transition to practice and nursing care systems with increasing responsibility through discussion of practice theory and styles, empowering, mentoring, managing change and striving for excellence. Seminar discussion topics will focus on the issues of successful transition to the practice environment as new nurse.

NUR435 CLINICAL EXPRESS UNDGR
0.00 - 5.00 credits  Fall, Spring & Summer
This course is an online orientation for clinical faculty at the School of Nursing and Health Studies. The content is specific to clinical instructors who will be supervising BSN nursing students at various clinical sites used by the School of Nursing and Health Studies.

NUR440 Population Focused Nursing
0.00 - 4.00 credits  Fall, Spring
The focus is on population-focused nursing and community-oriented approaches to understanding and addressing major public health concerns across the life span. Emphasis is on assessing, planning, implementing and evaluating programs for a variety of communities both domestically and internationally. Health and disease is conceptualized as a complex interaction between individual, relationship, community and socio-economic-political level factors. Epidemiology, sociology, behavioral sciences and nursing theory and practice are integrated throughout. Special attention is given to addressing the unique needs of vulnerable populations and cultural groups, the elimination of health disparities, and social justice.

NUR448 Psychiatric Mental Health Nursing
0.00 - 4.00 credits  Fall, Spring
The focus is on psychotherapeutic processes across the life span. Emphasis is on planning nursing care for individuals, families, and communities with a variety of psychiatric and mental health problems in various settings (inpatient, outpatient, community). Professional and therapeutic communication skills and techniques are important components of this course.

NUR453 ROLE TRANSITION
0.00 - 5.00 credits  Fall, Spring
Theoretical and applied concepts of transition to the nursing role within the healthcare setting are integrated in this course. The course is a synthesis of previously learned knowledge, incorporating the components of physiological, psychological, and developmental concerns in the care of the client. Seminar discussion topics have a focus on the issues of successful transition to the practice environment as a nurse generalist, with the ability to exercise clinical reasoning and evidence-based practice.
NUR461 Health DISPARITIES RESEARCH PRACTICUM
1.00 - 4.00 credits                                    Offered By Announcement Only
This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

NUR487 INTERNATIONAL Health: TRANSCULTURAL NURSING
3.00 credits                                           Offered By Announcement Only
Collaborative clinical venture between the University of Miami, School of Nursing and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas including Medical-Surgical, Surgery, Intensive Care and/or Emergency nursing units. This course will allow students to apply and synthesize basic science knowledge and skills that foster ethical, legal and culture specific health care.

NUR498 Selected Topics
0.00 - 6.00 credits                                    Fall, Spring & Summer

NUR499 Selected Topics
0.00 - 6.00 credits                                  Fall

NUR536 U.S. Health Care Crisis: Politics and Policies
3.00 credits                                                                 Spring
This course will explore key health policy issues within the U.S., along with the politics and interest groups which shape them. Fundamental concerns within the health care system such as: cost, quality and access to care will be analyzed. Major topics of discussion will include: Medicare, Medicaid, private insurance, the nursing shortage, and prescription drugs. The politics and policies surrounding issues such as bioethics, globalization, and infectious disease will also be considered.

NUR551 TEACHING AND LEARNING THEORY IN CLINICAL NURSING EDUCATION
3.00 credits                                    Fall, Spring
This course covers principles and practices of teaching and learning integral to clinical nursing education and identifies the role of the faculty in teaching students with diverse learning styles and needs within a variety of clinical settings.

NUR553 Methods for Clinical Nursing Education
3.00 credits                                    Fall, Spring
The focus of this course is the organization and management of instruction for clinical nursing education. Emphasis is placed on effective strategies for the development of learning opportunities in diverse clinical settings.

NUR555 Evaluation in Clinical Nursing Education
1.00 - 3.00 credits                                    Fall, Spring
The course explores principles and practices of evaluation integral to clinical nursing education.
NUR558 Practicum in Clinical Nursing Education
1.00 - 6.00 credits
Fall, Spring
The primary focus of this course is to provide opportunities to apply concepts and principles from the previous 3 courses of the Certificate in Nursing Education program. The course provides opportunity for laboratory, clinical, and online application of principles of teaching and learning. The course combines 42 hours didactic contact hours with 112 online practicum hours.

NUR594 Selected Topics
0.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Selected Topics.

NUR595 Selected Topics
2.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Selected Topics.
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<tr>
<td>INA101</td>
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<td>IND100</td>
<td>Independent Learning Initiative</td>
<td>0.00</td>
<td>Fall, Spring &amp; Summer</td>
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ARC500 Architecture Theory
3.00 credits   Fall

ARC501 Architecture Design and Theory I
6.00 credits   Fall
Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

ARC502 Architecture Design and Theory II
6.00 credits   Spring
Technology component; materials, structure, and environmental control systems as a framework for architectural design. Construction materials and methods, structural systems, mechanical systems.

ARC503 Architectural Design and Theory III
6.00 credits   Fall
Legal and economic component; government and finances as active constituents of architecture design. Zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

ARC504 Architecture Design
6.00 credits   Fall
Architecture Design: Comprehensive Component. Topics include zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

ARC507 Architecture Design
6.00 credits   Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC509 Architecture Design IX
6.00 credits   Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC510 Architecture Design X
6.00 credits   Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC511 Drawing
3.00 credits   Fall
Graphic representation and exploration of visual ideas through increased awareness of visual and graphic vocabulary, stressing projections, light, shade and shadow, perspective, and freehand sketching.
ARC512 Advanced Visual Analysis
3.00 credits Offered By Announcement Only
Drawing as a means of analyzing and recording visual experience. Composition, form, light, color and drawing as a primary device in the mental registration of visual experience.

ARC513 Computing
3.00 credits Spring
An introduction to new electronic design tools and technology available to architects today. Lectures on the history and future of computing in the profession.

ARC514 Michelangelo
3.00 credits Fall
Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo's work.

ARC515 Computer Modeling
3.00 credits Fall, Spring
Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.

ARC516 Architectural Watercolor Renderings
3.00 credits Fall
This course will use freehand drawing and watercolor painting as a vehicle to study and record the urban and architectural conditions of Coral Gables and other South Florida sites. Particular emphasis will be placed on the analytical potential of sketches (recording space, light, surfaces and color).

ARC517 Construction Documents
3.00 credits Fall
Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.

ARC518 Documentation of Historic Architecture
3.00 credits Summer
Principles of preservation and restoration, research methods, measured drawings, surveying methods, case studies.

ARC519 Architecture and Color
3.00 credits Summer
This course focuses on the theory and practice of color and its application to architectural design. Topics include color history from Newton through Alber, the relationship between color practice in science versus art, and the discipline of color in architecture from the Neoclassical movement through the Modern Movement.

ARC523 Interior Architecture Design
3.00 credits Fall
Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

ARC524 Selected Topics in Interior Architecture Design
3.00 credits Spring
Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.
ARC525 Landscape Arch Design I
3.00 credits Fall, Spring
Analysis and design of landscape spaces. Studies in historical precedent, gardens, parks, plazas, squares and response to architectural context.

ARC527 Architecture Photography
3.00 credits Offered By Announcement Only
Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.

ARC528 Historic Preservation
3.00 credits Spring
Basic design principles for the rehabilitation of historic buildings. Evaluating character-defining details; significance analysis; context of setting issues within historic districts; applying the Secretary of the Interior's Standards for rehabilitation.

ARC529 Research in Design-Methods and Procedures
3.00 credits Fall, Spring
Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.

ARC530 Building Technology II: Materials & Methods.
3.00 credits Fall, Spring
Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction; Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes, assembles, detailing and basic building code concepts.

ARC531 Building Technology II: Structural Systems
3.00 credits Spring
Structural systems: The tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral loads, building envelope and financial considerations.

ARC532 Building Structures I
3.00 credits Summer
The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.

ARC533 Building Structures II
3.00 credits Fall & Summer
The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.

ARC536 Italian Gardens
3.00 credits Fall, Spring
Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.

ARC537 Research in Rome
3.00 credits Fall, Spring
An exploration of Roman history, architecture and urban form through lectures, on site study and drawing assignments. Emphasis on chronological and spatial sequence of development.
ARC541 Seminar on Town Design
3.00 credits  Fall
Introduction to the lexicon of urbanism; analytical presentations of the concepts of: region, town, neighborhood, corridor, district, and building type; inter disciplinary presentations, review, and criticism of current town and urban design projects.

ARC544 The Architecture of Palladio
3.00 credits  Fall
On site study of the architecture and urbanism of Andrea Palladio. Emphasis on the artistic precedents of the Veneto Region.

ARC545 Urban Composition
3.00 credits  Offered By Announcement Only
Survey and analytical review of urban rooms as the vessel of human activity in urban culture. Study of proportional and compositional aspects of urban rooms together with economic, social, and cultural factors. Readings and discussion format.

ARC546 Studies of Havana
3.00 credits  Spring
Analysis of the physical structure of a major city and its environments including an exploration of its history and iconographic themes, mapping and building studies.

ARC550 Professional Lecture Series
3.00 credits  Fall, Spring
Exposure to the various professional disciplines in South Florida that make contributions to the design process. Case study analysis and evaluation of current building project, from time of initial formulation through completion, including research, diagrammatic studies, site visits and lectures.

ARC551 Contemporary Theories of Architecture
3.00 credits  Offered By Announcement Only
Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.

ARC554 Architecture of South Florida
3.00 credits  Offered By Announcement Only
History of architecture and human settlements. Studies of significant architectural landmarks and urban design of the South Florida Region, chronological growth of Miami, Miami Beach, Coral Gables, Key West and Palm Beach.

ARC558 Theories of Landscape Architecture
3.00 credits  Fall
Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design.

ARC561 Building Technology I: Materials and Methods.
3.00 credits  Fall
Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction. Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.
ARC562 Environmental Building Systems I  
3.00 credits  
Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; plumbing - fixtures and pipes; electrical - equipment and wiring design; safety systems - fire safety and emergency and signal systems.

ARC563 Environmental Building Systems II  
3.00 credits  
Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces electrical equipment and wiring design.

ARC567 History of Architecture I: Ancient, Medieval and Renaissance  
3.00 credits  
Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century. Corequisite: ARC 501.

ARC568 History of Architecture II: Baroque through Contemporary  
0.00 - 3.00 credits  
Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end sixteenth century through to the present. Corequisite: ARC502.

ARC569 Directed Readings  
3.00 credits  
A structured program of readings and essays organized by the student and his/her graduate supervisor constituting a preparation for graduate research in the student's chosen area of interest.

ARC570 Modern Architecture  
3.00 credits  
History of architecture, landscape, and city design in the modern era.

ARC571 Ancient Architecture  
3.00 credits  
History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

ARC572 Selected Topics in World Architecture  
3.00 credits  
History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, S. E. Asia, China, Japan, Pre-Columbian America.

ARC573 Early Christian, Byzantine, and Medieval Architecture  
3.00 credits  
History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.
ARC575 Colonial Architecture  
3.00 credits  Fall  
History of architecture and human settlements. Iberian and British Colonies from the 16th through the 19th centuries: North and South America, Caribbean, India and Africa.

ARC576 19th and 20th Century Architecture  
3.00 credits  Fall  
History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

ARC577 The Architecture of Alvar Aalto  
3.00 credits  Fall  
An examination of the architecture of Alvar Aalto through the analysis of selected buildings.

ARC578 Italian Rationalist Architecture  
3.00 credits  Offered By Announcement Only  
History of Italian architecture and urban design between 1914 and 1950: cultural, technological, and theoretical developments; relationship between architecture, politics and propaganda; related survey of the period in other countries (France, German, Soviet Union).

ARC581 Special Problems  
3.00 credits  Fall, Spring & Summer  
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC582 Special Problems  
3.00 credits  Fall, Spring & Summer  
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC583 Special Problems  
3.00 credits  Fall, Spring & Summer  
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC584 Special Problems  
1.00 - 3.00 credits  Fall, Spring & Summer  
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC585 Special Problems  
1.00 - 3.00 credits  Fall, Spring & Summer  
Group or individual investigations of significant architectural issues, offered by special arrangement only.

ARC586 Special Problems  
1.00 - 3.00 credits  Fall, Spring & Summer  
Group or individual investigations of significant architectural issues, offered by special arrangement only.
ARC590 History of Cities
3.00 credits
Fall, Spring
Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

ARC593 Computer Animation
3.00 credits
Spring
Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.

ARC594 Geographic Information Systems in Urban Design
0.00 - 3.00 credits
Spring
Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.

ARC596 Interactive Multimedia in Design
3.00 credits
Spring
Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.

ARC601 Urban Design I: Urban Form and Types/Form-Based Codes
6.00 credits
Summer
Introduction to urban principles, documentation, lexicon of urbanism, urban codes, and architectural guidelines (Studio Format - Rome Program).

ARC602 Urban Design II: General Urban to Urban Core.
6.00 credits
Fall
Studio projects focusing on urban retrofit and the repair of suburbia. Design topics may include typo-morphological studies, sustainable development, downtown redevelopment, neighborhood retrofit, urban agriculture, etc.

ARC603 Urban Design III: Regional/Informal Urbanism.
6.00 credits
Spring
Studio projects focusing on regional design, everyday urbanism, informalities and other urbanisms. Design topics may include open space and rural design, informal communities, affordable and manufactured housing, etc.

ARC607 Architecture Design
6.00 credits
Fall, Spring & Summer
Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

ARC608 Architecture Design
6.00 credits
Fall, Spring & Summer
Specialization component: student and faculty select areas of in-depth study in housing. Low-income housing, elderly housing, suburban housing, housing types, etc.

ARC609 Architecture Design
6.00 credits
Fall, Spring & Summer
Comprehensive project. Programming, design development, formulation of alternative solutions, detailing, presentation.
ARC610 Architecture Design Degree Project
6.00 credits  \hspace{1cm} Fall, Spring & Summer
Special component: student/faculty selected area of special study.

ARC615 Visualization Techniques
1.00 credit  \hspace{1cm} Summer
Survey of digital and analogue representation techniques for urban designers.

ARC621 History-Theory II: Housing, Transportation and Infrastructure.
3.00 credits  \hspace{1cm} Fall
Part I: Survey of housing theories and projects with emphasis on morphological context, typology and composition - focus on topics of modernity. Part II: Introduction to thoroughfare design and walkability principles; description of urban, suburban, rural and regional infrastructure.

3.00 credits  \hspace{1cm} Spring
Advanced survey of urban design theories in print and practice - emphasis on issues of modernity. (Seminar Format)

ARC623 Public Participation Methods - Charrette with MRED+U Program.
3.00 credits  \hspace{1cm} Spring
Introduction to planning and public participation methods. Design workshop in collaboration with students in the master in Real Estate and Urbanism program. (Some travel may be required)

ARC624 Architecture Theory
3.00 credits  \hspace{1cm} Spring
Review and criticism of current theoretical work in architecture. Design theory, language, typology, image, form, context.

ARC652 Management of Professional Practice
3.00 credits  \hspace{1cm} Fall
Overview of the practice and the profession, legal and ethical concerns, business types and management practices, traditional and non-traditional practices and services, contracts and contractual relationships, disputes and risk management.

ARC696 Advanced Topics
3.00 credits  \hspace{1cm} Spring
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics will be shown in the printed class schedule, following the title Advanced Topics.

ARC699 Directed Research
1.00 - 6.00 credits  \hspace{1cm} Fall, Spring & Summer
Individually supervised projects. Required 6 credit course for all Master of Architecture in Computing students who exercise final project rather than thesis option.

ARC710 Master's Thesis
1.00 - 6.00 credits  \hspace{1cm} Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.
ARC720 Research in Residence

0.00 credit  

Fall, Spring & Summer

Used to establish research in residence for the thesis or final project for the master's degree after the student has enrolled for the permissible cumulative total in ARC 699 or ARC 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

Real Estate Development

RED601 Introduction to Real Estate Development and Urbanism.

3.00 credits  

Fall

Fundamentals of real estate development of urban places, including the many challenges of the development process such as analyzing market sectors and development opportunities, comprehending the development context of regulation, public policy and politics, raising investment capital, assembling land, program formulation, building types, construction management, marketing, and sales.

RED610 Financing Urban Real Estate Development

3.00 credits  

Fall

Concepts and techniques for analyzing financial decisions in property development and investment including: real estate economics and investment performance measurement, leasing and property income streams, pro forma analysis, basics of equity and debt valuation, income tax and leverage considerations, mortgages, and deal structures. Emphasis financing individual projects.

RED630 Market Analysis for Urban Markets

3.00 credits  

Fall

Identification of critical market factors that determine development opportunities. Topics include business and construction cycles, regional and urban growth trends, commercial and industrial location theories, and advanced demographic analysis and projection techniques to project and analyze occupancy, rental growth, absorption, and competitive supply.

RED640 National Charrette Institute (NCI)

1.00 credit  

Spring

RED660 Urban infill, Preservation & Mixed Use Development.

3.00 credits  

Spring

Builds students' competencies for infill and redevelopment practice focusing on: mixed-use development, transit oriented development, barriers and solutions for urban infill development, urban site analysis, repositioning of urban land, vacant and underutilized properties, long-term land leases, tax incentives, historic preservation, public-private partnerships, business improvement districts, tax increment financing, community (re)development districts, parking strategies, and urban housing types.

RED670 Construction and Project Management

3.00 credits  

Spring

Management of construction projects including legal considerations and techniques of management science applied to construction. Includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, flow charts, tracking progress, construction contracts, indemnity agreements, and network planning techniques including CPM and PERT.
RED680 Entrepreneurship: Building A Real Estate Development Company  
3.00 credits  
Spring  
Focuses on management and business practices for building new urban real estate firms capable of leading the industry and assuming competitive advantages over conventional models.

RED690 Integrated Real Estate Development Case Studies Practicum  
3.00 credits  
Summer  
Students integrate and apply their learning and skills to complex problem-solving involving a series of intensive real world cases of urban real estate development. Focuses on project feasibility and helps hone the required set of development skills.

RED699 Capstone: Real Estate Development and Urbanism Charrette  
3.00 credits  
Summer  
An intensive real estate development and urban design studio in which students are part of a multidisciplinary team on an urban development project. Focuses on comprehensive analysis, project planning, feasibility and program development through the application of advanced development skills in an urban context.
American Studies

AMS501 SENIOR PROJECT
3.00 credits  Spring
All majors must complete either an individual research project or an internship at a local cultural or civic institution. Either option must be approved by the program director.

AMS505 HONORS THESIS
3.00 credits  Spring
American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505: honors thesis. Candidates for departmental honors are responsible for finding a faculty member to serve as the thesis advisor. Students would take AMS 501 in the fall semester or the senior year and AMS 505 in the spring to complete the honors thesis.

Anthropology

APY501 Methods of Anthropolical Research
3.00 - 6.00 credits  Spring
Concentration on research methods for Cultural, Archaeological, Linguistic, and/or Biological Anthropology.

APY502 Field Studies in Anthropology
3.00 - 6.00 credits  Fall, Spring & Summer
Field research in advanced topics in Cultural, Archaeological, Linguistic and/or Biological Anthropology. Preparation of data for professional presentation and publication is stressed.

APY505 Museum Internship
3.00 credits  Fall, Spring
Field work and on-site experience in museum studies conducted in conjunction with the major museums in Miami. Training and research in methods and techniques in museology.

APY506 Workshop in Anthropology
3.00 - 6.00 credits  Fall, Spring
This course is designed for upper level and graduate students to participate in special topics in Anthropology and related fields.

APY511 ARTLAB at LOWE
3.00 credits  Spring
Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

APY512 Advanced Medical Anthropology
3.00 credits  Fall, Spring
Applications of theories and methods of medical anthropology to problems in human health and disease.

APY518 Advanced Seminar in Anthropology
3.00 credits  Fall, Spring
Specialized topics in Anthropology to involve students into current research specializations.

Art

ART501 Advanced Painting III
1.00 - 6.00 credits  Fall, Spring
Course content decided between student and professor.
ART502 Advanced Painting IV  
1.00 - 6.00 credits  
Continuation of ART 501.

ART503 Advanced Painting V  
1.00 - 6.00 credits  
Course content decided between student and professor. An independent study course may be repeated.

ART505 Advanced Painting VII  
1.00 - 6.00 credits  
Offered By Announcement Only  
Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

ART509 Independent Study in Other Media  
1.00 - 6.00 credits  
Course content decided between student and professor. Independent study course may be repeated.

ART510 Advanced Photography III  
3.00 credits  
Course content decided between student and professor.

ART511 Advanced Photography IV  
3.00 credits  
Continuation of ART 510.

ART512 Independent Study in Photography  
1.00 - 6.00 credits  
Course content decided between student and professor. An independent study course may be repeated.

ART517 Advanced Sculpture III  
3.00 credits  
Fall, Spring  
Examination of ongoing work in relationship to historical and contemporary interpretations issues.

ART518 Advanced Sculpture IV  
3.00 credits  
Continuation of ART 517.

ART551 Intaglio/Relief IV  
3.00 credits  
Offered By Announcement Only  
Advanced work in intaglio/relief processes: course requirements decided between student and professor.

ART552 Lithography IV  
3.00 credits  
Offered By Announcement Only  
Advanced work in lithography: course requirements decided between student and professor.

ART553 Silkscreen IV  
3.00 credits  
Offered By Announcement Only  
Advanced work in silkscreen.
ART554 Computer Assisted Printmaking
3.00 credits
Offered By Announcement Only
Advanced work in computer assisted printmaking; course requirements decided between student and professor.

ART555 Topics in Printmaking
1.00 - 6.00 credits
Offered By Announcement Only
Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

ART562 Contemporary Ceramic Art
3.00 credits
Fall, Spring
Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

ART563 Independent Study in Ceramics/Glass
1.00 - 6.00 credits
Fall, Spring
Course content decided between student and professor. An independent study course may be repeated.

ART564 Directed Research and Projects in Ceramics/Glass
3.00 credits
Fall, Spring
Historical to contemporary approach to ceramics; furthering of the technical ability, and development of artistic style.

ART591 Portfolio/Business of Design
3.00 credits
Offered By Announcement Only
Individually supervised graphic design portfolio. Professional practices in design.

ART592 Special Projects/Multimedia/Portfolio
3.00 credits
Offered By Announcement Only
Video Art, print design, illustration or multimedia portfolio preparation.

ART593 Seminar in Professional Practices
1.00 - 6.00 credits
Fall, Spring
Advanced course with a required placement in a professional design or multimedia setting. Classroom sessions on professional topics and issues. Portfolio required.

ART599 Exhibition Preparation
3.00 credits
Fall, Spring
A seminar class devoted to the preparatory work needed to plan and promote a solo exhibition, including installation/lighting concerns. Preliminary written assignments will also be given in preparation for ART 710 Thesis.

ART601 Advanced Painting VIII
1.00 - 6.00 credits
Fall, Spring
Professional and concentrated experiences in media and subject matter decided in conference between candidate and instructor.

ART602 Advanced Painting ix
1.00 - 6.00 credits
Fall, Spring
Continuation of ART 601.
ART603 Problems in Studio Art
1.00 - 6.00 credits                      Fall, Spring
Course content will be decided in conference between candidate and instructor. This course may be repeated for credit.

ART604 Seminar in Studio Art
3.00 credits                             Spring
Special topics in selected area of studio art.

ART610 Photography
3.00 credits                            Fall, Spring
Content decided in conference between candidate and instructor.

ART611 Photography
3.00 credits                            Fall, Spring
Continuation of ART 610.

ART617 Sculpture
3.00 credits                           Fall, Spring
Content decided in conference between candidate and instructor.

ART618 Sculpture
3.00 credits                           Fall, Spring
Continuation of ART 617.

ART651 Intaglio/Relief V
3.00 credits                              Offered By Announcement Only
Advanced intaglio/relief processes: course requirements decided between candidate and professor.

ART652 Lithography V
3.00 credits                              Offered By Announcement Only
Advanced lithography. Course requirements decided between candidate and professor.

ART653 Silkscreen V
3.00 credits                              Offered By Announcement Only
Advanced work in silkscreen.

ART661 Ceramics
3.00 credits                             Fall, Spring
Content to be decided in conference between candidate and instructor.

ART662 Ceramics
3.00 credits                             Fall, Spring
Continuation of ART 661.

ART681 Writing About Art
3.00 credits                             Fall
Writing about art on a professional level.

ART691 Graphic Design
3.00 credits                             Fall, Spring
Advanced graduate projects in graphic design.
ART692 Multimedia
3.00 credits  
Fall, Spring  
Advanced graduate projects in multimedia.

ART710 Master's Thesis
1.00 - 6.00 credits  
Fall, Spring  
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

ART720 Research in Residence
0.00 credit  
Fall, Spring  
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ART 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Arabic
ARB591 Directed Readings
1.00 - 3.00 credits  
Offered By Announcement Only  
Directed readings (Independent study) in Arabic Studies.

Art History
ARH505 Problems in Art History
3.00 credits  
Fall, Spring  
A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

ARH506 Problems in Art History
3.00 credits  
Fall, Spring  
A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

ARH508 Museum Exhibition
3.00 credits  
Offered By Announcement Only  
Organizing an art museum exhibition, and participating in the installation. Writing and composing the catalogue.

ARH509 Museum Internship
1.00 - 3.00 credits  
Fall, Spring  
UM sponsored internship with Miami-area museum.

ARH510 Arts Administration Internship
1.00 - 3.00 credits  
Fall, Spring  
UM sponsored internship with Miami-area arts institution.

ARH511 ARTLAB AT THE LOWE
3.00 credits  
Spring  
Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

ARH530 Seminar in Art History
3.00 credits  
Offered By Announcement Only  
Special topics in western and nonwestern art. Semester's topic will be announced.
ARH540 Seminar in The History of Museums and Collecting
3.00 credits Offered By Announcement Only
History of museums and collecting practices in western Europe and the United States from the sixteenth to the twentieth century.

ARH560 Seminar in Nineteenth and Twentieth Century Art
3.00 credits Offered By Announcement Only
Special topics including museum practices and theory, women's art and contemporary issues.

ARH570 Seminar in Non-European Art
3.00 credits Offered By Announcement Only
Special Topics in Non-European Art.

ARH598 Seminar in Contemporary American Art
3.00 credits Fall
Issues in Art since 1960: Aesthetic theories and ideological issues generated in contemporary art as expressed in the writing of artists and art critics.

ARH710 Master's Thesis
1.00 - 6.00 credits Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

ARH720 Research in Residence
0.00 credit Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ARH 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Biology

BIL511 Biometry
3.00 credits Offered By Announcement Only
Descriptive and analytical statistics as used in biology. Emphasizes sampling, presentation of quantitative data, probability theory applications, distributions, parametric and non-parametric test procedures.

BIL520 Evolution
3.00 credits Offered By Announcement Only
Evolutionary mechanisms and pathways: sources of hereditary variation, evolutionary forces, origins of adaptations, speciation, macro-evolution, origin of life and humankind.

BIL521 Systematics
3.00 credits Offered By Announcement Only
Concepts and methods in phylogenetic systematics. Lectures, discussions, and computer labs, 3 hours.

BIL523 Advanced Biology of Marine Invertebrates
4.00 credits Offered By Announcement Only
Detailed study of major phyla of marine invertebrates. Special emphasis on taxa found in waters off southern Florida. Field course. Lectures, laboratory, special projects, and seminars.
BIL525 Advanced Herpetology
3.00 credits Offered By Announcement Only
Systematics, biogeography, and evolutionary biology of amphibians and reptiles, with emphasis on modern families. Combined lecture and laboratory.

BIL526 Studies in the Biology of Mycorrhizae
2.00 credits Offered By Announcement Only
Readings, discussions and laboratory exercises concerning the biology of mutualistic root-inhabiting fungi and their plant hosts. Topics will vary by semester. Course may be repeated for credit.

BIL531 Advanced Field Ecology
5.00 credits Offered By Announcement Only
Principles of and practical experience in quantitative sampling of community structure, plant and animal populations, and animal activities. Emphasis on individual projects. Lecture, 3 hours; laboratory/field, 10 hours on alternate Saturdays, plus research projects.

BIL532 Stable Isotope Ecology
3.00 credits Offered By Announcement Only
Stable isotope analysis applied to ecological questions such as nutrient cycling, photosynthesis and trophic level studies.

BIL535 Molecular Ecology
3.00 credits Offered By Announcement Only
Molecular markers and analyses, and their applications to different problems in biology. Appropriate sampling, methods for assessing genetic diversity and differentiation. Approaches to studying gene flow, tools for behavioral ecology, remote sampling, tracking individuals, and paternity analysis, hybridization and speciation, DNA bar codes, and gene expression from a population biological perspective.

BIL536 Molecular Ecology Laboratory
1.00 credit Offered By Announcement Only
Laboratory techniques, molecular tools, applications, and analysis methods commonly used by researchers in the areas of molecular ecology and population genetics.

BIL537 Ecosystem Ecology
3.00 credits Offered By Announcement Only
Concepts and models of energy and nutrient flow, food webs, successional processes, human influences and effects of spatial heterogeneity.

BIL548 Bioinformatics Algorithms
3.00 credits Offered By Announcement Only
The complexity of bioinformatics computations. Introduction to Perl and Bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor binding site recognition and motif finding, gene prediction, phylogeny, micro array analysis, RNA folding, gene design and synthesis.

BIL552 Bioinformatics Tools
3.00 credits Offered By Announcement Only
Databases and tools of bioinformatics as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, protein structure-function analysis and various applications.
BIL554 Electron Microscopy
4.00 credits
Fall
Techniques in transmission electron microscopy (TEM) including tissue preparation, use of the electron microscope, photography, and interpretation of micrographs. Lecture, 1 hour; laboratory, 6 hours.

BIL555 Projects in Electron Microscopy
2.00 credits
Spring
Individual research projects in transmission electron microscopy, 6 hours.

BIL556 Ecological and Evolutionary Genomics
3.00 credits
Offered By Announcement Only
The evolution of genomes, and the ecological interactions that drive their evolution.

BIL565 Evolution and Development
3.00 credits
Offered By Announcement Only
Exploration of the relationship between common descent and biological diversity, principally changes in organismal development through time.

BIL568 Evolution and Development of Nervous Systems
3.00 credits
Offered By Announcement Only
Mechanisms/pathways/modules underlying formation of the nervous system during embryo development. How some properties of nervous systems have resisted change while others have diverged dramatically during evolution.

BIL569 Biology of Aging
3.00 credits
Offered By Announcement Only
The hypotheses and data relating to the biological basis of aging in animals, including humans.

BIL575 Advanced Special Studies in Biology
1.00 - 6.00 credits
Offered By Announcement Only
Content of course will vary by semester. Content in any semester will be indicated via subtitle in the class schedule.

BIL610 Lab Group Meeting
1.00 credit
Fall
Weekly seminar meeting for discussion of research projects and other academic issues in graduate faculty research laboratories. (Fall semesters)

BIL611 Lab Group Meeting
2.00 credits
Spring
Weekly seminar meeting for discussion of research projects and other academic issues in graduate faculty research laboratories. (Spring semesters)

BIL612 Graduate Core Module
1.00 credit
Fall
A two-term sequence of modules addressing core principles across Biology in a format based on and fostering trans-disciplinary thought. Each module is one credit, taught dually by two faculty for 15 hours per module over a period of three weeks, and graded independently of other modules. Five modules are taught sequentially each term, for a total of ten credits for the academic year. Different modules may be offered in different years. (Fall semesters)
BIL613 Graduate Core Module
1.00 credit Fall
A two-term sequence of modules addressing core principles across Biology in a format based on and fostering trans-disciplinary thought. Each module is one credit, taught dually by two faculty for 15 hours per module over a period of three weeks, and graded independently of other modules. Five modules are taught sequentially each term, for a total of ten credits for the academic year. Different modules may be offered in different years. (Spring semesters)

BIL614 Professional Writing and Grantsmanship
3.00 credits Offered By Announcement Only
Elements of argumentative writing, reader-oriented writing strategies, fundability of submitted grants, and techniques for mastering presentation venues such as posters and talks.

BIL630 Population and Community Ecology: Theory
3.00 credits Offered By Announcement Only
Classical and contemporary theory in population and community ecology including population dynamics, matrix models, life tables, predator-prey models and food webs.

BIL632 Population and Community Ecology: Theory II
3.00 credits Offered By Announcement Only
Classical and contemporary theory in population and community ecology including population dynamics, matrix models, life tables, predator-prey models and food webs.

BIL636 Tropical Biology: An Ecological Approach
8.00 credits Offered By Announcement Only
The tropical environment and biota; ecologic relations, communities and evolution in the tropics. Conducted in Costa Rica under the Organization for Tropical Studies. Lecture, laboratory, and fieldwork.

BIL637 Ecologia de Poblaciones
7.00 credits Offered By Announcement Only

BIL638 Tropical Managed Ecosystems
8.00 credits Offered By Announcement Only
Application of ecological principles to problems in agriculture, forestry, conservation and natural resource management in the tropics. Conducted in Costa Rica under the Organization for Tropical Studies.

BIL649 Seminar in Behavior
1.00 credit Fall, Spring
Discussion of current literature in animal behavior. This course may be repeated for credit.

BIL655 Techniques in Scanning Electron Microscopy
3.00 credits Offered By Announcement Only
Tissue preparation, use of the scanning electron microscope (SEM), photography, and analysis and manipulation of digital images. Lecture 1 hour; laboratory 5 hours.
BIL671 Advanced Study in Plant or Animal Sciences  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

BIL672 Advanced Study in Plant or Animal Sciences  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

BIL673 Advanced Study in Plant or Animal Sciences  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

BIL674 Advanced Study in Plant or Animal Sciences  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

BIL675 Advanced Study in Plant or Animal Sciences  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

BIL676 Current Topics in Biological Research  
1.00 - 2.00 credits  
Fall, Spring & Summer  
Content will vary by semester. Readings and discussions with eminent scholars temporarily resident in the department's Distinguished Visiting Professor program.

BIL678 Current Topics in Biological Research  
1.00 credit  
Fall, Spring & Summer  
Content will vary by semester. Readings and discussions with eminent scholars temporarily resident in the department's Distinguished Visiting Professor program.

BIL680 Research Ethics  
0.00 credit  
Offered By Announcement Only  

BIL710 Master's Thesis  
1.00 - 6.00 credits  
Fall, Spring & Summer  
The student working on his/her Master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

BIL720 Research in Residence  
0.00 credit  
Fall, Spring & Summer  
Used to establish research in residence for the thesis for the Master's degree after the student has enrolled for the permissible cumulative total in BIL 710 (usually six credits). Credit not granted. May be regarded as full time residence.
BIL730 Doctoral Dissertation
1.00 - 12.00 credits  
Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of BIL 730 may be taken in a regular semester, nor more than six in a summer session.

BIL740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits  
Fall, Spring & Summer
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of BIL 740 may be taken in a regular semester, nor more than six in a summer session.

BIL750 Research in Residence
0.00 credit  
Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Chemistry
CHM520 Physical Organic Chemistry
3.00 credits  
Fall
Aspects of chemical bonding, acids and bases, stereochemistry, aromaticity, pericyclic reactions, linear free energy relationships, transition state theory, excited state chemistry, reactive intermediaries, mechanisms of uni- and bi-molecular reactions.

CHM522 Synthetic Organic Chemistry
3.00 credits  
Fall
Functional group transformations, Synthon approach. Retro-synthetic analyses, multistep syntheses.

CHM524 Supramolecular Chemistry
3.00 credits  
Offered By Announcement Only
Complexation, recognition, and catalysis as applied to bio-organic chemistry. Steric, polar, and lipophillic interactions as well as proximity effects in the design of synthetic enzyme mimics, cationic transport species, etc.

CHM525 Structural Organic Chemistry
3.00 credits  
Spring

CHM526 CHM523 Medicinal Chemistry
3.00 credits  
Spring

CHM530 Fluorescence Spectroscopy and Microscopy
3.00 credits  
Fall, Spring
The photophysical properties of organic compounds that illustrates the fundamental principles of fluorescence. It also explains how fluorescence spectra and images can be recorded and how these powerful analytical techniques can be used to address significant problems in biology and medicine.
CHM535 Molecular and Supramolecular Photochemistry
3.00 credits Offered By Announcement Only
Generation of a model that will help rationalize/predict excited state reactions. A brief background on physical aspects of photochemistry will be given. Exploring and understanding of reactions that are triggered by light. Importance of light in life will be highlighted.

CHM541 Principles of Bonding and Reactivity in Inorganic Chemistry
3.00 credits Fall
Bonding principles necessary to understand the structure, stability, and fundamental reactivity of main group and transition metal inorganic compounds.

CHM553 Modern Quantum Chemistry
3.00 credits Offered By Announcement Only
Many-electron wave functions and operators. Hartee-Fock approximation, density functional theory, configuration interaction, and many-body perturbation theory.

CHM565 Principles of Spectroscopic Techniques
3.00 credits Offered By Announcement Only
Spectroscopic techniques: nuclear magnetic resonance (NMR), mass spectra (MS), ultraviolet (UV), visible infrared (IR), fluorescence, and other specialized spectroscopic techniques.

CHM575 Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy
3.00 credits Offered By Announcement Only
Theory of nuclear magnetic resonance; Bloch equations; relaxation theory; time-domain versus frequency domain spectroscopies, and principles of multidimensional spectroscopy.

CHM591 Topics in Chemistry
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, Topics in Chemistry.

CHM592 Topics in Chemistry
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, Topics in Chemistry.

CHM593 Readings in Chemistry
1.00 - 3.00 credits Offered By Announcement Only
Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

CHM594 Readings in Chemistry
1.00 - 3.00 credits Offered By Announcement Only
Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

CHM655 Electrochemistry
3.00 credits Offered By Announcement Only
Modern electrochemical techniques including voltammetry, chronocoulometry, rotating disk electrode, and ultramicroelectrodes.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
College of Arts and Sciences
Chemistry

CHM679 Chemistry Seminar
1.00 credit
Fall, Spring
Participation in the departmental seminar program. Required each semester the student is in residence and not enrolled in CHM 680 (excluding summer sessions).

CHM680 Chemistry Seminar
1.00 credit
Fall, Spring
Participation in the chemistry department seminar program, including an oral presentation of special topics.

CHM685 Introduction to Research
2.00 credits
Offered By Announcement Only
Research principles and practices, independent study in selected subject areas, and/or oral presentation of a proposed research topic. Open only to graduate students working toward the M.S. or Ph.D. in chemistry.

CHM688 Problems in Research Planning
2.00 credits
Offered By Announcement Only
Formulation of a research program for investigating an original problem not related to the candidate's major laboratory research. A brief written summary and an oral defense of the plan will be required.

CHM705 Research Practices
1.00 - 3.00 credits
Fall, Spring
Research experiences in special techniques. For students electing the non-thesis M.S. option. May be repeated for a total not to exceed six credits.

CHM710 Master’s Thesis
1.00 - 6.00 credits
Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

CHM720 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in CHM 710 (usually six credits). Credit not granted. May be regarded as full time residence.

CHM730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

CHM740 Post-candidacy Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.
CHM750 Research in Residence
0.00 credit  
Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Classics
CLA505 Seminar in Ancient Studies
3.00 credits  
Fall, Spring & Summer
Topics in Greek and Roman studies.

Computer Science
CSC507 Data Security and Cryptography
3.00 credits  
Offered By Announcement Only

CSC517 Data Structures and Algorithm Analysis
3.00 credits  
Fall, Spring

CSC519 Program Languages
3.00 credits  
Fall

CSC521 Principles of Computer Operating Systems
3.00 credits  
Fall

CSC523 Database Systems
3.00 credits  
Fall

CSC524 Computer Networks
3.00 credits  
Spring

CSC527 Theory of Computing
3.00 credits  
Spring
Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

CSC528 Introduction to Parallel Computing
3.00 credits  
Offered By Announcement Only
Parallel computing systems shared-memory parallel programming, with open MP, distributed-memory parallel programming, software with open MPI software package. Applications: vector and matrix operations, sorting, image processing.
CSC529 Introduction to Computer Graphics
3.00 credits Offered By Announcement Only

CSC531 Introduction to Software Engineering
3.00 credits Spring

CSC540 Algorithm Design and Analysis
3.00 credits Offered By Announcement Only
Design techniques include divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting, searching, combinatorial and graph algorithms.

CSC545 Introduction to Artificial Intelligence
3.00 credits Offered By Announcement Only

CSC547 Computational Geometry
3.00 credits Offered By Announcement Only
Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS.

CSC548 Bioinformatics Algorithms
3.00 credits Fall

CSC552 Bioinformatics Tools
3.00 credits Fall
Databases and tools of bioinformatics, as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, and protein structure-function analysis, and various applications.

CSC555 Multimedia Systems
3.00 credits Offered By Announcement Only

CSC597 Topics in Computer Science
1.00 - 3.00 credits Offered By Announcement Only

CSC598 Topics in Computer Science
1.00 - 3.00 credits Offered By Announcement Only

CSC599 Topics in Computer Science
1.00 - 3.00 credits Offered By Announcement Only
CSC609 Data Security and Cryptography
3.00 credits  
Offered By Announcement Only
Access, information flow, and inference controls. Network security and management.  
Encryption algorithms. Cryptographic techniques.

CSC624 Mobile Wireless Systems
3.00 credits  
Offered By Announcement Only
Cellular Systems, multiple access techniques, wireless networking, mobile IP, power  
management, user location information management, TDMA, CDMA, and GSM systems,  
data broadcasting.

CSC628 Parallel Algorithms
3.00 credits  
Fall
Parallel computation models; sorting networks; parallel algorithms for sorting,  
searching, graph problems, prefix computation, pattern matching, and fast Fourier  
transforms; theory of P-completeness, the class NC.

CSC647 Computational Geometry
3.00 credits  
Offered By Announcement Only
Algorithms for solving geometric problems arising from application domains including  
graphics, robotics, and GIS.

CSC648 Automated Reasoning
3.00 credits  
Offered By Announcement Only
Propositional and 1st order logic. Reasoning and resolution. More complex inference  
rules. Using contemporary ATP systems. Prolog as an ATP system and as a programming  
language. Applications of ATP in research and industry.

CSC650 SEMANTIC WEB
3.00 credits  
Offered By Announcement Only

CSC655 Advanced Multimedia Systems
3.00 credits  
Offered By Announcement Only
Data compression algorithms. CD-ROM technology. Implementation of multimedia software  
development tools. Architecture and issues for distributed multimedia systems.  
Multimedia communications systems.

CSC670 Directed Reading
2.00 - 4.00 credits  
Fall, Spring

CSC687 Topics in Computer Science
1.00 - 3.00 credits  
Offered By Announcement Only

CSC688 Topics in Computer Science
1.00 - 3.00 credits  
Offered By Announcement Only

CSC710 Master's Thesis
1.00 - 6.00 credits  
Fall, Spring
The student working on his/her master's thesis enrolls for the number of credits  
as determined by his/her advisor. Credit is not awarded until the thesis has  
been accepted.
CSC725 Continuous Registration--Master's Study
0.00 credit Fall, Spring
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

CSC730 Pre-Candidacy DOCTORAL DISSERTATION
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

CSC740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Spring
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of CSC 740 may be taken in a regular semester, nor more than six in a summer session.

CSC750 RESEARCH IN RESIDENCE
0.00 credit Fall, Spring & Summer
Used to establish research in residence for Ph.D. students after the student has enrolled for permissible cumulative total in appropriate doctoral research. Regarded as full-time residence.

Ecosystem Science and Policy
ECS501 Interdisciplinary Environmental Theory
3.00 credits Fall
Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

ECS503 Interdisciplinary Environmental Methods
3.00 credits Fall
Environmental methods related to core programmatic themes of Urban Ecology, Global Public Health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of Interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

ECS507 INTERDISCIPLINARY ENVIRONMENTAL DECISION ANALYSIS
3.00 credits Fall
Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm. Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

ECS572 Special Topics in ECS
0.00 - 3.00 credits Fall, Spring & Summer
Content varies by semester and is indicated in parentheses following course number and title in class schedule.
ECS580 Field Studies
1.00 - 4.00 credits Offered By Announcement Only
This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

ECS605 Interdisciplinary Environmental Law & Policy
3.00 credits Fall, Spring
Analysis of science-based environmental decision-making and policy implementation at the federal and state levels in the United States, with comparative international perspectives, and an introduction to international institutions that fashion and carry out environmental policy. Case studies will cover authorization, appropriations and oversight functions of Congress and state legislatures; the role of the executive, federal and state, in initiating and implementing statutes by regulation and other means; and the role of negotiation, litigation, mediation and consensus-building in resolving disputes and advancing or thwarting environmental policy.

ECS625 Problems in Environmental Science and Policy
1.00 - 6.00 credits Fall, Spring & Summer
Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

ECS690 Directed Readings
1.00 - 3.00 credits Fall, Spring
Individually supervised readings on special topics. Offered by arrangement with the instructor. May be retaken for credit.

ECS730 Pre-Candidacy Research
1.00 - 9.00 credits Fall, Spring & Summer
Research for ECS Ph.D. students who have not attained candidacy.

ECS740 Doctoral Dissertation
1.00 - 6.00 credits Fall, Spring & Summer
Required for all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 13 credits total. No more than 12 hours of ECS 730 may be taken in a regular semester, nor more than six in a summer session.

ECS750 Research in Residence
0.00 - 1.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. May be regarded as full-time residence as determined by the Dean of the Graduate School.

English
ENG504 Form in Poetry
3.00 credits Offered By Announcement Only
Poetic works as literary objects, with attention to poetic trends and the creative process.

ENG505 Form in Fiction
3.00 credits Offered By Announcement Only
Fictional works as literary objects with attention to individual styles, Fictional Trends and the creative process.
ENG591 Graduate Practicum I: Teaching College Writing  
0.00 credit  
Methods and problems in teaching English composition and college writing. Fall

ENG592 Graduate Practicum II: Teaching College Literature  
0.00 credit  
Methods and problems in teaching introductory literature courses. Spring

ENG595 Special Topics  
3.00 credits  
Offered By Announcement Only  
Content varies by semester.

ENG601 Creative Writing: Fiction III  
3.00 - 6.00 credits  
Offered By Announcement Only  
Advanced M.F.A. workshop in the techniques of writing fiction.

ENG602 Creative Writing: Poetry II  
3.00 - 6.00 credits  
Offered By Announcement Only  
Advanced M.F.A. workshop in the techniques of writing poetry.

ENG620 Studies in Shakespeare  
3.00 credits  
Offered By Announcement Only  
Studies in Shakespeare.

ENG621 Studies in Elizabethan and Jacobean Drama  
3.00 credits  
Offered By Announcement Only  
Studies in Elizabethan and Jacobean Drama.

ENG624 Studies in 17th Century Literature  
3.00 credits  
Offered By Announcement Only  
Studies in 17th Century Literature.

ENG625 Studies in Milton  
3.00 credits  
Offered By Announcement Only  
Studies in Milton.

ENG631 Studies in Restoration and 18th Century Literature  
3.00 credits  
Offered By Announcement Only  
Special topics in British Literature from 1660-1800.

ENG633 The Eighteenth-Century British Novel  
3.00 credits  
Offered By Announcement Only  
Survey of the British novel from Defoe to Austen.

ENG640 Studies in Romanticism  
3.00 credits  
Offered By Announcement Only  
A study of writers and genres between the late eighteenth and the mid-nineteenth century, through an investigation of questions of canonicity, epistemological orientation, colonialism, and the revolutionary context.

ENG645 Studies in Victorian Poetry and Prose  
3.00 credits  
Offered By Announcement Only  
Victorian poetry and prose exclusive of the novel. Poems by Tennyson, Browning, Arnold, Rossetti, and others. Prose works by writers such as Carlyle, Newman, Mill, Ruskin, and Pater.
ENG646 Nineteenth-Century British Novel
3.00 credits                                         Offered By Announcement Only
Survey of the British novel from Austen to Conrad.

ENG648 Studies in the Novel
3.00 credits                                         Offered By Announcement Only
Topics in eighteenth-, nineteenth-, and twentieth-century fiction.

ENG650 Studies in Modern British Literature
3.00 credits                                         Offered By Announcement Only
Intensive coverage of a limited topic in twentieth-century British or Irish literature.

ENG651 Studies in Joyce
3.00 credits                                         Offered By Announcement Only
Close readings of Dubliners, A Portrait of the Artist as a Young Man, Ulysses, and Finnegans Wake; extensive review of Joyce criticism.

ENG652 Studies in Irish Literature
3.00 credits                                         Offered By Announcement Only
Intensive coverage of a selected topic in Irish Literature.

ENG655 Contemporary American Poetry and Poetics
3.00 credits                                         Offered By Announcement Only
Poetry and poetics from 1945 to present, focusing on Black Mountain Poetics, the New York School, the Black Arts Movement, Language Poetry and more recent writers and movements.

ENG661 Studies in American Literature: 1800-1865
3.00 credits                                         Offered By Announcement Only

ENG662 Studies in American Literature: 1865-1914
3.00 credits                                         Offered By Announcement Only

ENG663 Studies in American Literature: 1914 to 1950
3.00 credits                                         Offered By Announcement Only

ENG665 Studies in African-American Literature
3.00 credits                                         Offered By Announcement Only
Studies in African-American Literature.

ENG666 Caribbean Literature
3.00 credits                                         Offered By Announcement Only
Caribbean literature and cultural theory; Caribbean aesthetic.

ENG667 Caribbean Popular Culture
3.00 credits                                         Offered By Announcement Only
Special topics on the relations among politics, popular culture, and literature in the Caribbean region.

ENG677 Studies in Modern Literature
3.00 credits                                         Offered By Announcement Only
Studies in Modern Literature.
ENG678 Studies in Contemporary Literature
3.00 credits
Offered By Announcement Only
Studies in Contemporary Literature.

ENG680 History of Literary Criticism
3.00 credits
Offered By Announcement Only
A survey of literary criticism and theory from the ancient Greeks to the early twentieth century.

ENG681 Introduction to Literary Theory
3.00 credits
Offered By Announcement Only
Twentieth-century literary theory beginning with the New Criticism and including topics such as semiotics, hermeneutics, deconstruction, feminism, and neopragmatism.

ENG682 Contemporary Criticism and Theory
3.00 credits
Offered By Announcement Only
Topics in recent criticism and theory.

ENG686 Theories of Gender and Sexuality
3.00 credits
Offered By Announcement Only
Queer theory and its relationship with gender studies, critical race studies, and emerging directions in the field.

ENG687 Studies in Literature and Culture since 1950
3.00 credits
Offered By Announcement Only
Studies in Literature and Culture since 1950.

ENG689 Comparative Americas Studies
3.00 credits
Offered By Announcement Only
Comparative, interdisciplinary and transnational approaches to literature and cultures of the Americas.

ENG695 Special Topics
3.00 credits
Offered By Announcement Only
Varies by semester.

ENG696 Directed Readings
1.00 - 3.00 credits
Fall, Spring
Varies by semester.

ENG697 Readings for the Qualifying Examination
1.00 - 3.00 credits
Fall, Spring
Varies by semester.

ENG710 Master's Thesis
1.00 - 6.00 credits
Fall, Spring
The student working on his/her master's thesis enrolls for credit in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

ENG720 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ENG 710 (usually six credits). Credit not granted. May be regarded as full time residence.
ENG730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

ENG740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of ENG 740 may be taken in a regular semester, nor more than six in a summer session.

ENG750 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

French
FRE501 Capstone
3.00 credits
Fall, Spring
Course with a broad-based topic designed to integrate high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study toward the major. Topics vary. Open only to undergraduates in the last semester of their French major. Course is writing intensive; fulfills writing credit requirement.

FRE591 Directed Readings
1.00 - 3.00 credits
Offered By Announcement Only
May be repeated for credit if topic is different.

FRE592 Directed Readings
1.00 - 3.00 credits
Offered By Announcement Only

FRE594 Senior honors Thesis I
3.00 credits
Fall, Spring
Directed research for honors thesis.

FRE595 Senior Honors Thesis II
3.00 credits
Fall, Spring
Directed writing of honors thesis.

FRE611 Topics in French Medieval Literature
3.00 credits
Offered By Announcement Only
Recent topics: exile, the epic, orientalism, imperialism, monsters.

FRE612 Topics in French Renaissance Literature
3.00 credits
Offered By Announcement Only
Specific genres, works, authors, and movements. Possible topics: Melancholy and Madness; Montaigne; Rabelais; Marguerite de Navarre; lyric poetry.
FRE613 Topics in 17th Century French Literature
3.00 credits Offered By Announcement Only
Recent topics: Racine, Moliere, Corneille: Pascal and the Moralist tradition, the birth of the psychological novel, love and war.

FRE614 Topics in 18th Century French Literature
3.00 credits Offered By Announcement Only
Recent topics: Diderot, Rousseau, Sade; exoticism as related to political theory; the epistolary novel; the Enlightenment and post-colonial theory.

FRE615 Topics in 19th Century French Literature
3.00 credits Offered By Announcement Only
Recent topics: Balzac, Stendhal, Flaubert; Dandyism and Decadence; the Symbolist movement.

FRE616 Topics in 20th-21st Century French Literature
3.00 credits Offered By Announcement Only
Recent topics: Paris 1913; Surrealism; Artaud, Beckett, Ionesco, Genet; the Noveau Roman.

FRE621 Special Topics in French Studies
3.00 credits Offered By Announcement Only
Special Topics in French Studies.

FRE625 Elementary French for Graduate Research
0.00 credit Offered By Announcement Only
Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

FRE675 Topics in Francophone Studies
3.00 credits Offered By Announcement Only
Recent topics: travel narratives, literary historiography, discourses of race, colonialism, multilingualism and literacy, nationalism and culture.

FRE691 Writing Practicum
1.00 credit Offered By Announcement Only
The writing of a publishable research paper under faculty guidance.

FRE692 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only

FRE730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. Prior to admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of FRE 730 may be taken in a regular semester, nor more than six in a summer session. Students who have not passed their qualifying examinations yet, but are not taking any courses, may enroll in FRE 730.
FRE740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. After admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of FRE 740 may be taken in a regular semester, nor more than six in a summer session. Students who have passed their qualifying examinations, but are not taking courses any more, may enroll in FRE 740. Where a student has passed his/her qualifying examinations, and is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

FRE750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined the Dean of the Graduate School.

Geography
GEG501 Place, Region, Nature
3.00 credits Offered By Announcement Only
Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.

GEG511 Field Studies in Geography
1.00 - 6.00 credits Offered By Announcement Only
One to six weeks of intensive geographic field studies outside the Miami area. Lectures will be given prior to departure. The locations and topics of study will vary.

GEG515 Human Dimensions of Global Environmental Change
3.00 credits Fall
Explores the human dimensions of global environmental change using an interdisciplinary approach. The course is reading and writing intensive. Special attention is given to the central role that land-use/cover change plays in the larger realm of global environmental change.

GEG520 Immigration to the United States
3.00 credits Fall
A description and analysis of current immigration patterns in the United States.

GEG522 Urbanization in the Developing World
3.00 credits Spring
Patterns and processes in large cities in the developing world are examined.

GEG523 Seminar in Urban Management
3.00 credits Fall
Identification of and responses to urban problems in large cities in European and Latin American metropolitan areas. Emphasis is on demographic, cultural/ethnic, service-provision, environmental, transportation, and land-use problems. Approach is via case studies, theory applications, and planning practicalities.

GEG525 Problems in Geography
1.00 - 6.00 credits Fall, Spring
Content and prerequisites announced when offered. Course may be repeated for credit if content varies.
GEG530 Resources and Society  
**3.00 credits**  
Offered By Announcement Only  
This course examines the relations between human society and material nature from within a broad theoretical perspective, relating questions of science, culture, and technology to the politics and economics of natural resources, focusing particularly on water, food, and petroleum.

GEG535 Internship in Geography  
**1.00 - 4.00 credits**  
Fall, Spring  
Students are assigned to work for a local public or private agency.

GEG543 Doomsters & Boomsters: Perspective on Population Growth & Sustainability  
**3.00 credits**  
Spring  
A critical look at two general views of global population growth and humankinds future prospects for sustainable well-being: so-called Doomsters, who believe that growing global human populations and resource-consuming lifestyles threaten our environment and the welfare of most human beings, and so-called Boomsters, who do not believe that population growth and consumption are a threat, but rather that the environment and lifestyles are generally improving, and that human ingenuity and technology will continue to make the world a better place.

GEG545 Special Topics  
**3.00 credits**  
Fall, Spring  
Content varies by semester.

GEG552 Seminar on the Geography of South Florida  
**3.00 credits**  
Offered By Announcement Only  
Human and physical geography of South Florida.

GEG580 Introductory Quantitative Methods for Geographical Analysis.  
**3.00 credits**  
Spring  
Basic quantitative methods for geographic analysis.

GEG582 Advanced Quantitative Methods  
**3.00 credits**  
Offered By Announcement Only  
Continuation of GEG 481. The use of statistical methods and techniques in the solution of geographic research problems.

GEG585 Advanced Catography  
**3.00 credits**  
Fall, Spring  
An understanding of cartography; a high degree of fluency in the art and science of map-making. The theory, principles, concepts and techniques required to present geographically-referenced data in order to effectively communicate spatial relationships, patterns, and the results of spatial analyses. Extensive experience in creating a wide variety of aesthetically-pleasing, professional-looking maps using ArcGIS.

GEG591 Introduction to GIS (Geographic Information Systems) for graduate students  
**0.00 - 3.00 credits**  
Offered By Announcement Only  
Overview of basic concepts in GIS (Geographic Information Systems) for students wishing to get graduate credit. This class involves a student project using GIS.
GEG592 Advanced Environmental Remote Sensing
3.00 credits  
Fall, Spring
A foundation in remote sensing and digital image processing. Special emphasis will be paid to land applications, use of satellite imagery, and the use of optical imagery in land-cover mapping. Introductory concepts of electromagnetic energy and radioactive transfer; a basis for understanding remote sensing applications typically found in geography including multispectral image processing and classification.

GEG593 Intermediate GIS
0.00 - 3.00 credits  
Fall, Spring
The objective of this course is to provide an introduction to analysis of spatial data in geographic information systems (GIS). The course will provide students with instruction on manipulation of raster and vector data as well as cartographic modeling using raster-based GIS software. Students also will receive exposure to introductory concepts of remote sensing and visualization, which are rapidly growing sub-fields of GIS.

GEG595 WEB GIS
3.00 credits  
Fall, Spring
Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications. Lab exercises will make use of both the commonly used open source GIS and related programming tools for customizing web-based mapping applications, as well as the leading proprietary web mapping capabilities provided in ESRI's ArcGIS Server. Students build their own on-line interactive, customizable maps and will learn the basics of client/server architecture and processing, JavaScript programming, and XML/HTML basics.

GEG603 Advanced Research Design in Geography
3.00 credits  
Spring
Designing and proposing geographic research projects based upon a critical reading of the geographical literature. Students will prepare a master's thesis (master's students) or dissertation (doctoral students) project proposal.

GEG625 Advance independent study in geography I
1.00 - 6.00 credits  
Fall, Spring & Summer
Advanced independent study for Two-Paper Option for first paper.

GEG637 Development Studies
3.00 credits  
Offered By Announcement Only
Advanced seminar on issues in contemporary development studies.

GEG645 Advanced Independent Study in Geography II
1.00 - 6.00 credits  
Fall, Spring & Summer
Advanced independent study for Two-Paper Option for second paper.

GEG661 Advanced Urban Geography
3.00 credits  
Offered By Announcement Only
Analysis of the spatial structure of urban centers, the development of and interaction between functional zones, and the movement of goods and people in urban areas.

GEG681 Advanced Spatial Statistics
3.00 credits  
Offered By Announcement Only
Social and environmental science applications of spatial statistical analysis illustrated with data and numerical (simulation experiments) examples employing interactive software. This course's focus is on spatial auto correlation.
GEG710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

GEG720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in GEG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

GEG725 Continuous Registration--Master's Study
0.00 credit  Fall, Spring & Summer
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

German
GER521 Advanced German Studies
3.00 credits  Offered By Announcement Only
German language, literature, culture of the 18th-20th centuries. Involves independent research. WRITING CREDIT May be repeated for credit if topic is different.

GER591 Directed Readings
1.00 - 3.00 credits  Offered By Announcement Only

Geological Sciences
GSC550 Hydrogeology
3.00 credits  Fall
Movement of subterranean water. The mechanical, chemical and thermal interaction of water with porous solids, and the transport of energy and chemical constituents. The origin of porosity and permeability. The controls exerted on aquifers by the lithology, stratigraphy and structure of geologic deposits and formations.

GSC561 Colloquium - Current Topics in the Geosciences
1.00 credit  Spring
Weekly presentations and discussions. Written and oral presentations required.

GSC574 Special Studies
1.00 - 4.00 credits  Fall, Spring & Summer
Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

GSC575 Special Studies
1.00 - 4.00 credits  Fall, Spring & Summer
Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

GSC576 Special Studies
1.00 - 4.00 credits  Fall, Spring & Summer
Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.
GSC580 Summer Field Geology
4.00 credits  
Spring & Summer
An intensive four-week summer field laboratory study of modern geological processes and ancient rock sequences. Mapping, description and interpretation of rock and structural sequences, paleoenvironmental reconstruction, interpretation of tectonic history. Reports required. Touring course. Travel fee required.

GSC581 Summer Field Environmental Geology
2.00 credits  
Spring & Summer
Field evaluation of environmental geology problems in marine, coastal, wetland and terrestrial environments. Effects of human alteration of landscape, natural hazards, pollution of ground water, surface water and soils. Role of climate change on surficial environments. Reports required. Touring course. Travel fee required.
Co-requisite: GSC 580.

GSC582 Field Studies
1.00 - 4.00 credits  
Offered By Announcement Only
Conducted field trips to selected geological sites in the United States and abroad. Report required.

GSC596 Research in Geology
1.00 - 4.00 credits  
Fall, Spring & Summer

Haitian Creole

HAI625 Haitian Creole for Graduate Research I
0.00 credit  
Fall
Basic listening, speaking, reading, and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

HAI626 Haitian Creole for Graduate Research II
0.00 credit  
Spring
Continuation of 625 listening, speaking, reading, and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

History

HIS501 Studies in African History
3.00 credits  
Offered By Announcement Only
Selected topics in African history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS511 Studies in Asian History
3.00 credits  
Offered By Announcement Only
Selected topics in Asian history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS531 Studies in European History
3.00 credits  
Offered By Announcement Only
Selected topics in European history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS536 Studies in Medieval History
3.00 credits  
Offered By Announcement Only
Selected topics in Medieval history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.
HIS538 Studies in Early Modern European History
3.00 credits Offered By Announcement Only
Selected topics in European history before the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS544 Studies in Modern European History
3.00 credits Offered By Announcement Only
Selected topics in European history after the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS551 Studies in Latin American History
3.00 credits Offered By Announcement Only
Selected topics in Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS553 Studies in Colonial Latin American History
3.00 credits Offered By Announcement Only
Selected topics in the colonial period of Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS554 Studies in Modern Latin American History
3.00 credits Offered By Announcement Only
Selected topics in Latin-American history before and after Independence. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS561 Studies in United States History
3.00 credits Offered By Announcement Only
Selected topics in United States history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

HIS564 Studies in American Intellectual and Cultural History
3.00 credits Offered By Announcement Only
Selected topics in American intellectual and cultural history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

HIS565 Studies in American Political and Diplomatic History
3.00 credits Offered By Announcement Only
Selected topics in American political and diplomatic history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

HIS569 Studies in African-American History
3.00 credits Offered By Announcement Only
Selected topics in African-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS570 Studies in Public History
3.00 credits Offered By Announcement Only
Selected topics in public history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.
HIS591 Studies in Comparative History  
3.00 credits  
Offered By Announcement Only  
Selected topics in Comparative History. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS595 Studies in Visual History  
3.00 credits  
Offered By Announcement Only  
Selected topics in the use of photographs and other visual evidence for historical purposes. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

HIS599 Independent Research  
3.00 credits  
Offered By Announcement Only

HIS601 Directed Readings in African History  
1.00 - 3.00 credits  
Offered By Announcement Only

HIS622 Directed Readings in Asian History  
1.00 - 3.00 credits  
Offered By Announcement Only

HIS631 Directed Readings in European History  
1.00 - 3.00 credits  
Offered By Announcement Only

HIS642 Field Preparation: Modern Latin America  
3.00 credits  
Offered By Announcement Only  
An introduction to central historical issues and historiographical debates in the field of Modern Latin America.

HIS643 Field Preparation: Colonial and Revolutionary America  
3.00 credits  
Offered By Announcement Only  
An introduction to central historical issues and historiographical debates in the field of Colonial and Revolutionary America.

HIS644 Field Preparation: Modern America  
3.00 credits  
Offered By Announcement Only  
An introduction to central historical issues and historiographical debates in the field of Modern America.

HIS645 Field Preparation: Early Modern Europe  
3.00 credits  
Offered By Announcement Only  
An introduction to central historical issues and historiographical debates in the field of Early Modern Europe.

HIS651 Directed Readings in Latin-American History  
1.00 - 3.00 credits  
Offered By Announcement Only

HIS653 Seminar in Latin-American History  
3.00 credits  
Offered By Announcement Only  
Selected topics in Latin-American History.

HIS661 Directed Readings in American History  
1.00 - 3.00 credits  
Offered By Announcement Only
HIS663 Seminar in United States History
3.00 credits
Selected topics in United States History.

HIS691 Directed Readings in Comparative History
1.00 - 3.00 credits
Offered By Announcement Only

HIS693 Seminar in Comparative History
3.00 credits
Offered By Announcement Only
Selected topics in Comparative History.

HIS695 Historiography
3.00 credits
Offered By Announcement Only
The philosophy, theory, and practice of history.

HIS696 History as a Profession
3.00 credits
Fall, Spring
Practical experience for graduate students in designing courses; preparing lectures, conference papers and scholarly publications; and in applying for jobs and research grants

HIS710 Master's Thesis
1.00 - 6.00 credits
Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

HIS720 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in HIS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

HIS725 Continuous Registration--Master's Study
0.00 credit
Fall, Spring
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

HIS730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

HIS740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of HIS 740 may be taken in a regular semester, nor more than six in a summer session.
HIS750 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the Ph.D. and D.A., after the student
has been enrolled for the permissible cumulative total in appropriate doctoral
research. Credit not granted. May be regarded as full-time residence as determined
by the Dean of the Graduate School.

MAIA Program

IGS517 Practicum in International Administration
3.00 credits
Fall, Spring & Summer
The practicum gives students the opportunity to apply academic theory and acquired
skills in international administration under real world conditions. Students first
complete an approved internship in an appropriate organization and then present
a report/case study analysis under the supervision of the MAIA faculty.

IGS545 Global Warming Policy in European Union
3.00 credits
Summer
This course studies the EU, and especially the French, efforts to ecologically
modernize their advanced economies particularly in regards to global warming emissions
and energy usage. Class is centered in Paris with excursions to Starsbourg and
Freiborg.

IGS611 International Organizations
3.00 credits
Spring
Covers the entire spectrum of international organizations and the theoretical and
practical issues relating to international organizations including peace and security,
human rights, and economic development.

IGS612 International Administration
3.00 credits
Spring
Presents a broad overview of concepts, theories, processes, and practical global
challenges confronting professional public/nonprofit managers; discusses contemporary
issues facing multi-national corporations, non-government organizations, and public
agencies; and analyzes the similarities and differences between public, non-profit
and private management.

IGS613 World Cultures, Religions and Communications
3.00 credits
Fall
The course will overview the world religions and cultures as a backdrop of effective
communication for international professionals. The study of comparative religions
and cultures will make students aware of special challenges in international and
intercultural communications, and the role of mass media in international relations.

IGS614 World Affairs
3.00 credits
Fall, Spring
This course introduces the conceptual basics of international relations and trains
students in analytical and critical thinking skills through familiarity with the
broad palette of issues and actors that make up today's world politics. Topics
include the origins of the state and its changing role in today's world and an
examination of the actors in international relations and the issues before them.

IGS615 International Economics for MAIA
3.00 credits
Spring
Reviews the essentials of International Economics. It then provides students with
an operational understanding of the theory of comparative advantage and its application
to policy issues.
IGS616 Administration of Organizations
3.00 credits  Fall
Explores organizations from the strategic perspective of the leader, identifying common elements of thinking, structure, measures, outcomes, issues, and challenges faced by those who seek leadership roles in international administration.

IGS699 Directed Readings
3.00 credits  Fall, Spring & Summer
There are no special notes for this course.

IGS720 MAIA Masters Project
0.00 - 9.00 credits  Fall, Spring & Summer
For students conducting additional research, practical field experience or special projects as part of their graduate experience.

International Studies

INS503 Int Relations Topics
3.00 credits  Offered By Announcement Only
Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

INS504 Int Rel Topics II
3.00 credits  Offered By Announcement Only
Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

INS510 ISSUES IN INS
3.00 credits  Offered By Announcement Only
Analysis of current issues of international importance.

INS511 Issues in INS II
3.00 credits  Offered By Announcement Only
Analysis of current issues of international importance.

INS513 Information and Communication in International Relations
3.00 credits  Fall
First semester offering for students in the Master of Arts in International Administration program.

INS515 Independent Study
1.00 - 6.00 credits  Fall, Spring & Summer
Advanced level research done under the guidance of a selected faculty member. This course can be used as one of the two 500-level requirements for International Studies majors.

INS517 Practicum in International Administration
3.00 credits  Offered By Announcement Only
Each student in the Master of Arts in International Studies (with a specialization in International Administration) is required to complete a three (3) credit practicum/internship during the summer months subsequent to their completion of the fall and spring semester. The purpose of the practicum is to give each student the necessary skills to help advance their professional careers.
INS519 Internship
1.00 - 3.00 credits  Fall, Spring & Summer
A research paper is required for this course. The student works with a selected faculty member who determines the length and scope of the project. The student is responsible for finding the internship position.

INS520 Microeconomics for INS
3.00 credits  Offered By Announcement Only
Microeconomics for students of international studies. Topics will include rationality, market failure and comparative advantage.

INS521 INT'L ECON TOPICS II (International Economic System Topics)
3.00 credits  Offered By Announcement Only
Selected topics in International Economics. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

INS522 Latin American Political Economy
3.00 credits  Offered By Announcement Only
Latin American political economy including analysis of market reform and integration of the region into the world economy.

INS523 Economics of Terrorism
3.00 credits  Spring
Economic resources of terrorist movements today: their financing, acquisition of tools, recruitment, and operations.

INS524 INTL ECON Topics
3.00 credits  Offered By Announcement Only

INS530 Comparative Analysis
3.00 credits  Offered By Announcement Only
Advanced overview of the comparative method. Required for students specializing in Comparative Studies at the graduate level.

INS532 Globalization and Human Rights
3.00 credits  Offered By Announcement Only
The integration of markets has many concerns for the political and economic rights of the common citizen. This course examines the effect of globalization on the human rights standards throughout the world.

INS533 Transnational Social Movements
3.00 credits  Offered By Announcement Only
Focuses on global civic activism and contentious politics, with particular attention to transnational non-state actors - NGOs, social movements, environmental protection, and the emergence of a global civil society.

INS536 Comparative Political Regimes
3.00 credits  Offered By Announcement Only
Literature concerned with the transition from authoritarianism to democracy in various parts of the world.
INS537 Comparative Political Economy  
3.00 credits 
Compares how domestic politics and macroeconomic policies interact with globalization. Case studies include welfare states in the U.S. and Europe, East Asian development, post communist transitions and market restructuring in Latin America and Africa.

INS540 National Security  
3.00 credits 
Offered By Announcement Only 
The central issues concerning European security since World War II, with emphasis on the period since the end of the cold war.

INS542 Drug-Trafficking in the Americas  
3.00 credits 
Fall 
The political economy of the U.S.-Latin American drug trade in the 20th Century along with the dynamics of the U.S.-led war on drugs through the first years of the Twenty First Century.

INS543 National Security and Foreign Policy  
3.00 credits 
Summer 
Explores alternative conceptualizations of security and the new challenges to U.S. national security that have emerged in the Post-Cold War era.

INS550 Non-Western Regional Topics  
3.00 credits 
Offered By Announcement Only

INS551 Regional Topics II  
3.00 credits 
Offered By Announcement Only
Selected topics in International Business. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

INS560 US Foreign Policy  
3.00 credits 
Spring 
The leading approaches to the analysis of American foreign policy. Particular emphasis will be placed on the post-Cold War period and the new challenges to U.S. foreign policy of the 21st century.

INS561 Negotiation and Bargaining  
3.00 credits 
Spring 
Examines the nature of diplomatic negotiation through readings and discussion of international negotiation and through the case method, selecting several cases of high-level policy issues in which the United States has been a principal actor.

INS562 International Peace and Conflict Resolution  
3.00 credits 
Offered By Announcement Only
The major sources of conflict, and what resources are available for making and keeping the peace? This class introduces students to the most fundamental concerns of the field of International Relations (IR), and especially of its sub-field IPCR.

INS563 International Organizations  
3.00 credits 
Offered By Announcement Only
The role, function, and impact on states of international governmental and non-governmental organizations in critical areas like peace and security, human rights, economic development, and environmental degradation.
INS564 International Law
3.00 credits  Fall
How international law affects the conduct of states. Issues include jurisdiction, diplomatic immunity, the use of armed force, peaceful dispute settlement among states, human rights, and the International Criminal Court.

INS565 The World Before European Domination
3.00 credits  Spring
The historical roots of the contemporary international system. Its objective is to question the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

INS566 US-Latin American Relations
3.00 credits  Fall
Political, economic and strategic aspects of U.S.-Latin American relations; the historical experience and contemporary issues, including the influence of extra-regional parties such as Europe and China.

INS567 Foreign Policy Topics
3.00 credits  Offered By Announcement Only

INS570 Globalization and Health
3.00 credits  Fall
Globalization and its benefits and threats to public health; the relationship between global economic, political, social, cultural, environmental and technological changes and their impact on human health.

INS571 International Development and Human Welfare
3.00 credits  Spring
Health and development links; macroeconomic policies and their impact on social equity; poverty and structural inequities; and other key issues that influence human development.

INS572 Global Health Policy and Ethics
3.00 credits  Fall, Spring
National, regional and global health policies with special consideration to ethical and human rights issues; policies and the moral considerations that shape public health policy.

INS573 Disasters, Terrorism and Global Public Health
3.00 credits  Spring
The historical processes and present trends of disasters, terrorism, humanitarian emergencies and their impact on human health, safety and security.

INS580 Latin American Comparative Politics
3.00 credits  Fall
The major intellectual debates shaping the field of comparative politics including: (1) development, (2) military politics, (3) democratization and (4) the emergence of new social movements.

INS584 Latin American Thought
3.00 credits  Spring
The evolution of Latin American thought through political and intellectual history; the classical writings of the main pensadores, and a comparative analysis of contemporary ideological trends.
INS586 Brazil in Transition
3.00 credits                                           Offered By Announcement Only
The social, economic, cultural transformations shaping Brazilian politics. In addition to visiting Rio de Janeiro and Salvador, there will be seminars with Brazilian academics and social and political activists.

INS591 The European Union
3.00 credits                                                       Fall, Spring
The European Union's history, institutions, policies and contemporary issues.

INS592 European Union and the World
3.00 credits                                                       Spring
The European Union's development, its main institutions and policies followed by an analysis of the main features of the European Union's external relations.

INS593 European Security
3.00 credits                                                       Spring
Regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

INS594 European Topics
3.00 credits                                           Offered By Announcement Only

INS599 Special Topics
3.00 credits                                           Offered By Announcement Only

INS601 IR Theory
3.00 credits                                                       Spring
Introduces students to key historic events, themes, concepts, and theories that have animated the practice and scholarship of international relations.

INS603 Dissertation Proposal
3.00 credits                                                       Spring
A workshop designed to assist doctoral students in the preparation of a proposal for their dissertation research projects.

INS610 Graduate Seminar in INS
3.00 credits                                           Offered By Announcement Only

INS611 INT RELATNS METH II (International Relations Methodology II)
3.00 credits                                                       Spring
Introduces graduate students to issues of research design and research methods in International Relations. The course will focus on three main methodological approaches in political science: qualitative case study, quantitative research and formal modeling. Apart from examining the principles guiding the choice of methods (and the trade offs involved in that choice), the course will examine how these methods have been applied to the study of three major sub-fields of international relations: international political economy, security studies, and international environmental regimes. It also aims to provide the students with basic knowledge on how to apply these methods to their own research.
INS622 Advanced Seminar in International Economics  
3.00 credits                                           Offered By Announcement Only  
This is a seminar in International Economics at the graduate level. The first part consists of a rigorous but nontechnical presentation of international trade theory, followed by a discussion of the main arguments for protection and their validity. The third part of the course analyzes the process of globalization; its meaning, measurement and effects. A final brief section is devoted to the determination of exchange rates and the international monetary system.

INS630 Advanced Seminar in Comparative Studies  
3.00 credits                                           Fall

INS641 Advanced ISC Seminar  
3.00 credits                                           Offered By Announcement Only

INS650 Advanced Regional Seminar  
3.00 credits                                           Offered By Announcement Only

INS699 Readings in International Studies  
1.00 - 3.00 credits                                           Fall, Spring & Summer

INS710 Master's Thesis  
1.00 - 6.00 credits                                           Fall, Spring & Summer  
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

INS720 Research in Residence  
0.00 credit                                                   Fall, Spring & Summer  
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in INS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

INS725 Continuous Registration--Master's Study  
0.00 credit                                                   Fall, Spring & Summer  
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

INS730 Doctoral Dissertation  
1.00 - 12.00 credits                                          Fall, Spring & Summer  
A total of 12 hours of INS 730 is required of all candidates for the Ph.D. Not more than 12 dissertation credits may be taken during the Fall or Spring semesters, nor more than six in a summer session.

INS740 Post-candidacy Doctoral Dissertation  
1.00 - 12.00 credits                                          Fall, Spring & Summer  
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of INS 740 may be taken in a regular semester, nor more than six in a summer session.
INS750 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Italian

ITA591 Directed Readings
1.00 - 3.00 credits
Offered By Announcement Only

ITA592 Directed Readings
1.00 - 3.00 credits
Offered By Announcement Only

ITA625 Italian for Graduate Research
0.00 credit
Offered By Announcement Only
Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Latin

LAT625 Elementary Latin for Graduate Research
0.00 credit
Offered By Announcement Only
Grammatical structures, verb tenses, and word families necessary for reading texts with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Latin American Studies

LAS501 INTERDISCIPLINARY IN LATIN AMERICAN AND CARIBBEAN
3.00 credits
Fall
Interdisciplinary methods and politics of Latin American and Caribbean area Studies.

LAS502 Research Design in Latin American Studies
3.00 credits
Spring
Interdisciplinary research methods and skills in Latin American and Caribbean studies.

LAS503 Program Seminar in Latin American Studies and Caribbean Studies
3.00 credits
Fall, Spring
Content of course will vary by semester.

LAS504 Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Cours
3.00 credits
Spring
Topics vary. Interdisciplinary focus is thematic and regional (e.g.: tourism in Yucatan; civil society in Chile, Haiti-Dominican Republic relations, cultural policy in the Caribbean, environmental policy in Panama.) Course involves travel during Spring Break and it has a program fee.

LAS505 Internship in Latin American and Caribbean Studies
1.00 - 3.00 credits
Fall, Spring & Summer
On-site experience in business, governmental organization, or non-profit organization dealing with Latin America and/or the Caribbean.

LAS506 CIVIC ENGAGEMENT IN LATIN AMERICA
1.00 - 3.00 credits
Fall, Spring & Summer
On site experience in a civic engagement project in Latin America or the Caribbean.
LAS520 Interdisciplinary Topics in Latin American and Caribbean Environments  
3.00 credits  
Fall, Spring  
Topics vary. Interdisciplinary focus on policies and impact of globalization on the environment.

LAS594 Directed Readings in Latin America and Caribbean  
3.00 credits  
Fall, Spring  
Independent Study leading to an original piece of research, or creative project on a Latin American or Caribbean interdisciplinary topic.

LAS597 Readings for the Comprehensive Exam  
3.00 credits  
Fall, Spring  
Readings for M.A. students who are preparing for comprehensive examinations.

LAS710 Pre-candidacy thesis credits  
3.00 credits  
Fall, Spring  
The student working on his/her master's thesis enrolls for credit, not to exceed three, before student has been admitted to candidacy. Credit is not awarded until the thesis has been accepted.

LAS715 Post-candidacy thesis credits  
3.00 credits  
Fall, Spring  
The student working on his/her master's thesis enrolls for credit, not to exceed six, after student has been admitted to candidacy. Credit is not awarded until the thesis has been accepted.

LAS720 Research in residence.  
0.00 credit  
Fall, Spring & Summer  
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in LAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Master of Arts Liberal Study  

MLS595 Special Topics  
3.00 credits  
Fall, Spring

MLS596 Special Topics  
3.00 credits  
Offered By Announcement Only

MLS597 Special Topics  
3.00 credits  
Offered By Announcement Only

MLS601 Aspects of Creative and Reflective Thought  
3.00 credits  
Fall, Spring  
Selected aspects of creative and reflective thought, based on materials from the arts, the humanities, the sciences, the social sciences and history. The focus will be on themes and issues represented in a variety of cultural traditions.

MLS602 Perspectives on Human Nature  
3.00 credits  
Fall, Spring  
Basic theories of human nature proposed by the humanities, the sciences, and the social sciences. The course deals with fundamental issues regarding the concept of human nature, such as the nature of the self and its relation to society, the impact of culture on self perception and the relation of thought to human action.
MLS603 Theories of the Physical Universe
3.00 credits   Fall, Spring
Various understandings of the nature of the universe and their impact on human culture. The course will deal with critical issues addressed in the various attempts to understand the physical world, such as fundamental structures and processes, the limitation of human perception, and the interaction between the human species and its environment.

MLS611 Studies in the Humanities
3.00 credits   Fall, Spring
Interdisciplinary study of selected topics in the Humanities.

MLS612 Studies in the Social Sciences
3.00 credits   Offered By Announcement Only
Interdisciplinary study of selected topics in the Social Sciences.

MLS613 Studies in the Sciences
3.00 credits   Offered By Announcement Only
Interdisciplinary study of selected topics in the sciences.

MLS621 Studies in the Humanities
3.00 credits   Offered By Announcement Only

MLS631 Studies in the Humanities
3.00 credits   Offered By Announcement Only

MLS696 Directed Readings
1.00 - 3.00 credits   Fall, Spring

MLS697 Directed Readings
1.00 - 3.00 credits   Fall, Spring

MLS698 Seminar in Liberal Studies
3.00 credits   Offered By Announcement Only

MLS699 Seminar in Liberal Studies
3.00 credits   Offered By Announcement Only

MLS710 Master's Thesis
1.00 - 6.00 credits   Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MLS715 MALS Project
1.00 - 6.00 credits   Fall, Spring
The student working on his/her MALS project enrolls for credit, not to exceed 6, as determined by his/her advisor. Credit is not awarded until the project has been accepted.

MLS720 Research in Residence
0.00 credit   Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PSY 710 (usually six credits). Credit not granted. May be regarded as full time residence.
MLS725 Continuous Registration-Master's Study
0.00 credit  Offered By Announcement Only
To establish residence for non-thesis students who are preparing for major examinations.
Credit not granted. Regarded as full time residence.

Mathematics

MTH502 History of Mathematics
3.00 credits  Fall
The development of mathematics from its earliest beginnings through the first half
of the twentieth century. Numeral systems, geometry, algebra, analysis and set
theory.

MTH504 Foundations of Geometry
3.00 credits  Fall
Axiom systems and models of Euclidean and Non-Euclidean geometry.

MTH505 Theory of Numbers
3.00 credits  Spring
Divisibility, primes; congruences, quadratic residues and reciprocity; Diophantine
equations. Applications to cryptography.

MTH510 Linear Algebra
3.00 credits  Spring
Abstract vector spaces, bases and dimensions, linear maps, eigenvalues and eigenvectors,
inner product spaces, operators, spectral theorems, canonical forms.

MTH512 Elementary Complex Analysis
3.00 credits  Spring
Complex variables; conformal mapping, contour integration.

MTH513 Partial Differential Equations I
3.00 credits  Fall
Derivation, well posedness, and qualitative properties of initial value and boundary
value problems for the heat, wave and Laplace equations. Energy methods, causality,
maximum principles, heat kernels, Fourier series, and potential theory.

MTH514 Partial Differential Equations II
3.00 credits  Spring
Continuation of MTH 513. Approximations of solutions, distributions and integral
transform methods, spectral theory and scattering. Applications to physical problems.
Nonlinear equations and phenomena.

MTH515 Ordinary Differential Equations
3.00 credits  Fall
Linear systems, equilibrium and periodic solutions, stability analysis, bifurcation,
phase plane analysis, boundary value problems, applications to engineering and
physics.

MTH516 Dynamics and Bifurcations
3.00 credits  Spring
Bifurcation of equilibrium and periodic solutions, global theory of planar systems,
planar maps, nonlinear vibrations, forced oscillations, chaotic solutions, Hamiltonian
systems, applications to engineering and physics.
MTH520 Numerical Analysis I
3.00 credits  
Spring  
Topics from numerical linear algebra including solving systems of equations, LU, QR, and SVD factorizations, eigenvalues and eigenvectors, interactive methods and applications.

MTH521 Numerical Analysis II
3.00 credits  
Offered By Announcement Only  
Numerical solution of ordinary and partial differential equations.

MTH524 Introduction to Probability Theory
3.00 credits  
Fall  
Probability spaces, random variables, expectation, limit theorems.

MTH525 Introduction to Mathematical Statistics
3.00 credits  
Spring  
Probability distributions, theory of sampling and hypothesis testing.

MTH527 Theory of Computing
3.00 credits  
Offered By Announcement Only  
Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

MTH531 Topology I
3.00 credits  
Fall  
Set theory, topological spaces, compactness, connectedness, separation properties, quotient spaces, Tychonoff Theorem, compactification, Urysohn Lemma and Tietze Extension Theorem, function spaces.

MTH532 Topology II
3.00 credits  
Spring  
Differential and topological manifolds, classical groups and associated manifolds, tangent and tensor bundles, vector fields, differential forms, transversality, Sard's theorem, Stokes' Theorem.

MTH533 Introduction to Real Analysis I
3.00 credits  
Fall  
Sequences and series in Euclidean space; sequences and series of functions; Fourier series; continuity, differentiation, and integration of functions between Euclidean spaces; implicit and inverse function theorems.

MTH534 Introduction to Real Analysis II
3.00 credits  
Spring  
Continuation of MTH 533.

MTH542 Statistical Analysis
3.00 credits  
Fall  
Statistical inference about one or two populations from interval, ordinal and categorical data; analysis of variance; simple and multiple linear regression; designing research studies.

MTH551 Introduction to Differential Geometry
3.00 credits  
Fall  
Geometry of curves and surfaces in Euclidean space. Local space curve theory, intrinsic and extrinsic curvature of surfaces, geodesics, parallelism, and differential forms.
Mathematics

MTH561 Abstract Algebra I
3.00 credits
Fall
Groups; rings; linear algebra; modules.

MTH562 Abstract Algebra II
3.00 credits
Spring
Continuation of MTH 561.

MTH571 Directed Readings in Mathematics
1.00 - 3.00 credits
Fall, Spring
Readings in special topics.

MTH591 Topics in Mathematics
1.00 - 3.00 credits
Offered By Announcement Only

MTH592 Topics in Mathematics
1.00 - 3.00 credits
Offered By Announcement Only

MTH593 Topics in Mathematics
1.00 - 3.00 credits
Offered By Announcement Only

MTH609 Data Security and Cryptography
3.00 credits
Offered By Announcement Only
Encryption algorithms; cryptographic techniques; access, information flow and inference controls.

MTH621 Mathematical Probability
3.00 credits
Offered By Announcement Only
Development of the measure-theoretic approach to probability. Random variables, central limit theory, laws of large numbers, martingales.

MTH630 Real Variables
3.00 credits
Offered By Announcement Only
First semester of a two semester sequence: General measure theory, Lebesgue measure and integration, Lp spaces, Fourier series in one and many variables, Fourier transforms, distributions, Sobolev spaces, applications to partial differential equations.

MTH631 Real Variables
3.00 credits
Offered By Announcement Only
Second semester of a two semester sequence: General measure theory, Lebesgue measure and integration, Lp spaces, Fourier series in one and many variables, Fourier transforms, distributions, Sobolev spaces, applications to partial differential equations.

MTH632 Complex Variables
3.00 credits
Offered By Announcement Only
First semester of a two semester sequence: Analytic functions, conformality, Cauchy's Theorem, representation theorems, harmonic functions, calculus of residues, Riemann Mapping Theorem, entire and meromorphic functions, analytic continuation, normal families.
MTH633 Complex Variables
3.00 credits Offered By Announcement Only
Second semester of a two semester sequence: Analytic functions, conformality, Cauchy's Theorem, representation theorems, harmonic functions, calculus of residues, Riemann Mapping Theorem, entire and meromorphic functions, analytic continuation, normal families.

MTH638 Stochastic Processes
3.00 credits Offered By Announcement Only

MTH640 Algebraic Topology
3.00 credits Offered By Announcement Only
First semester of a two semester sequence: Homotopy and homotopy type, fundamental group, covering spaces, higher homotopy groups, simplicial singular and cellular homology, Eilenberg-Steenrod axioms, cohomology, universal coefficient theorem, products, Kunneth formula, duality theorems for manifolds, computations and applications.

MTH641 Algebraic Topology
3.00 credits Offered By Announcement Only
Second semester of a two semester sequence: Homotopy and homotopy type, fundamental group, covering spaces, higher homotopy groups, simplicial singular and cellular homology, Eilenberg-Steenrod axioms, cohomology, universal coefficient theorem, products, Kunneth formula, duality theorems for manifolds, computations and applications.

MTH651 Differential Geometry
3.00 credits Offered By Announcement Only
First semester of a two semester sequence.

MTH652 Differential Geometry
3.00 credits Offered By Announcement Only
Second semester of a two semester sequence.

MTH657 Lie Groups
3.00 credits Offered By Announcement Only

MTH661 Abstract Algebra
3.00 credits Offered By Announcement Only
First semester of a two semester sequence: Group theory, ring theory, module theory, linear algebra.

MTH662 Abstract Algebra
3.00 credits Offered By Announcement Only
Second semester of a two semester sequence: Group theory, ring theory, module theory, linear algebra.

MTH670 Directed Readings or Research
2.00 - 4.00 credits Offered By Announcement Only

MTH680 Topics in Analysis
3.00 credits Offered By Announcement Only

MTH681 Topics in Analysis
3.00 credits Offered By Announcement Only
Mathematics

MTH682 Topics in Topology
3.00 credits
Offered By Announcement Only

MTH683 Topics in Topology
3.00 credits
Offered By Announcement Only

MTH685 Topics in Algebra
3.00 credits
Offered By Announcement Only

MTH686 Topics in Mathematics
3.00 credits
Offered By Announcement Only

MTH687 Topics in Mathematics
3.00 credits
Offered By Announcement Only

MTH720 Research in Residence
0.00 credit
Fall, Spring & Summer
To establish a residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.

MTH730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Credits earned in this course apply towards the 12 credit hour dissertation research requirement of the graduate school. The student will enroll for credit as determined by his/her dissertation advisor. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

MTH735 Research Project
1.00 - 6.00 credits
Fall, Spring & Summer

MTH740 Post-Candidacy Doctoral Dissertation
1.00 - 6.00 credits
Fall, Spring & Summer
Credits earned in this course apply towards the 12 credit hour dissertation research requirement of the graduate school. The student will enroll for credit as determined by his/her dissertation advisor. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

MTH745 Research in Residence
0.00 credit
Fall, Spring & Summer

MTH750 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the Ph.D. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Modern Language and Literat
MLL503 Introduction to Foreign Language Teaching: Theory and Practice
3.00 credits
Spring
Current trends in foreign language teaching with emphasis on introductory language courses. Topics include: linguistic and psychological foundations, teaching methodologies, language skills development.
MLL597 Readings for the Ph.D. Examinations
1.00 - 3.00 credits
Offered By Announcement Only
For Ph.D. students who are preparing for exams.

MLL599 Internship
1.00 credit
Offered By Announcement Only
Students work in a community or business setting on issues related to language, culture, and/or teaching.

MLL601 Intro to Second Language Teaching: Theory and Practice
3.00 credits
Fall
Current trends in foreign language teaching with emphasis on introductory Latin language courses. Topics include: linguistic and psychological foundations, teaching methodologies, language skills development.

MLL603 Topics in Critical Studies of Language
3.00 credits
Offered By Announcement Only
Second language acquisition theory with emphasis on classroom-based research.

MLL604 Sociocultural Theory and Second Language Development
3.00 credits
Offered By Announcement Only
The basic principles of the Sociocultural theory of Mind in the field of Foreign Language Teaching. How the teaching and learning of foreign/second languages can be explained utilizing sociocultural psychology. Focusing on Applied Linguistics, the seminar will explore the pedagogical implications of the theory, centering on Concept-Based Teaching and Dynamic Assessment in the Foreign Language Classroom.

MLL611 Introduction to Literary Theory
3.00 credits
Fall
An introduction to the major concepts, issues, and debates that inform contemporary literary criticism.

MLL614 Readings in Literary Theory
3.00 credits
Spring
Representative works of critical theory as related to philosophy, sociology of culture, psychoanalysis, hermeneutics, deconstruction, etc. May be repeated for credit if topics are different.

MLL621 Special Topics in Literature
3.00 credits
Offered By Announcement Only
May be repeated for credit, if topics are different.

MLL693 Teaching Practicum
3.00 credits
Offered By Announcement Only

Philosophy

PHI510 Formal Logic
3.00 credits
Spring
First and second-order quantification theory; metalogic.

PHI530 Ethical Theory
3.00 credits
Offered By Announcement Only
G. E. Moore to the present.
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>PHI533</td>
<td>Political Philosophy</td>
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<td>PHI540</td>
<td>Epistemology</td>
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<tr>
<td>PHI541</td>
<td>Mind and Language</td>
<td>3.00</td>
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<td>PHI543</td>
<td>Induction, Probability, and Scientific Method</td>
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<td>PHI545</td>
<td>Metaphysics</td>
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<td>PHI546</td>
<td>Evidence and Knowledge in Medicine</td>
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<tr>
<td>PHI560</td>
<td>History of Logic</td>
<td>3.00</td>
<td>Spring, Fall</td>
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<td>History of Ethics</td>
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<td>Early Modern Philosophy</td>
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<tr>
<td>PHI582</td>
<td>History of Analytic Philosophy</td>
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PHI533 Political Philosophy

A survey of some central issues and developments in political philosophy.

PHI540 Epistemology

A survey of the basic topics and questions in epistemology: knowledge acquisition and justification, perception, fallibilism, and skepticism.

PHI541 Mind and Language

Philosophical problems about signs, linguistic and mental representations, intentionality, action, and consciousness.

PHI543 Induction, Probability, and Scientific Method

Foundations of inductive reasoning and role of experiment in science.

PHI545 Metaphysics

A selection of topics dealing with the main problems of metaphysics: existence, modality, universals, identity and persistence through time, causation, the self and physicalism.

PHI546 Evidence and Knowledge in Medicine

Basic methodologies in medicine in the context of philosophical theories of evidence.

PHI560 History of Logic

Aristotle, the Stoics, the Scholastics, Leibniz, Boole, DeMorgan, Peirce, Frege, and Russell and Whitehead.

PHI562 History of Ethics

A selection of ethical theories from Aristotle to Rawls.

PHI573 Early Modern Philosophy

An examination of early modern philosophy from Hobbes and Descartes to Hume.

PHI575 Kant

An examination of selected issues in Kant's theoretical or practical philosophy.

PHI581 Pragmatism

Peirce, James, Dewey, and others.

PHI582 History of Analytic Philosophy

The development of analytic philosophy from its beginnings in the work of Frege and Russell through logical positivism to contemporary philosophy.
PHI583 The Phenomenological Tradition  
3.00 credits  Offered By Announcement Only  
An examination of the phenomenological movement (Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and others) and of its impact on contemporary thought.

PHI591 Special Topics  
3.00 credits  Offered By Announcement Only  
A selected philosopher or philosophical problem. May be repeated for credit.

PHI592 Special Topics  
3.00 credits  Offered By Announcement Only  
A selected philosopher or philosophical problem. May be repeated for credit.

PHI593 Special Topics  
3.00 credits  Offered By Announcement Only  
A selected philosopher or philosophical problem. May be repeated for credit. PREREQUISITE: Six credits in Philosophy and junior standing.

PHI594 Independent Study in Philosophy  
1.00 - 3.00 credits  Offered By Announcement Only  
Directed reading on a topic or philosopher. May be repeated for credit.

PHI601 Proseminar (First Semester)  
3.00 credits  Offered By Announcement Only  
Covers the core texts from the history of analytic philosophy. First semester of the year-long pro-seminar for first-year graduate students in Philosophy.

PHI602 Proseminar (Second Semester)  
3.00 credits  Offered By Announcement Only  
Covers the core texts and issues of analytic philosophy in the second half of the twentieth century. Second semester of the year-long pro-seminar for first-year graduate students in Philosophy.

PHI610 Topics in Logic  
3.00 credits  Offered By Announcement Only  
Problems in philosophical logic; non-standard logic.

PHI630 Seminar in Ethics  
3.00 credits  Spring  
Problems in normative ethics, meta-ethics, and value theory.

PHI636 Values, Norms, and Actions  
3.00 credits  Offered By Announcement Only  
The role of values and norms in practical reasoning and decision making.

PHI640 Seminar in Epistemology  
3.00 credits  Offered By Announcement Only  
Problems concerning knowledge: skepticism, belief, certainty, truth, and justification.

PHI641 Seminar in Philosophy of Language  
3.00 credits  Offered By Announcement Only  
Nature and uses of language; concepts of reference, truth, and meaning.
PHI643 Philosophy of Science
3.00 credits Offered By Announcement Only
Selected topics in the philosophy of science, such as realism, explanation, and conceptual and methodological issues in the special sciences.

PHI644 Seminar in Philosophy of Mind
3.00 credits Offered By Announcement Only
Problems concerning mental phenomena: theories of perception, action, consciousness.

PHI645 Seminar in Metaphysics
3.00 credits Offered By Announcement Only
Problems related to the nature and kinds of being.

PHI651 Seminar in Philosophy of Art
3.00 credits Offered By Announcement Only
Problems related to beauty and the philosophy of art.

PHI671 Seminar in Ancient Philosophy
3.00 credits Offered By Announcement Only
A discussion of selected topics in ancient philosophy.

PHI676 Idealism
3.00 credits Offered By Announcement Only
An examination of Idealism, both contemporary and historical.

PHI691 Seminar in Special Topics
3.00 credits Offered By Announcement Only
A selected philosopher or philosophical problem. May be repeated for credit.

PHI692 Seminar in Special Topics
3.00 credits Offered By Announcement Only
A selected philosopher or philosophical problem. May be repeated for credit.

PHI694 Independent Study in Philosophy
1.00 - 3.00 credits Offered By Announcement Only
Directed reading on a topic or philosopher. May be repeated for credit.

PHI710 Master's Thesis
1.00 - 6.00 credits Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

PHI730 Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.
PHI740 Post-candidacy doctoral dissertation
1.00 - 6.00 credits Fall, Spring
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHI 740 may be taken in a regular semester, nor more than six in a summer session.

PHI750 Research in Residence
0.00 credit Fall, Spring
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Physics
PHY500 Research
1.00 - 3.00 credits Offered By Announcement Only
Project course introducing methods of research, individual investigation of current problems.

PHY506 Advanced Laboratory
1.00 - 2.00 credits Spring
Advanced experiments such as properties of the electron, optical spectra, electrical measurements, radioactive decay, absorption, etc.

PHY515 Mathematical Techniques in Physics
3.00 credits Spring
Complex variables and applications. Infinite series and their uses, particularly in differential equations. Multiple integrals and Fourier series.

PHY516 Readings in Physics
1.00 - 3.00 credits Fall, Spring

PHY517 Readings in Physics
1.00 - 3.00 credits Spring

PHY518 Readings in Physics
1.00 - 3.00 credits Offered By Announcement Only

PHY520 Solid State Physics
3.00 credits Offered By Announcement Only
Crystal structure, quantum theory of the electronic structure of solids, mechanical, electric, magnetic and optical properties of solids.

PHY530 Plasma Physics I
3.00 credits Offered By Announcement Only
Kinetic theory of plasmas, adiabatic motion of charged particles magneto fluid dynamics, transport properties of plasmas in electromagnetic fields.

PHY540 Classical Mechanics II
3.00 credits Fall
Lagrangian formulation, rigid body dynamics. Topics selected from fluid dynamics, non-linear oscillations, normal modes, phase plane analysis.
PHY545 Introduction to Astrophysics
3.00 credits
Offered By Announcement Only
Celestial mechanics, solar models, galaxies, distance scales, instruments.

PHY552 Optical Physics
3.00 credits
Offered By Announcement Only
Geometric optics, interference and diffraction, polarized light, optical pumping, coherence phenomena, applications to modern physical research.

PHY560 Quantum Mechanics and Modern Physics I
3.00 credits
Fall
Introductory theory with applications to simple systems. Perturbation theory and atomic structure.

PHY561 Quantum Mechanics and Modern Physics II
3.00 credits
Spring
Applications of quantum mechanics to atomic and molecular spectroscopy, quantum statistical mechanics, and nuclear physics.

PHY601 Condensed Matter Physics Seminar
1.00 credit
Fall, Spring

PHY610 Special Topics in Physics
1.00 - 3.00 credits
Offered By Announcement Only
Topics are typically selected from fluid dynamics, applied mathematics, particle theory, nuclear physics.

PHY612 Special Topics in Physics
1.00 - 3.00 credits
Offered By Announcement Only
Topics are typically selected from fluid dynamics, applied mathematics, particle theory, nuclear physics.

PHY615 Methods of Mathematical Physics I
3.00 credits
Offered By Announcement Only
A continuation of PHY 515.

PHY620 Advanced Solid State Physics
3.00 credits
Offered By Announcement Only
Electronic structure, electron-electron interactions, phonons, many-body problems, transport properties, magnetism, superconductivity.

PHY623 Statistical Mechanics I
3.00 credits
Offered By Announcement Only
Equilibrium state, irreversibility, statistical description of an ensemble, entropy, partition functions.

PHY624 Statistical Mechanics II
3.00 credits
Offered By Announcement Only
Statistical description of many body problems, specific heats, Brownian motion in liquids and fields, non-equilibrium states, superconductivity.

PHY650 Electromagnetic Theory I
3.00 credits
Offered By Announcement Only
Electrostatics, magnetostatics, Maxwell's equations, continuous media, waves, antennas, resonant cavities, wave guides.
PHY651 Electromagnetic Theory II
3.00 credits Offered By Announcement Only
Relativistic effects, interaction of radiation with matter, multiple radiation, radiation reaction.

PHY666 Elementary Particles
3.00 credits Offered By Announcement Only
The Standard Model of elementary particles. Classical theory of fields for spin 0, 1/2, 1; Feynman rules. The Standard Model Lagrangian is postulated, and some of its basic consequences are explored.

PHY670 Quantum Theory I
3.00 credits Offered By Announcement Only
Transformation theory, linear operators and vector spaces. Schrödinger's equation, rotation group and angular momentum, statistics (Bose-Einstein and Fermi-Dirac), isotopic spin, multiple structure of levels, approximation methods.

PHY671 Quantum Theory II
3.00 credits Offered By Announcement Only
One particle relativistic theory; Lorentz group; symmetries of particles; elementary scattering theory; many body problems; Green's function techniques; S-matrix.

PHY680 Directed Readings or Research
1.00 - 4.00 credits Fall, Spring

PHY710 Master's Thesis
1.00 - 6.00 credits Offered By Announcement Only
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

PHY720 Research in Residence
0.00 credit Offered By Announcement Only
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PHY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

PHY725 Continuous Registration--Master's Study
0.00 credit Offered By Announcement Only
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

PHY730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHY 730 may be taken in a regular semester, nor more than six in a summer session.

PHY740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHY 740 may be taken in a regular semester, nor more than six in a summer session.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
College of Arts and Sciences
Physics

PHY750 Research in Residence
0.00 credit  Fall, Spring
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Political Science

POL501 Budget and Financial Management and Administration
3.00 credits  Spring
Role of the budget in shaping public policy; managing public revenues; budgetary theory, politics, and fiscal management. Examples from state, municipal and federal governments.

POL510 POLITICAL ANALYSIS
3.00 credits  Fall
This course focuses on the use of statistics to conduct quantitative research (i.e., statistics) in political science and public administration. The course emphasizes hands-on data work. Students will learn how to perform political analyses and present findings in an appropriate manner using SPSS statistical software.

POL514 Art and Politics
3.00 credits  Spring

POL515 Media Content Analysis
3.00 credits  Fall
There are few facets of our lives which are not directly affected by media content. From cell phones to televisions, the media is with us all the time. But what messages are contained in the mass media? What methods can we employ to study media content scientifically? This course will explore methods of analyzing media sources including movies, newspapers, magazines, and television. Course topics will include political bias, campaign coverage, and news content. Students will design their own projects and implement their own coding strategies.

POL516 Experiments in Political Science
3.00 credits  Fall, Spring

POL520 Internship
3.00 credits  Fall, Spring & Summer
Provides advanced political science majors with an opportunity to participate in a structured, supervised internship. 25-35 page research paper required.

POL521 Public Affairs Internship
3.00 credits  Fall, Spring & Summer
Opportunity for the advanced student specializing in public administration to participate in an administrative capacity in an agency of state or local government. Periodic conferences with adviser and paper required.

POL522 Introduction to Graduate Public Administration
3.00 credits  Fall, Spring
Introduction to concepts, issues, problems, theories and process in the field of public administration and/or public management.
POL524 Non-Profit Organizations: Law, Policy, and Management

3.00 credits

This course teaches students the essential requirements for creation and operation of tax-exempt nonprofit organization in accordance with state and federal law. The course covers a wide range of relevant topics including guidelines for charitable giving and charitable solicitation, pitfalls that can result in personal liability for officers and directors, and statutory constraints on legislative lobbying and political activities.

POL526 Administrative Law

3.00 credits

Administrative law is the study of the legal relationship of government agencies to legislatures, courts, and private parties. The course examines the legal dimensions of bureaucratic power and procedures as well as constitutional and statutory constraints on regulators and administrators. Topics include rule making, adjudication, investigation and enforcement, political controls on agencies, judicial review of agency decisions, governmental liability and immunity, public records and open meetings laws. Both federal law and Florida law are covered. The course assumes a basic knowledge of the American legal system, constitutional law and bureaucracy.

POL529 Voting in the US: Access, Fairness, and Reform

3.00 credits

Fair and free democratic elections are the heart of US democracy. This course will examine who gets to vote, whether election laws and rules are fair (and fairly implemented), and proposals to reform the way elections are run.

POL530 Intelligence and National Security Decision Making

3.00 credits

Offered By Announcement Only

This course will study the US national security community structure and decision making process. The course will look at the National Security Council, the principal national security agencies (such as the CIA, Defense Department, and State Department), how they interact, and their roles in dividing and executing policy. We will also examine the role and function of senior policy decision makers such as the President. We will study recent policy challenges such as Iraq and Afghanistan as examples of National Security policy.

POL531 Global Environmental Politics

3.00 credits

Offered By Announcement Only

Examination of the environment within the context of economic globalization. Contrasts the international trading regime and those regimes designed to protect the environment, with specific attention to the issues of global warming and bio-diversity.

POL535 Comparative Legal Systems

3.00 credits

Fall, Spring

Considers the institutional and political roles of Courts from a comparative perspective. With a focus on judicial independence and judicial review, will consider the juridical systems of a variety of countries and regions including the US, the EU, Germany, France, Great Britain, Chile, Argentina, Russia, The Asian-Pacific Rim, South Africa, Israel, Central America and the Middle East.
POL536 U.S. Health Care Crisis: Politics and Policies
3.00 credits  
Spring
This seminar will explore the politics and policies of healthcare in the United States. Our examination of the current crisis in cost and coverage will draw on experience from the debates on comprehensive and incremental reform over the past decade. In addition, we will explore the politics and policies of other health and science issues. Students will be expected to attend every class and be actively involved in class discussions. There will be two examinations, one at mid-term and a final based on readings and course discussions.

POL541 Philosophy of Law
3.00 credits  
Offered By Announcement Only
Case-based study of jurisprudence designed to illuminate and explain philosophies of law. Examination of theories of free expression; bio-ethical matters; theories of punishment and legal responsibility; and the placement of religious discourses in liberal systems of law. Special attention to cases involving fundamental rights and liberties; the role of the individual and the state in civil society; and the capacities of individual to be legally competent in contemporary systems of law.

POL543 Urban Politics
3.00 credits  
Offered By Announcement Only
Examination of sources of political power in urban areas and how they influence the policies pursued in those areas. Analysis of the role of economic power, protest actions, neighborhood groups, and voting to evaluate whether there is a bias in urban politics that systematically favors some groups over other and, if so, how likely it is that the bias can be overcome.

POL544 Chinese Foreign Policy
3.00 credits  
Fall

POL545 Environmental Policymaking
3.00 credits  
Spring
Examination of different ethical approaches to the environment; the federal government's management of natural resources; selected environmental policies; international environmental policy issues. Topics include federal management of national grazing lands, national forests, and minerals in the public domain. Analyzes environmental policies such as air, water, toxic wastes, energy, and environmentally-related issues in international trade and national security.

POL548 Civic Participation and Democracy
3.00 credits  
Fall
Citizens participate in the governing process by communicating their preferences and pressuring the government to respond. In this course we examine these various mechanisms of civic participation, and discuss the meaning and consequences of participatory democracy. The course focuses on the contemporary United States, but we will devote some time to discuss civic participation in other countries as well.
POL550 Advanced Seminar on American Politics
3.00 credits
Fall
This seminar provides students with a survey of significant research on major topics in American Politics. We will read influential works of the past, as well as recent cutting-edge research. Particular attention will be paid to discussing the methods and theories used in the research we will read. The purpose of the course is to acquaint students with the literature on American Politics, while also providing an opportunity for students to develop skills in critically assessing and skillfully conducting social science research.

POL551 Productivity in the Public and Non-Profit Sectors
3.00 credits
Summer
Definitions and measures of productivity. Evaluation of government programs, and methods of productivity improvement.

POL553 The Environmental Movement: Groups, Beliefs and Values
3.00 credits
Fall
Exploration of the origins and political impact of environmentalism in the United States and, to a lesser extent, in the global context. Impact of democratic participation on environmental politics.

POL555 Total Quality Public Service Management: Achieving High Performance Government
3.00 credits
Fall
Examination of the theory and practice of Total Quality Management (TQM) in the government and non-profit sector. Focuses on budgetary, customer service, employee and process improvements that facilitate increased public and non-profit performance. Special emphasis to TQM's contribution to improved service delivery.

POL556 Politics and Ethics
3.00 credits
Offered By Announcement Only
Personal, professional, organizational, and societal levels of ethical analysis. Ethical theories will be reviewed and applied to actual cases that focus on public policy and/or the officials who create and implement it. Profiles of moral exemplars in public life will be examined.

POL557 Ethical and Managerial Issues in Government, Business and Non-Profit Organizations
3.00 credits
Offered By Announcement Only
Governments at all levels in this country-national (Larry Craig, David Vitter, Mark Foley, Bill Clinton, Randy Cunningham, Tom DeLay, William Jefferson, James Traficant, Robert Torricelli, Jack Abramoff), state (former Illinois, Louisiana, New York, Ohio and Arizona governors), and local (Miami, Providence city officials; Miami-Dade, Broward, and Palm Beach counties) have encountered scandals involving ethical wrongdoing. Business (Enron, Worldcom) and nonprofit organizations (Boy Scouts, United Way) have faced similar problems. Countless less visible examples of unethical and ethical behavior occur in organizations daily. This course examines the causes and consequences of such actions and the managerial strategies and competencies needed to effectively cope with the ethical issues confronting individuals and organizations.

POL558 FROM ELECTRONIC GOVERNMENT TO DIGITAL GOVERNANCE
3.00 credits
Fall
Graduate and advanced undergraduate seminar explores the transition from electronic government (e-gov) to digital or d-governance, emphasizing political participation, citizen-centric public administration and the proliferation of global information technologies and social media.
POL563 Senior Thesis
3.00 credits
Fall
General reading, preparation of research design and collection of information for senior thesis.

POL564 Senior Thesis II
3.00 credits
Spring
Continuation of POL 563: writing and defense of the theses.

POL570 Uniting States in International Perspective
3.00 credits
Fall
How states form and fragment; The main actors in nation formation; the elements of continuity and change; the impact outsiders can have on the process.

POL577 Security in South Asia: The Conflicts of Afghanistan, Pakistan and India
3.00 credits
Fall, Spring
The security system of South Asia's northern reaches and the current conflict involving Afghanistan, Pakistan, and India: considerations of sovereignty and the role of frontiers in world politics.

POL580 Ethnicity, Nationalism and Secession
3.00 credits
Spring
Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the Soviet Union. Using empirical evidence from four case studies, develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country-specific experiences.

POL581 Comparative Political Economy of Post-Industrial Democracies
3.00 credits
Fall
This seminar examines four key turning points in the development of capitalism: the industrial revolution, the aftermath of the depression and world wars, the oil crisis of the 1970's, and today's globalization. We will compare the relationships between government and the economy in Western Europe, Canada, the U.S., Australia, New Zealand, and Japan in each period, and attempt to evaluate why these countries react similarly or differently to identical changes in world economy.

POL582 Political Economy of Development
3.00 credits
Offered By Announcement Only
Overview of the principal theoretical paradigms of the development process Comparative analysis of issues such as the role of the state, strategies of industrialization, changes in social structure, basic needs and the trade-offs between growth and equity.

POL584 Contemporary Latin American Politics
3.00 credits
Fall, Spring
This course assumes a basic knowledge of Latin American politics, and is designed to foster deeper understanding of political processes in the region and to provide an overview of key debates among political scientists specializing in Latin America. We discuss issues related to democratic consolidation, political participation, representation and governance.
POL585 POST-COMMUNIST RUSSIAN FOREIGN POLICY
3.00 credits  Spring
Exploration of the various forms of political movements in Latin America, including parties, populists and radical groups. Examines diverse means of organizing and mobilizing support, the range of goals sought, and the conditions that give rise to the various movements. Special attention to the contemporary revival of populism in the region and its implications for democracy. PREREQUISITE: POL 211 and 212 or graduate standing.

POL586 Conflict in the Middle East and Africa
3.00 credits  Fall
Introduction to major paradigms for the explanation of war and conflict in two of the most unstable regions of the world. Reading and class discussions on select cases of current and past conflicts in each region in order to discern patterns of conflict within and across regions, gain a clearer understanding of what drives violent conflict, and assess strategies of resolution.

POL588 Politics in China
3.00 credits  Spring
Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

POL591 International Security
3.00 credits  Offered By Announcement Only
Analysis and evaluation of approaches to international conflict, resolution, reduction and stabilization such as international organization, law, collective security, balance of power, functionalism, world government, morality, and conscience. Special emphasis on recent problems and efforts at institutionalizing social control.

POL592 International Political Economy
3.00 credits  Offered By Announcement Only
This course introduces students to the study of International Political Economy (IPE). It combines a focus on the main theoretical and methodological approaches used in the study of IPE with the analysis of historical and contemporary issues.

POL593 International Relations of the Middle East
3.00 credits  Offered By Announcement Only
Regional and inter-regional analysis of the foreign relations of Middle Eastern nations, domestic and geopolitical factors.

POL595 SPECIAL TOPICS IN POLITICAL THEORY AND METHODS
1.00 - 3.00 credits  Fall, Spring
A seminar in Political Theory and Methods; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.
POL596 SPECIAL TOPICS IN PUBLIC ADMINISTRATION, POLICY AND LAW
1.00 - 3.00 credits
Fall, Spring
A seminar in Public Policy, Administration and Law; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

POL597 SPECIAL TOPICS IN INTERNATIONAL RELATIONS
1.00 - 3.00 credits
Fall, Spring
A seminar in International Relations; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

POL598 SPECIAL TOPICS IN COMPARATIVE POLITICS
1.00 - 3.00 credits
Fall, Spring
A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

POL599 SPECIAL TOPICS
1.00 - 3.00 credits
Fall, Spring & Summer
A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

POL606 Seminar in Administration
3.00 credits
Spring
Examination of theory and behavior in public and nonprofit organizations. Focus on the importance of understanding the behavior, motivations, and actions of individuals in public service and on the distinctiveness of management and leadership in public organizations.

POL646 Public Policy Analysis and Administration
3.00 credits
Spring
Examination of public policy issue areas including education, health, welfare, urban mass transit. Limits to effectiveness of federal, state and local governments in providing services. Techniques for analyzing the effectiveness of public policies; research techniques for the assessment of future policy alternatives.

POL647 Personnel Administration
3.00 credits
Fall
Modern personnel administration: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, and job anti-discrimination legislation. Manpower planning.
POL655 Public Policy and Health
3.00 credits
Summer
Development of public policy at the federal, state and local level. Policy process, models of policy analysis, policy development in several government service areas, and plans for policy change. Special emphasis on health policy formulation, implementation and the use of epidemiological tools in health policy analysis.

POL656 Public Service Internship
3.00 - 6.00 credits
Fall, Spring & Summer
Individual on-the-job work experience; arranged and monitored by a faculty member.

POL671 Political Environment of Business
3.00 credits
Fall, Spring & Summer
Examines government-business-society relations with emphasis on the social, economic, political, technological, ethical, and ecological environment.

POL699 Directed Readings
1.00 - 3.00 credits
Fall, Spring & Summer

Portuguese

POR591 Directed Readings in Portuguese
1.00 - 3.00 credits
Offered By Announcement Only

POR592 Directed Readings in Portuguese
1.00 - 3.00 credits
Offered By Announcement Only

POR625 Portuguese for Graduate Research
0.00 credit
Offered By Announcement Only
Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

POR635 PORTUGUESE FOR GRADUATE STUDENTS
0.00 - 3.00 credits
Fall
Portuguese 635 is designed to enhance graduate student's communication skills in the Portuguese language, at the low advanced level of proficiency. It is intended principally for those students who will be carrying out research in areas related to the Lusophone world.

Psychology

PSY520 PSYCHONEUROIMMUNOLOGY
3.00 credits
Offered By Announcement Only
This course is designed to present some of the basic information necessary to interpret the current literature in psychoneuroimmunology (PNI) and to design research in this area.

PSY540 CULTURE, VALUES, RELIGIOSITY, AND MENTAL ILLNESS
3.00 credits
Offered By Announcement Only
Cultural differences in the manifestation, course, and outcome of serious mental disorders; the relationship between chronic mental disorders and ethnicity, religious values, family cohesion, attributions of control, and world view; cultural differences in societies' reactions to and treatment of mentally ill patients.

PSY575 SPECIAL TOPICS
1.00 - 3.00 credits
Offered By Announcement Only
PSY580 SENIOR HONORS IN PSYCHOLOGY I
3.00 credits                                                  Fall, Spring & Summer
Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

PSY581 SENIOR HONORS IN PSYCHOLOGY II
3.00 credits                                                  Fall, Spring & Summer
Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

PSY601 Issues in Professional Development and Research.
1.00 credit                                                                    Fall
Seminar addressing issues such as structure of academic systems and progress through them, time management, library search systems, professional journals, how to structure curriculum vitae, procedures and rules in human subject research, professional meetings and presentations, extramural funding opportunities, professional writing style, ethical issues.

PSY602 Scientific writing and grantsmanship
3.00 credits                                           Offered By Announcement Only
Writing and organizational skills for professional development in social and behavioral sciences. Mechanism of extramural funding and grant review, including grantsmanship.

PSY603 NEUROANATOMY
3.00 credits                                                                   Fall
Functional neuroanatomy for individuals engaged in basic neuroscience and psychological research. Gross anatomy, identification of pathways and circuits, and physiological functions of neuroanatomical systems. Clinical examples and case histories of neuroanatomical disorders. Laboratory exercises including brain dissections, examination of brain models and atlases, and internet neuroanatomy websites.

PSY604 Cognition and Emotion
3.00 credits                                                                 Spring
Study of basic cognitive processes of attention and memory, the function of emotions, and the role of cognitive mechanisms in the processing of affective information.

PSY605 Cognitive Neuroscience
3.00 credits                                                                     Fall
Brain mechanisms in cognition and behavior, including sensory encoding and perception, attention, motivation, emotion, learning/memory, language, executive functions, and mental disorders.

PSY606 Biobehavioral Processes and Disease in Health Psychology
3.00 credits                                                                 Spring
Central nervous system, cardiovascular, endocrine, immune, and other biological processes examined in the context of behavioral medicine and health psychology research. Discussion of basic mechanisms in physiological regulation and dysregulation of the cardiovascular and immune systems, with specific reference to cardiovascular behavioral medicine and psychoneuroimmunology.

PSY609 Psychopharmacology
3.00 credits                                           Offered By Announcement Only
Basic methods and current issues in psychopharmacology.
PSY610 Behavioral Medicine: Overview of Basic Science, Public Health & Clinical Trial
3.00 credits
Fall
Overview of biobehavioral, psychosocial and sociocultural factors in pathogenesis, prevention and treatment of physical disorders.

PSY613 Psychoneuroimmunology
3.00 credits
Spring
Structural and functional aspects of the immune system that are sensitive to neural and psychological processes. Interactions between the nervous and immune systems are examined in relation to empirical associations between psychological factors (i.e., stress) and immune-mediated processes in diseases such as cancer and AIDS.

PSY614 Diversity issues in psychology
3.00 credits
Spring
Overview of diversity issues including race, religion, gender, age, sexual orientation, physical disability and socioeconomic status as they relate to psychological research and clinical practice.

PSY615 Foundations of neuropsychology
3.00 credits
Spring
Mechanisms of neurological and psychiatric disorders, including developmental disorders, dementia, aphasia, amnesia, stroke, traumatic brain injury, and loss of general intelligence. Clinical tools for neuropsychological assessment, forensics, and genetic screening.

PSY616 Biobehavioral Processes and Clinical Research Applications in Health Psychology
3.00 credits
Fall
Conduct of clinical research and examination of biobehavioral processes in health psychology. Lectures, readings and assignments deal with clinical research involving pathology, assessment and intervention-based functions with applications focused on health and disease conceptualized at multiple levels of prevention.

PSY620 Developmental Psychology
3.00 credits
Offered By Announcement Only
Emphasis on applied research and interventions.

PSY621 Theories of Development
3.00 credits
Fall
Theoretical aspects of psychological development throughout the life span.

PSY624 Atypical Social Development
3.00 credits
Spring
The theoretical and empirical literature on social development in children with psychopathology, mental retardation, and/or those who have experienced trauma.

PSY625 Social Psychology
3.00 credits
Fall
Overview of the major substantive areas and theories of social psychology. Emphasis on applications to health-related concerns.

PSY631 Psychological Statistics, Research Methods and Design
3.00 credits
Fall
Statistics for experimental design with uncorrelated independent variables. Review of t-tests; designs and applications of analysis of variance; including one-way, factorial, repeated-measures, and mixed designs; post hoc comparisons among means.
PSY632 Multiple Regression and Multivariate Statistics
3.00 credits
Spring
Techniques for the analysis of multiple quantitative measurements including multiple regression, multivariate analysis of variance, discriminant analysis and canonical correlation. Computer application of these techniques to the behavioral sciences.

PSY633 Structural Equation Modeling
3.00 credits
Fall
Structural equation modeling. Specific and testing explicit theory based models of covariances among variables. Structural models, path analysis, measurement models, and confirmatory factor analysis, particularly related to hypotheses about causal relations, change over time, and comparisons across diverse populations.

PSY636 Developmental Methodology
3.00 credits
Fall
Concepts and research design problems for the analysis of developmental data from infancy through adolescence.

PSY638 Psychology of Infant Development
3.00 credits
Offered By Announcement Only
Theory, research, and methodology pertaining to psychological development in the first two years of life. Applied research on infancy as it pertains to individual differences in cognitive, social, and emotional development.

PSY640 Adult Psychopathology
3.00 credits
Fall
Theories, models, history, and research relevant to various patterns of problematic behavior, with a focus on adults. The influences of family systems as well as cultural and other diversity factors (e.g., ethnicity, sexual orientation) are included.

PSY641 Child and Adolescent Psychopathology
3.00 credits
Fall
Theories, models, and research relevant to the development and the course of behavioral disorders and other problems (e.g., maltreatment, exposure to violence and poverty) that emerge in childhood and adolescence. The influences of family and peer systems as well as cultural and other diversity factors (e.g., ethnicity, sexual orientation) are included.

PSY642 Advanced Adult Psychopathology
3.00 credits
Fall
Theory and research on risk factors and etiological models of mental disorders. Socioenvironmental (cultural, social support, life events), psychological (temperament, cognitive biases), and biological (genes, neurotransmitters) models of risk, research methodology, and design are discussed.

PSY643 Behavioral Medicine and Developmental Disabilities
3.00 credits
Fall, Spring
Processes influencing diagnosis and management of developmental disabilities: genetics, embryology/fetology, physical growth and development, nutrition, hearing and speech pathology, family dynamics, cognition and psycho-educational assessment.

PSY645 Introduction to Psychological Evaluation
3.00 credits
Fall
Measurement theory; introduction to the administration and interpretation of widely-used intelligence and personality tests, with attention to issues of ethics and diversity.
PSY646 Psychological Evaluation of Adults
3.00 credits  
Spring
Issues of diversity, ethics, and personality theory as they pertain to psychological evaluation of adults. Emphases on the use of projective and objective personality assessment methods.

PSY647 Psychological Evaluation of Children and Families
3.00 credits  
Spring
Clinical and developmental theory and methods pertaining to the evaluation of children, adolescents, and families including intelligence tests, structured diagnostic instruments, personality and behavioral check lists, observational formats, interviewing, and projective assessment. Attention to issues of ethics and diversity.

PSY648 Psychological Evaluation in Physical Disorders
3.00 credits  
Spring
Administration, interpretation, and psychometric evaluation of psychological tools and procedures used in the evaluation of physical disorders. Attention to issues of ethics and diversity.

PSY650 Laboratory in Clinical Psychology
0.00 credit  
Fall, Spring
Practical training in clinical skills such as assessment, interviewing, and case conceptualization. Laboratory to be used in conjunction with courses such as PSY 640 and PSY 645

PSY656 Introduction to Evidence-Based Psychological Treatments
1.00 - 3.00 credits  
Fall
Theories, history, and techniques of psychological and behavioral therapies, with emphasis on evidence-based approaches.

PSY657 Introduction to Psychotherapy, Ethics, and Professional Issues
3.00 credits  
Spring
Introductory experience in clinical interviewing, therapeutic communication, ethics, and case conceptualization. Consideration of client-and-therapist culture, gender, and diversity are also emphasized.

PSY660 Evidence-Based Psychological Intervention with Children and Families
3.00 credits  
Fall
Theories, history, and techniques of psychological and behavioral therapies, with emphasis on evidence-based approaches with children, adolescents, and families. Understanding normative and deviant development, with attention to issues of diversity, ethics, and domestic violence.

PSY661 Interventions in Pediatric Psychology
3.00 credits  
Spring
Pediatric psychology and basic learning theory. Medical and behavioral aspects of child and adolescent health disorders, psychological assessment, and evidence-based treatment approaches.

PSY662 Health Psychology Interventions
3.00 credits  
Fall
Clinical interventions and research relevant to health problems and lifestyle, with emphasis on critical evaluations of past research and the design and implementation of intervention protocols. The origins of health psychology and the role of the health psychologist in medical systems.
PSY670 Practicum in Clinical Psychology
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised experience in evaluating and treating psychological problems of children, adolescents, families, and/or adults behavior. For students placed at the U.M. Psychological Services Clinic there is a weekly case conference that focuses on ethics case conceptualization. Course may be repeated for credit.

PSY671 Practicum in Clinical Psychology II
0.00 credit  Fall
Continuation of PSY 670.

PSY672 Advanced Practicum in Clinical Psychology
1.00 - 3.00 credits  Fall, Spring
Advanced experience in special clinical techniques and clinical supervision. Primarily for post-internship clinical students. The advisor may direct that PSY 672 be repeated, but no more than six credits may be applied toward a degree.

PSY680 Research
1.00 - 4.00 credits  Fall, Spring & Summer
Investigation of an original problem.

PSY681 Research
1.00 - 4.00 credits  Fall, Spring & Summer
Investigation of an original problem.

PSY683 Special Topics
3.00 credits  Fall, Spring
Topics in selected areas of specialization.

PSY684 Readings in Psychology
3.00 credits  Fall, Spring
Supervised readings in selected topics.

PSY685 Seminar in Clinical Psychology
3.00 credits  Fall, Spring

PSY687 Seminar in Clinical Psychology
3.00 credits  Offered By Announcement Only

PSY688 Seminar in Developmental Psychology
3.00 credits  Offered By Announcement Only

PSY690 Seminar in Developmental Psychology
3.00 credits  Offered By Announcement Only

PSY692 Seminar in Personality
3.00 credits  Offered By Announcement Only

PSY693 Seminar in Behavioral Medicine
3.00 credits  Spring

PSY694 Seminar in Behavioral Medicine
3.00 credits  Fall
PSY697 Seminar in Biological Psychology
3.00 credits \hspace{1cm} Fall

PSY698 Seminar in Quantitative Psychology
3.00 credits \hspace{1cm} Fall

PSY704 Internship in Clinical Psychology
1.00 credit \hspace{1cm} Fall, Spring
Supervised internship in clinical psychology. May not be counted as part of the 90 hours required for the Ph.D. degree.

PSY710 Master's Thesis
1.00 - 6.00 credits \hspace{1cm} Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

PSY720 Research in Residence
0.00 credit \hspace{1cm} Fall, Spring
Research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PSY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

PSY725 Continuous Registration--Master's Study
0.00 credit \hspace{1cm} Fall, Spring
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

PSY730 Doctoral Dissertation
1.00 - 12.00 credits \hspace{1cm} Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

PSY740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits \hspace{1cm} Fall, Spring
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PSY 740 may be taken in a regular semester, nor more than six in a summer session.

PSY750 Research in Residence
0.00 credit \hspace{1cm} Fall, Spring
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Religious Studies
REL501 Supervised Reading in Religious Literature or Texts
1.00 - 3.00 credits \hspace{1cm} Offered By Announcement Only
Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.
REL502 Supervised Reading in Religious or Historical Traditions  
1.00 - 3.00 credits  
Offered By Announcement Only  
Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

REL503 Supervised Reading in Religious Issues or Problems  
1.00 - 3.00 credits  
Offered By Announcement Only  
Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

REL505 Seminar in Ancient Studies  
3.00 credits  
Offered By Announcement Only  
Various topics in Greek and Roman Studies.

REL510 Seminar in Hebrew Bible and Ancient Judaism  
3.00 credits  
Offered By Announcement Only  
Selected topics in Hebrew Bible and Ancient Judaism.

REL530 Seminar in Religious or Historical Traditions  
1.00 - 3.00 credits  
Offered By Announcement Only  
Selected topics in religious or historical traditions.

REL560 Seminar in Contemporary Religious Issues  
1.00 - 3.00 credits  
Offered By Announcement Only  
Selected topics in contemporary religious issues.

Sociology

SOC511 SOCIOLOGICAL STATISTICS  
3.00 credits  
Offered By Announcement Only  
Probability theory, descriptive statistics and tests of independence.

SOC601 Classical Sociological Theory  
3.00 credits  
Offered By Announcement Only  
The focus of this course is the work of Comte, Durkheim, Marx, Weber, and Parsons, along with more recent perspectives such as symbolic interactionism, phenomenology, ethnomethodology, and critical theory.

SOC602 Contemporary Sociological Theory  
3.00 credits  
Offered By Announcement Only  
Recent developments in social theory, such as, for example, the work of Giddens, Habermas, Derrida, Bourdieu, Baudrillard, and Lyotard, along with important themes such as feminism, integration, the linguistic turn, habitus, (anti)foundationalism, and symbolic violence.

SOC604 Proseminar in Sociology  
1.00 credit  
Fall  
Introduction to Sociology: the research process, departmental resources, and the graduate program.

SOC610 Advanced Research Methods  
3.00 credits  
Offered By Announcement Only  
Quantitative techniques for the measurement of theoretical constructs, the consequences of technique selection, and the relationships between method and underlying theory.
SOC611 Advanced Sociological Statistical Analysis I
3.00 credits
Fall
Multiple linear regression and regression diagnostics using Stat analysis of categorical dependent variables, count dependent variables, simultaneous equations, and panel data models. Some topics may not be covered and others may be added at the discretion of the instructor.

SOC612 Sociological Statistics II
3.00 credits
Offered By Announcement Only
Advanced statistical analysis techniques covering topics such as hierarchical linear models (HLM), structural equation models (SEM), instrumental variables (IV), factor analysis, propensity score matching (PSM), and nonparametric methods. Some topics may not be covered and others may be added at the discretion of the instructor.

SOC613 Qualitative Research Methods
3.00 credits
Offered By Announcement Only
In-depth introduction to qualitative, inductive methods, with emphases on grounded theory and action research. Focus on qualitative interviewing (including focus groups) and participant observation for the collection of data in naturalistic social settings, with simultaneous data analysis; qualitative methods in mixed-methods research introduced. Covers ties between methods and theory, additional basic methods used in qualitative research, and typical analytic approaches; touch on more esoteric methods; study current issues and debates relevant to this set of approaches to generating knowledge.

SOC615 Class Structure and Social Stratification
3.00 credits
Offered By Announcement Only
Theoretical and research approaches to class structure and social stratification, with a focus on the U.S. Examines the conflict perspective(s) and major alternative views including economic class, status and power, gender and race.

SOC616 Social Psychology: Sociological Perspectives
3.00 credits
Offered By Announcement Only
Theories and research addressing the mutual influence between social groups and structures, on the one hand, and individual selves and behaviors, on the other. Balance emphasis between symbolic interactionist and structural approaches, with attention to additional related, yet distinct theoretical perspectives.

SOC620 Social Epidemiology
3.00 credits
Offered By Announcement Only
Theories, issues and methods of study pertinent to health and illness in society. Social factors implicated in patterns of disease occurrence.

SOC622 Teaching Seminar in Sociology
3.00 credits
Fall
Pedagogical techniques for teaching Sociology at the college/university level.

SOC632 Social Psychology of Health and Illness
3.00 credits
Offered By Announcement Only
Social and psychological factors affecting susceptibility to illness, health related beliefs and behaviors: the doctor-patient relationship: evaluation of health care systems and patient compliance.
SOC635 Medical Sociology: Issues in Research and Theory.
3.00 credits
Offered By Announcement Only
Examination of health, illness, and health care from sociological perspectives. Includes social-structural, interpretive, and critical approaches, as various authors have used these to address specific issues. Phenomena to be examined range from macro (e.g. population patterns of mortality and morbidity, health care policy) to micro (e.g. the subjective experience of illness). Related theories and methodologies discussed. Focus varies somewhat by instructor and as issues emerge in the discipline.

SOC650 Social Analysis of Race Relations
3.00 credits
Offered By Announcement Only
The impact of race relations research on the discipline of sociology.

SOC651 Race Relations: Social Psychological Perspectives
3.00 credits
Offered By Announcement Only
Social psychological perspectives on the nature, causes, and consequences of racial inequality in American society.

SOC652 Theories of Race and Ethnic Relations
3.00 credits
Offered By Announcement Only
Micro- and macro-level theories of race and ethnic relations.

SOC672 Research in Crime and Delinquency
3.00 credits
Offered By Announcement Only
Measurement issues; effects of race, gender, age, and socio-economic status on criminality; extra-legal factors affecting criminal justice decision making.

SOC675 Theories of Criminology
3.00 credits
Offered By Announcement Only
Discussion of the research testing criminological theories, including measurement, methodological, and statistical issues.

SOC690 Directed Studies
1.00 - 3.00 credits
Offered By Announcement Only
Individually supervised readings or research on special topics. Offered by arrangement with the instructor.

SOC691 Special Topics and Current Issues in Medical Sociology
1.00 - 3.00 credits
Offered By Announcement Only
Seminar topics will be announced in schedule of classes.

SOC692 Special Topics and Current Issues in Criminology
1.00 - 3.00 credits
Offered By Announcement Only
Seminar topics will be announced in schedule of classes.

SOC693 Special Topics and Current Issues in Race/Ethnic Relations
1.00 - 3.00 credits
Offered By Announcement Only
Seminar topics will be announced in schedule of classes.

SOC710 Master's Thesis
1.00 - 6.00 credits
Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.
SOC720 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in SOC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

SOC730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

SOC740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of SOC 740 may be taken in a regular semester, nor more than six in a summer session.

SOC750 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Spanish
SPA501 CAPSTONE
3.00 credits
Fall, Spring
Course with a broad-based topic designed to integrate all the high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study towards the major. Topics vary. Open only to undergraduates completing their Spanish major. Writing Credit. To be taken in the last semester of the major.

SPA591 Directed Readings
1.00 - 3.00 credits
Offered By Announcement Only

SPA592 Directed Readings
1.00 - 3.00 credits
Offered By Announcement Only

SPA594 Senior Honors Thesis I
3.00 credits
Fall, Spring
Directed research for honors thesis.

SPA595 Senior Honors Thesis II
3.00 credits
Fall, Spring
Directed writing of honors thesis.

SPA611 Topics in Spanish Medieval Literature
3.00 credits
Offered By Announcement Only
Recent topics: Libro de Buen amor, the epic, Berceo, cancionero poetry.
SPA613 Topics in the Golden Age
3.00 credits Offered By Announcement Only
Recent topics: culteranismo and conceptismo, La Celestina, Cervantes, the picaresque, sixteenth-century theatre.

SPA615 Topics in 18th-19th Century Spanish Literature
3.00 credits Offered By Announcement Only
Recent topics: neoclassicism, romantic theatre, Spain and the European Enlightenment, Galdos, realism, postromantic poetry.

SPA616 Topics in 20th Century Spanish Literature
3.00 credits Offered By Announcement Only
Recent topics: the generation of 1898, Garcia Lorca, the post-war novel, contemporary theater.

SPA621 Special Topics in Hispanic Studies
3.00 credits Offered By Announcement Only
Special Topics in Hispanic Studies

SPA633 Topics in Colonial Literature
3.00 credits Offered By Announcement Only
Recent topics: the chroniclers, Sor Juana Ines de la Cruz, Baroque of the Indies.

SPA635 Topics in 19th Century Latin American Literature
3.00 credits Offered By Announcement Only
Recent topics include: romanticism, modernist poetry, anti-slavery novel.

SPA636 Topics in 20th Century Latin American Literature
3.00 credits Offered By Announcement Only
Recent topics: modernism, magic realism, the short story, the novel of the Mexican Revolution, the Boom and post-Boom.

SPA691 Writing Practicum
1.00 credit Offered By Announcement Only
The writing of a publishable research paper under faculty guidance.

SPA692 Directed Readings
1.00 - 3.00 credits Offered By Announcement Only

SPA693 Teaching Practicum
3.00 credits Offered By Announcement Only

SPA730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. Prior to admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of SPA 730 may be taken in a regular semester, nor more than six in a summer session. Students who have not passed their qualifying examinations yet, but are not taking any courses, may enroll in SPA 730.
SPANISH

SPA740 Post-Candidacy Doctoral Dissertation  
1.00 - 12.00 credits  
Fall, Spring & Summer  
Required of all candidates for the Ph.D. After admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of SPA 740 may be taken in a regular semester, nor more than six in a summer session. Students who have passed their qualifying examinations, but are not taking courses any more, may enroll in SPA 740. Where a student has passed his/her(a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

SPA750 Research in Residence  
0.00 credit  
Fall, Spring & Summer  
Used to establish residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

WOMENS AND GENDER STUDIES

WGS501 Senior Research Project  
3.00 credits  
Fall, Spring & Summer  
A student initiated research project with a faculty member of the student's choice and approved by the Program director. Writing Credit.

WGS505 Senior Thesis  
3.00 credits  
Fall, Spring & Summer  
Women's and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing an honors thesis instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. Most students will take this course twice, for a total of six credits. Writing Credit.
ACC501 Advanced Cost Accounting
3.00 credits
Offered By Announcement Only
The latest developments in cost and managerial accounting are studied. Using case
studies, the course focuses on activity based product cost allocation methodology
in terms of: (1) basic concepts and rationale, (2) applicability in both manufacturing
and service industries, (3) strategic cost analyses, and (4) applicability in total
quality management programs. Other topics include cost pools, two stage costing
methodologies, and the behavioral aspects of cost systems. Finally, students implement
an activity based cost system using commercially developed software.

ACC505 Accounting Controls in Information Technology
3.00 credits
Offered By Announcement Only
Course develops a student's understanding of the theory and practice of relational
database management systems in the accounting view of enterprise-wide databases.
With a focus on controls, students build accounting system elements related to
main accounting transaction cycles, the revenue cycle, and the purchase cycle.

ACC511 Advanced Accounting
3.00 credits
Fall, Spring
The primary focus on the course is on business combinations and preparing consolidated
financial statements. Additionally, there is coverage of the accounting principles
and practices applied to foreign operations and partnerships. This meets the
requirement for accounting students who are required to take Accounting 411.

ACC522 Advanced Issues in Auditing
3.00 credits
Fall
Course covers advanced issues which arise in audit practice including audit reporting
issues, fraud detection and reporting, attestation engagements, special reporting
issues, compilation and review engagements, scope of services issues, and other
new issues which have a significant impact on audit practice.

ACC523 International Accounting and Taxation
3.00 credits
Offered By Announcement Only
Course covers tax accounting and business considerations in the global business
environment. U.S. issues involved in international transactions, working across
national borders, the Foreign Corrupt Practices Act, money laundering, and use
of accounting information in managing an international business.

ACC524 Accounting for Governmental and Not-for-Profit Entities
2.00 credits
Fall
The course introduces accounting within the environment of modern government and
not-for-profit organizations. Emphasis is placed on financial accounting and reporting,
current accounting issues, and managerial activities.

ACC530 International Financial Reporting Standards
1.00 credit
Fall
This course provides an overview of International Financial Reporting Standards
(IFRS). The course will begin with a study of IFRS Framework and will then examine
a number of the major topics covered in the Intermediate Accounting courses. The
perspective will be a comparison between IFRS and U.S. generally accepted accounting
principles (U.S. GAAP).
ACC550 Accounting Internship
0.00 - 3.00 credits                                           Fall, Spring & Summer
Student is individually assigned to operating business firm or other organization
to gain insight into management practice in area of career interest. Periodic reports
and conferences are required. Approval of chairman is required at time of registration.

ACC555 Accounting Honors Research Project
0.00 - 3.00 credits                                    Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors Accounting.

ACC599 Directed Readings
1.00 - 3.00 credits                                           Fall, Spring & Summer
Individually supervised research projects in selected fields. Approval of supervising
professor as to topic and evaluation of project is required at time of registration.

ACC600 Accounting for Decision-Making and Control
3.00 credits                                           Offered By Announcement Only
The course focuses on the use and understanding of basic financial and managerial
accounting reports. The course is oriented to the user of financial data rather
than the preparer of the data. Coverage of basic accounting assumptions and current
issues affecting accounting processes and reporting are included, but detailed
accounting procedures are not emphasized. Completion of the course should permit
students to understand accounting information and to communicate with professional
accountants. Does not satisfy any accounting requirements needed to sit for the
CPA exam in Florida.

ACC602 Analysis of Financial Statements
3.00 credits                                                                 Spring
Course emphasizes the fundamental techniques of financial statement analysis. Building
upon core accounting and investment concepts, the course covers the analysis (including
ratio analysis) and interpretation of financial accounting information including
the balance sheet, income statement, and statement of cash flows. The course also
examines the use of accounting information in investment and credit decisions.

ACC603 Studies in Financial Reporting Issues
3.00 credits                                                                 Spring
An exploration of complex financial reporting issues using the case method.

ACC604 Seminar in Cost Accounting
2.00 credits                                                                   Fall
Course covers four major segments. First, it reviews the basic concepts and too
is associated with management control systems. Second, it underscores the importance
of decentralization and the impact it has on decision making. Third, it examines
the strategic place for cost management. Examples include the adoption of the balanced
score card, quality control, productivity, and environmental cost management. Fourth,
the course brings costing and control tools into the discussion of decision making.

ACC607 Financial Accounting & Reporting
3.00 credits                                                        Spring & Summer
Basic concepts of accounting designed to increase understanding of the function
of accounting statements and their limitations. The generally accepted principles
governing the preparation of financial reports and the use of accounting information
in investment and credit decisions. Does not satisfy any accounting requirement
needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.
ACC608 Managerial Accounting
3.00 credits Offered By Announcement Only
Current managerial accounting techniques and theories. Topics include the use of accounting data in making decisions and planning and control systems for implementation of decisions. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

ACC610 Accounting Research and Theory
3.00 credits Fall
This course is an introduction to research in financial accounting. In this course, students will become familiar with the foundations of accounting research, including hypothesis development, data collection, and data analysis. To this end, students will become familiar with empirical research in accounting, learn to construct a dataset for hypothesis testing, and conduct some basic statistical analysis (e.g., Ordinary Least Squares regressions). Accounting topics covered will include accounting information and the capital markets, financial restatements, accounting method choice, earnings management, earnings quality, and international accounting.

ACC611 Auditing Seminar
2.00 credits Fall
Practical applications of auditing and research into audit matters. Emphasis of the course is placed on cases involving audit failures, appropriate auditing procedures, reporting, and exercise of audit judgment.

ACC616 CPA Review I
3.00 credits Summer
The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA exam (Regulation and Financial Accounting and Reporting). This course cannot be used to meet the State of Florida’s educational requirements for taking the CPA exam.

ACC617 CPA Review II
3.00 credits Summer
The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA Exam (Business Environment and Concepts, and Auditing and Attestation). This course cannot be used to meet the State of Florida’s educational requirements for taking the CPA exam.

ACC620 Accounting Controls in Information Technology
3.00 credits Offered By Announcement Only
Course develops students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting systems elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

ACC622 Advanced Issues in Auditing
3.00 credits Fall
Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact in audit practice. Not open to students with credit in ACC 522.
ACC623 International Accounting and Taxation

3.00 credits

Fall & Summer

Course covers tax accounting and business considerations in the global business environment. U.S. tax issues involved in international transactions, working across national borders, the Foreign Corrupt Practices Act, money laundering and uses of accounting information in managing an international business. Not open to students with credit for ACC 523.

ACC624 Accounting for Governmental and Not-for-Profit Entities

3.00 credits

Spring & Summer

The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities. Not open to students with credit for ACC 524.

ACC631 Advanced Financial Accounting Topics

3.00 credits

Fall

Coverage of the Generally Accepted Accounting Principles governing business combinations, the preparation of consolidated financial statement including local and foreign subsidiaries, and other financial reporting topics.

ACC632 Intermediate Accounting I

2.00 credits

Summer

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

ACC633 Intermediate Accounting II

2.00 credits

Summer

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

ACC634 Cost Accounting

2.00 credits

Summer

Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. This course does not count towards the credits needed to graduate.

ACC635 Auditing

2.00 credits

Summer

Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This course does not count towards the credits needed to graduate.
ACC636 Accounting Systems
2.00 credits Summer
Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool. This course does not count towards the credits needed to graduate.

ACC639 Income Taxation and Business Entitles
2.00 credits Fall
This course is designed to be the second tax course students who are interested in the business applications of federal income tax laws, as they affect corporations, partnerships, and their owners. Emphasis is placed on tax planning aspects of formation, operation, liquidation, and distributions of corporations and partnerships. Not open to students with credit in ACC 404 or equivalent.

ACC640 CORPORATE TAXATION I
2.00 credits Fall
Course covers treatment of the corporate form of organization, its related opportunities, and problem areas, including formation, tax formula, non-liquidating and liquidating distributions, capital structure, redemptions, alternative minimum tax, corporation election, and operation.

ACC641 CORPORATE TAXATION II
2.00 credits Fall
An in-depth study of taxable and nontaxable corporate reorganizations. An introduction to affiliated corporations, requirements for consolidated returns, and their associated problems and opportunities are discussed.

ACC642 SEMINAR IN TAXATION
2.00 credits Spring
Investigation of current topical areas in taxation.

ACC643 Tax Research
2.00 credits Spring
Study of the tax practice environment including the Treasury Department, the Courts, and the legislative history of the Internal Revenue Code. Ethics in tax practice are also examined. Course includes training in the use of tax services such as RIA Checkpoint and LEXIS, in performing tax research. A research methodology for solving tax problem cases is studied and cases to be researched are assigned.

ACC645 PARTNERSHIP TAXATION
2.00 credits Fall
Taxation of partners and partnerships, formation, termination, distributions, liquidations, and sales of partnership interests are covered. Limited partnerships in conjunction with their use as tax shelters are discussed as well as family partnerships, limited liability companies, and LLPs.

ACC647 Estates and Gift Taxes
3.00 credits Summer
Estate and gift planning for shifting wealth from one individual to another by death, gift, or by the use of trusts. Property included in the decedent's gross estate valuation methods, gifts in contemplation of death, jointly held property, life insurance, transfers with retained life estates, bequests, revocable transfers, the marital deduction, powers of appointment, gifts of present and future interest, and gifts to minors are covered.
2.00 credits     Fall
This course is designed to provide the foundation necessary to understand the financial accounting and reporting of book-tax differences. The course will cover the preparation of the income tax provision and related financial statement disclosures in conformity with U.S. GAAP (FASB ASC 740).

ACC649 ISSUES IN TAX POLICY
2.00 credits     Summer
This course looks at the process through which our tax laws are created and the important policy issues inherent in individual and corporate income taxes, consumption taxes, and wealth transfer taxes. Topics in this course are not limited to U.S. taxation and include an examination of systems used in other countries (such as the VAT) as possible alternatives to our current tax.

ACC650 Accounting Internship
1.00 - 3.00 credits     Fall, Spring & Summer
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences required.

ACC660 Managerial Accounting in Healthcare Organizational
3.00 credits     Offered By Announcement Only
This course covers Managerial Accounting concepts applied to healthcare organizations. Topics include cost allocation and management control systems.

ACC662 Taxation of Multinational Corporations
2.00 credits     Fall
This course introduces the fundamental tax concepts underlying U.S. taxation of international transactions. Topics include the taxation of U.S. corporations with income from foreign sources, intercompany pricing, anti-tax avoidance provisions, and tax treaties.

ACC670 Financial Reporting and Analysis
2.00 credits     Fall, Spring & Summer
The course focuses on the analysis and use of financial accounting information in the evaluation of corporate performance. The course initially demonstrates the accounting process and resulting generation of financial statements. Building on these core accounting concepts, the course emphasizes the understanding of financial statements prepared under U.S. and International Accounting Standards and the analysis of these financial statements including common size analysis, ratio analysis, the impact of taxes, and credit analysis. Completion of the course enhances the student's ability to read, interpret, and analyze financial statements for making investment, credit, acquisition, and other evaluation decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida.
ACC671 Accounting for Decision Making
2.00 credits  Fall, Spring
The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, break-even analysis and pricing, including the impact of taxes. Completion of the course will enhance the student's ability to understand managerial accounting reports and use this information in making business decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida.

ACC672 Advanced Financial Analysis
2.00 credits  Fall
Advanced Financial Analysis and Valuation builds on the analytical techniques developed in the basic financial statement analysis course, Accounting 670: Financial Reporting and Analysis, to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

ACC673 Taxation for Business and Investment Decisions
2.00 credits  Spring
This course is designed to be the first tax course for students who are interested in acquiring the basic knowledge that all executives and investors should have about our federal income tax system. The primary focus of this course is on business entities (including C corporations, S corporations, partnerships and sole proprietorships) with individuals covered in their role as employees and investors. A sample of topics includes choice of business organizational form, deductible business expenses, employee fringe benefits and retirement planning capital gains and losses, and tax-deferred exchanges. Completion of this course will enhance the students' appreciation of the role of taxation in making investment, employment-related, and business decisions. Not open to students with credit in ACC 403 or equivalent. PREREQUISITE: ACC 670 or Equivalent.

ACC675 Compensation, Incentives and Strategic Control
2.00 credits  Fall
Internal control is the process by which owners influence manager's of organization to implement the organization's strategies. They key idea is that different organizations typically have different strategies which in turn require different control systems for effective implementation. Internal control involves both formal systems and informal processes. Accounting 675 will begin by describing the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation. We will then explore the economic and financial reporting consequences (perhaps unintended) of various performance measurement mechanisms. In particular, we will focus on issues of short-termism, earnings, management, and attendant control failures that plague Corporate America today. Finally, we will discuss some of the regulatory changes brought about in recent times (e.g., Sarbanes Oxley) to address the apparent widespread control system failures.
ACC677 Forensic Accounting
2.00 credits  Fall, Spring
This course provides an overview of fraud perpetrated against an organization, including employee theft, vendor fraud, customer fraud, and management fraud. You will learn how to investigate and quantify fraud, and how it can be detected and prevented as well as the accountants' role in litigation, such as acting as expert witness.

ACC698 Selected Topics
3.00 credits  Offered By Announcement Only
Topics in selected areas of specialization.

ACC699 Directed Readings
1.00 - 3.00 credits  Fall, Spring & Summer
Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration.

ACC701 Empirical Accounting Research
0.00 - 3.00 credits  Fall
This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

ACC702 Empirical Accounting Research II
0.00 - 3.00 credits  Spring
This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, and empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies. PREREQUISITE: ACC 701 TOPICS IN EMPIRICAL ACCOUNTING RESEARCH I, OR PERMISSION FROM THE INSTRUCTOR.

ACC723 Topics in Empirical Accounting Research I
3.00 credits  Fall
This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

ACC724 Topics in Empirical Accounting Research II
3.00 credits  Spring
This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, an empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies.
ACC730 DOCTORAL DISSERTATION  
1.00 - 12.00 credits  
Fall, Spring & Summer

Required of all candidates for the PhD. The student will enroll for credit as determined by their advisor, but not for less than a total of 24. Not more than 12 hours of ACC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed their qualifying examinations they may take the maximum allowable credit stated above.

Business

BUS600 Fundamentals of Critical Thinking and Effective Writing  
1.00 credit  
Fall

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical issues, developing reasoned positions, and making compelling written arguments.

BUS601 MBA MATH MODULE  
0.00 - 3.00 credits  
Fall, Spring & Summer

BUS602 Critical Thinking and Effective Writing  
1.00 credit  
Fall

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical questions, developing reasoned positions, and making compelling written arguments.

BUS603 Critical Thinking and Effective Speaking  
1.00 credit  
Fall, Spring

Builds on critical thinking and writing skills acquired in BUS 602. Topics include oral persuasion, prepared and impromptu speeches and dealing with the media, defending one's view before adversarial audiences, display of data, and effective use of visual aids.

BUS604 MBA Career Development and Enrichment  
0.00 - 1.00 credit  
Fall, Spring

This course will expose students to a variety of academic and industry career lectures, events, and workshops to enhance their MBA experience. The focus is to establish added-value to an MBA student through real world and relevant access to information and resources beyond the traditional curriculum.

BUS605 Residential Session Abroad  
1.00 - 6.00 credits  
Fall

One two-week session of the Global Executive MBA program is held abroad. During this corporate and international experience students attend lectures and institutional visits. This experience exposes students to other cultures and different perspectives on business issues, and widens international networking opportunities.

BUS620 Exchange Program- IE Business School-Madrid Spain  
1.00 - 16.00 credits  
Fall

Course enrollment will vary based on student selection.
BUS622 Global Business Project (GBP) - CIBER  
1.00 - 6.00 credits  
Fall, Spring  
The Global Business Project (GBP) is a collaborative course offered by participating CIBER schools to their MBAs and other interested graduate students. Students in related disciplines work in teams both virtually and in person on real business issues with multinational and local businesses and not-for-profits. Project supervision and final grade provided by Country Lead Professor CIBER.

BUS624 Asian/Pacific Business Environment- International Trip  
1.00 - 4.00 credits  
Fall, Spring  
Course content, dates and location will vary from semester to semester at selected universities.

BUS627 Exchange Program - IESE Business School - Barcelona Spain  
1.00 - 16.00 credits  
Fall  
Course enrollment will vary based on student selection.

BUS628 MULTIDISCIPLINARY ACTION PROJECTS  
2.00 - 4.00 credits  
Fall, Spring & Summer  
The Multidisciplinary Action Projects core course (MAP) places students with organizations throughout the world to address pressing organizational challenges. Students work in teams with guidance from faculty advisors to develop actionable and valuable recommendations for sponsors. For students, MAP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. MAP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges. For sponsoring organizations, MAP offers access to a high-caliber team of 4-6 students, the latest business concepts and tools, an external viewpoint, and rapid turnaround. The ultimate deliverable to the sponsor from a MAP project is a set of actionable, data-driven recommendations. MAP projects are based on sponsor needs and address a wide range of business issues – from identifying new processes and improving existing operations to launching new products and targeting new growth opportunities. Sponsors come from many different industries – from alternative energy to business process outsourcing to consumer products to financial services to healthcare to real estate to telecom. Sponsoring organizations may be large corporations, small entrepreneurial start-ups, or non-profit organizations. While each MAP project is different in context, all have essential features in common. All confront students with a real business challenge of significant importance and no exi

BUS630 FUNDAMENTALS OF ECONOMICS, ACCOUNTING AND FINANCE  
4.00 credits  
Offered By Announcement Only

BUS631 BUSINESS ANALYTICS AND OPERATIONAL EXCELLENCE  
4.00 credits  
Offered By Announcement Only

BUS632 INTRODUCTION TO STRATEGY, MARKET AND MANAGEMENT  
4.00 credits  
Offered By Announcement Only

BUS633 BUSINESS PLAN FUNDAMENTALS AND COMMUNICATIONS  
4.00 credits  
Offered By Announcement Only

BUS634 RESEARCH PROJECT  
1.00 - 6.00 credits  
Fall, Spring & Summer
BUS635 RESEARCH PROJECT
1.00 - 6.00 credits
Fall, Spring & Summer

BUS655 Public Policy and Health
3.00 credits
Summer

BUS698 Selected Topics
1.00 - 6.00 credits
Fall, Spring
Topics in selected areas of business.

Business Law

BSL555 Business Law Honors Research Project.
0.00 - 3.00 credits
Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Business Law.

BSL575 Advanced Business Law
3.00 credits
Spring
Legal problems encountered by Certified Public Accountants, Finance, Management and Marketing Executives, including agency, commercial paper, bank deposits and collections, secured transactions, suretyship, bankruptcy, partnership, corporations, contracts, anti-trust, insurance, property, wills and estates, SEC law, and accountants' legal responsibility. Special attention is given to the commercial law segment of the Uniform Public Accountant Examination.

BSL612 Legal Aspects of International Business
3.00 credits
Spring
International legal framework, transactional legal issues in finance, marketing, management, distribution, and a review of theory and practice of negotiations. Case studies on such topics as legal implications of GATT, European Competition, C.I.S.G., and Export Import Rules are also included.

BSL685 Legal Aspects of Health Administration
3.00 credits
Fall
Derivation of rule of law governing health providers, vicarious liability of administrative and medical personnel, informed consent, and other related problems are discussed.

BSL690 Legal and Ethical Implications of Business Decision Making
2.00 credits
Fall, Spring
The course provides an introduction to our legal and governmental regulatory system, as well as a review of constitutional considerations for businesses. Morality and ethics are defined and distinguished. Applied philosophy is then introduced, to give the student a foundation upon which to analyze the ethical dimensions of common business questions. The relationship between the letter and the spirit of the law is examined. Specific business topics and their legal and ethical aspects are then addressed. This includes, but is not limited to, discussion of the following areas: consumer relationships; business organizations; the balancing of corporate vs. individual power (employee rights and responsibilities, employment discrimination); and the emerging ethic of a global economy.
BSL691 The Public Corporation: Legal Perspectives
2.00 credits
Fall
The Public Corporation: Legal Perspectives reviews the laws governing the formation, operation, regulation, and governance of the public corporation with the objective of providing the graduate business student a sophisticated examination of the legal and social aspects of managing the money of others. Further, the course examines the rules and regulations governing the raising of capital from the public through the sale of securities for the development of and investment in a private enterprise.

BSL692 Legal Implications of International Business Transactions
2.00 credits
Fall
International legal framework, transactional legal issues in finance, marketing, management, and distribution. Case studies in substantive international legal topics such as international sales contracts, international documentary sale, international terms of trade, legal implications and substantive rules governing international finance, collections, payments, and letter of credit, the resolution of international disputes with a particular emphasis and examination upon the management of litigation, enforcement of foreign judgments, and alternative dispute resolution are also included.

BSL694 Real Estate Law
2.00 credits
Fall
Real Estate Law focuses on the U.S. legal system as it relates to the buying, selling, and financing of real property. In addition to traditional text material, the analysis of U.S. court cases is used to detail the legal factors of ownership rights and liabilities, specific interests in real property, contracting issues related to the purchase and sale of real property, as well as financing and closing the real estate transaction. The course provides a problem-solving experience, which is intended to develop graduate students’ critical thinking process as well as their skills in oral and written communication.

BSL695 Legal Implications in Executive Decision Making
3.00 credits
Offered By Announcement Only
Law and legal process are examined as they mix with the politics and ethics of business, including the weight given to legal implications in the executive decision-making process.

BSL696 Legal and Ethical Implications in Executive Decision Making
3.00 credits
Offered By Announcement Only
Business and public administration cases requiring identification of the legal, ethical, and social elements as well as the determination of the weight such elements should have in setting policy are discussed. Integration of law and ethics with public and business administration is also included.

BSL698 Selected Topics
1.00 - 3.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.

Computer Information System
CIS550 Computer Information Systems Internship
1.00 - 3.00 credits
Fall, Spring & Summer
Student is individually assigned to operating business firm or other organization to gain insight in information technology practice in the area of career interest. Periodic reports and conferences are required.
CIS610 Foundations of Management Information Systems  
2.00 credits  
Spring
Course is designed to provide the foundations in management information systems. Information systems required to understand and effectively use an enterprise wide information system. Topics include the role of the CIO, managing Information Technology (IT) as a strategic resource, business process reengineering, IT planning, IT governance and communication, the Internet, and eBusiness.

CIS612 Enterprise Technologies  
2.00 credits  
Offered By Announcement Only
Course addresses the needs of business students who wish to expand their understanding of information technology fundamentals. Focusing upon their use in today's enterprises, the course aims to provide students with knowledge of a variety of technological concepts commonly used in the IT Organization's systems development initiatives and enables students to understand the implications of deploying such technologies within the enterprise.

CIS613 Business Intelligence Technologies  
2.00 credits  
Offered By Announcement Only
Course facilitates business decision makers in their understanding of data analysis tools that operate over data warehouses and 'data marts' more commonly referred to as Business Intelligence. Course focuses upon using technologies to drive effective data driven decision making through effective mining of corporate data warehouses, thus improving operational efficiency and ultimately increasing profitability. Students are exposed to the concepts, analysis techniques, data cubes, and manipulation of information extracted from a data warehouse that enables the formulation and execution of business strategies. Data analysis case studies are used to reinforce students' understanding and strategic use of results to accomplish business objectives.

CIS617 Information Technology Project Management  
2.00 credits  
Fall
Course covers the identification and development of information technology plans for projects supporting the organization's business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project's lifecycle. Course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on a wide variety of IT enterprise projects.

CIS621 Management Information Systems  
3.00 credits  
Offered By Announcement Only
Course is designed to give prospective managers a foundation in MIS sufficient to understand and effectively use information systems. Topics include types of information systems, role of MIS in organizations, CIO issues, ERP systems, and electronic commerce.

CIS630 Fundamentals of Local and Wide Area Networks  
3.00 credits  
Offered By Announcement Only
Course provides the graduate student the necessary knowledge to understand the design, integration, technologies, and services of local and wide area networks (LANs and WANs) in the business environment. Topics include signal transmission and propagation, standards and protocols, data communications media and devices, layered/encapsulated communications based on the hybrid TCP/IP-OSI standards, small and large-site PC LANs, Frame Relay, ATM, Virtual Private Networking (VPN), Telephony, Internet technologies, and network security.
CIS631 Computer and Network Security
3.00 credits
Offered By Announcement Only
Protection of computers and networks against unauthorized access, access control, encryption, firewalls, proxy, digital certificates, and software security are discussed.

CIS640 Data Communications and Networking
3.00 credits
Offered By Announcement Only
Course addresses advanced topics in computer networks from the perspective of a business decision-maker. The course begins with a focus on signal propagation, media characteristics, and digital and analog encoding techniques. It continues with a study of datalink, network, and transport layer functions as defined by the OSI and TCP/IP models. The architecture of the Internet is explored and routing algorithms for wired, wireless, and peer-to-peer networks are introduced. Course concludes with a high-level overview of the top OSI layers. After taking the class the students should be able to critically evaluate network solutions based on the capabilities and limitations of the equipment.

CIS646 IT Planning and Project Management
3.00 credits
Offered By Announcement Only
Course covers the development of information technology strategic and tactical plans for projects supporting the organization's business objectives and project management as applied to planning, implementing, controlling networking, information systems and e-commerce projects. Course is intended to provide a body of knowledge necessary for a new Consultant or Project Manager to successfully initiate, plan, manage, control, and report on a variety of project types. People skills required in the areas of team selection, structure, conflict resolution, and leadership is also covered.

CIS660 Computer Information Systems Graduate Internship
1.00 - 3.00 credits
Offered By Announcement Only
Student is individually assigned to an operating business firm or other organization to gain insight and experience in information technology practice in area of career interest. Periodic reports and conferences are required. This course can only be taken as satisfactory/unsatisfactory.

CIS680 Topics in Computer Information Systems
3.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.

CIS682 Topics in Computer Information Systems
3.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.

CIS684 Topics in Computer Information Systems
3.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.

CIS685 Topics in Computer Information Systems
3.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.

CIS686 Topics in Computer Information Systems
3.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.
CIS687 Topics in Computer Information Systems
3.00 credits
Topics in selected areas of specialization.
Offered By Announcement Only

CIS688 Topics in Computer Information Systems
3.00 credits
Topics in selected areas of specialization.
Offered By Announcement Only

CIS689 Topics in Computer Information Systems
1.00 - 3.00 credits
Topics in selected areas of specialization.
Offered By Announcement Only

CIS690 Directed Study in Computer Information Systems
1.00 - 3.00 credits
Investigation and research in special areas of interest. Offered by special arrangement.
Offered By Announcement Only

CIS691 Directed Study in Computer Information Systems
1.00 - 3.00 credits
Investigation and research in special areas of interest. Offered by special arrangement.
Offered By Announcement Only

CIS699 Directed Study
1.00 - 3.00 credits
Offered by special arrangement.
Offered By Announcement Only

Economics
ECO510 Mathematical Economics
3.00 credits
Fall
Introduction to mathematical techniques commonly employed in economic analysis. Topics include simultaneous linear equation systems, linear algebra, expansions of polynomials, logarithmic and exponential equations, differential calculus, and optimization theory. A substantial part of the course focuses on the comparative static analysis of both macroeconomic and microeconomic problems.

ECO511 Labor Economics (II)
3.00 credits
Spring
A theoretical and empirical analysis of how labor markets operate. A survey of the literature, problems, and methodology of modern labor economics. Human capital analysis, the wage structure, job search and job-matching models, time-allocation models, the economic impact of labor unions, labor market discrimination, the determinants of labor demand and supply, and the factors affecting government policy relating to the labor sector is also included.

ECO512 Mathematical Economics (II)
3.00 credits
Spring
Economics 512 will be sequential to the introductory Mathematical Economics I (ECO 510). Topics include integral calculus, differential equations, difference equations, Kuhn-Tucker conditions, solutions to general equilibrium systems, optimization under uncertainty, and an introduction to dynamic optimization. Applications of mathematical techniques to economic analysis will be stressed.

ECO520 Econometrics
3.00 credits
Fall
Statistical methods of estimating and testing mathematical model of economic relationships.
ECO521 Graduate Macroeconomic Theory
3.00 credits
Fall
The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

ECO532 History of Economic Thought
3.00 credits
Offered By Announcement Only
Historical development of economic doctrines and theory. Topics and individuals discussed include mercantilism, physiocracy, Adam Smith, Thomas Malthus, David Ricardo, J. S. Mill, Karl Marx, marginal analysis, Alfred Marshall, and J. M. Keynes. Special emphasis is placed on the effect of historical insights upon the contemporary core of economic theory.

ECO533 Advanced Microeconomic Theory
3.00 credits
Fall
An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

ECO555 Economics Honors Research Project
0.00 - 3.00 credits
Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Economics.

ECO603 Monetary Theory and Policy
3.00 credits
Fall
Current monetary theory and its use and application in fiscal and monetary policymaking. Topics include the rational expectations hypothesis, time inconsistency, and the role of the government budget constraint.

ECO604 Topics in Applied Macroeconomics
3.00 credits
Offered By Announcement Only
Course acquaints students with current, substantive issues in macroeconomics. Topics include consumption determination, savings behavior, bequest behavior, fiscal policy effects on interest rates, consumption, real exchange rates, trade balances, and inflation.

ECO611 Labor Economics (III)
3.00 credits
Offered By Announcement Only
The formulation and testing of models of labor markets. The application of the tools of microeconomics and econometrics to the analysis of labor markets. Leading contributions in the areas of dynamic analysis of labor markets, human capital investment, the determinants of the wage structure, time allocation and search models, dual and internal labor market models, and analysis of government policy are discussed.

ECO620 Advanced Econometrics
3.00 credits
Spring
Advanced econometric methods including advanced techniques in multiple regression, Bayesian methods, maximum likelihood estimators, distributed lag models, spectral analysis, and Monte Carlo studies are discussed.
ECO621 Advanced Macro Analysis
3.00 credits  
Theory of the determination of national income, employment, and price levels. Course emphasizes mathematical solutions of Classical, Keynesian, and other economic models.

ECO625 Applied Econometrics
3.00 credits  
Practical applications of econometrics are surveyed. Computer packages are used to examine economic data. Topics include the series analysis, limited dependent variable modes, pooling cross section and time series data, model selection, and rational expectations models.

ECO633 Advanced Micro Analysis
3.00 credits  
Theory of the behavior of firms and households and the determination of prices and resource allocation in a decentralized economy.

ECO634 Advanced Micro Analysis II
3.00 credits  
Continuation of ECO 633. Advanced analysis of theory of the household and firm emphasizing recent approaches. Analysis of decisions over time, duality relationships, advanced demand theory, risk and uncertainty, behavioral theories of the firm, and technological change are covered.

ECO675 LATIN AMERICA AND THE GLOBAL ECONOMY
3.00 credits  Offered By Announcement Only
Analysis of the economic, political, and social forces at work in the changing economies in Latin America.

ECO680 Essentials of Economics
2.00 credits  
Course provides an introduction to the core concepts of economics. Topics include allocation of scarce resources by the laws of supply and demand, use of the market place as the principle organizing and distribution tool of the economy, externalities, and market failure. Pollution of the environment is treated as a needed correction to be done by public regulation through taxation and legislation. The principal forms of firm organization and dissolution are also discussed. Applications of the laws of supply and demand are made to forecasting demand and analyzing cost structure. The entry and exit of firms and the valuation of the firm is also covered.

ECO685 Managerial Decisions in a Global Economy
2.00 credits  
Modern techniques of economic analysis and decision science are applied management of the firm in a global environment. Business planning and the determinants of supply and demand are an integral part of the course. The principal forms of business organization and dissolution are reviewed. The issues confronted by the firm: Principal-agent problem (or how to motivate managers to act in the best interest of the owners, the shareholders), moral hazard, discounting of free cash flow and terminal value, economies of scale and scope, and strategic management decision making are covered.
ECO690 Essentials of Economic Theory
3.00 credits
Fall, Spring & Summer
An economic study of the environment in which the decision making process takes place in management and the functional areas. Structured especially for students without an undergraduate background in economics. Credit not applicable toward 36-credit professional MBA component.

ECO691 Managerial Economics
3.00 credits
Fall, Spring & Summer
Application of economic analysis to the formulation and solving of management problems and the determination of business policy.

ECO695 Global Economics
2.00 credits
Spring & Summer
This is a course in global economics with focus on economic policies and country risk. We study the aggregate behavior of macroeconomics variables that are relevant for business decisions. We take into account the interaction of the national economy with the rest of the world. In other words, we do global economics and study the roles of monetary and fiscal policies in an open economy, foreign direct investment, and the exchange rate.

ECO698 Selected Topics
3.00 credits
Fall, Spring & Summer
Topics in selected areas of specialization.

ECO730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of ECO 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

ECO760 The Theory of International Trade
3.00 credits
Fall

Executive and Special

ESP500 Review Module
0.00 credit
Fall
A non-credit review session to provide students with the skills necessary to prepare for the successful completion of the common body of knowledge courses.

ESP560 Fundamentals of Marketing
3.00 credits
Fall
Marketing problems experienced by top executives are examined. Fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Finance Bus Admin

FIN546 Introduction to ARGUS for Real Estate Analysis
1.00 credit
Fall
Introduction to real estate ownership analysis using proprietary ARGUS assumptions for different property types, purchase and resale assumptions and preparing reports for buyers and investors.
FIN555 Finance Honors Research Project

0.00 - 3.00 credits  Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Finance.

FIN590 Internship

1.00 credit  Offered By Announcement Only
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Approval of department is required at time of at time of registration. Note: FIN 590 is an elective and is not for credit toward the major.

FIN599 Directed Study

3.00 credits  Offered By Announcement Only
Individually supervised research projects in selected finance topics. Approval of the Chairperson and advisor is required prior to registration.

FIN602 Fundamentals of Finance

3.00 credits  Fall, Spring & Summer
This is a core MBA course, devoted primarily to the area of finance. No prior background in finances is assumed. The course objective is to provide students with a conceptual framework for appreciating and understanding the problems facing the financial manager.

FIN603 Advanced Corporate Finance

3.00 credits  Fall, Spring & Summer
Applications in corporate finance. This class builds on the core MBA courses in our executive MBA program, especially Fundamentals of Finance (Finance 602). Topics include working capital management, financial planning, basic option valuation, agency theory, capital structure management, mergers and acquisitions, liabilities management and leasing. Note: required for Finance concentration.

FIN620 Investment Analysis

3.00 credits  Fall
This course deals with theory and application of investment analysis. Topics include general stock trading, portfolio and risk-return theory, models of stock valuation, portfolio diversification, market efficiency, options and futures, bond valuation and bond portfolio strategy, general commodity investing, and personal financial planning.

FIN621 Portfolio Construction and Management

3.00 credits  Offered By Announcement Only
The evolution of portfolio theory and practice and its role in modern investment management. Individual constraint models within the general capital market theory are included as well as empirical evidence, theoretical discussion, and practical exercises.

FIN622 Financial Options and Futures

3.00 credits  Offered By Announcement Only
Study of the theoretical development of models for pricing contingent claims in the field of finance. Application of theoretical results to the hedging of current and future assets and liabilities and to speculative strategies for the risk-averse, profit-maximizing entity are included.
FIN630 International Finance
3.00 credits
Offered By Announcement Only
The financing of international trade and capital placements. Restrictions on capital retrieval and problems of international liquidity related to the U.S. and non-U.S. firms is discussed as well as current developments in international banking, theory, and policy. Cases involving foreign capital commitments and transactions, especially Latin America are also included.

FIN631 International Financial Management
3.00 credits
Offered By Announcement Only
Sources and uses of long and short term capital for international business applications and foreign currency markets. Financial decisions associated with international cash and capital budgeting, capital repatriation and taxation strategies, capital exposure and coverage, and multinational firm financial strategies are discussed. Lectures and cases are included.

FIN641 Valuation and Financial Decision Making
2.00 credits
Fall, Spring
Basic financial valuation. This is one of the core classes in finance for our regular MBA program. Topics include the financial environment; the time value of money; capital market efficiency; basic security valuation; risk, return and asset pricing; cost of capital; and an introduction to capital budgeting.

FIN642 The Financial Environment
2.00 credits
Fall, Spring
A continuation of FIN 641. Topics include an introduction to the global securities markets and foreign exchange, basic derivatives, real options, the security trading process, fixed income securities markets, the term structure, investment banking, and short-term financial management and planning.

FIN644 Real Estate Investment and Appraisal
3.00 credits
Fall
This course will introduce you to the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market.

FIN645 Real Estate Finance
3.00 credits
Spring
This course will introduce you to the theoretical concepts and analytical techniques used to make a decision to loan money for the purchase or development of a commercial real estate project.

FIN650 Financial Investment
2.00 credits
Fall, Spring
This course builds on FIN 641 and FIN 642 to provide a more advanced knowledge of the field of investments, particularly the fixed income markets, portfolio construction, asset pricing, and behavioral biases affecting financial decision s.

FIN651 Advanced Topics in Investments
2.00 credits
Fall, Spring
This course is about applying finance theory to the practice of investments. Topics include building a term structure model, building a fixed income portfolio, performance standards and measurement, and the role of futures and options in portfolios.
FIN655 SMIF FUND ANALYST I  
1.00 credit  
Fall, Spring

FIN656 SMIF FUND ANALYST II  
1.00 credit  
Fall, Spring

FIN657 SMIF FUND PORTFOLIO MANAGER I  
1.00 credit  
Fall, Spring

FIN658 SMIF FUND MANAGER II  
1.00 credit  
Fall, Spring

FIN660 International Finance  
2.00 credits  
Fall, Spring
Finance 660 builds on Finance 641 and 642, and introduces students to the concepts that are important in today's dramatically changing global economy. The course covers the international monetary system; the interrelationship between national economies through the balance of payments; the economic relationships that determine a currency's value relative to other currencies and real goods; the markets and instruments of international finance; currency crises and contagion; the hedging of international risk exposure; and international portfolio investment.

FIN661 Advanced Topics in International Finance  
2.00 credits  
Fall, Spring
Finance 661 builds directly on Finance 660 and on the MBA core classes, Finance 641 and 642, using a variety of techniques, including group projects and class discussion. A number of special topics are covered including measuring and managing the many additional risk exposures faced by a multi-national enterprise, investment decisions in a global framework, and financing the multi-national firm.

FIN670 Corporate Finance  
2.00 credits  
Fall, Spring
Finance 670 builds on Finance 641 and 642 and focuses on financial decision making from a corporation's perspective. Issues addressed include capital structure, management of corporate liabilities, leasing and other asset-based financing techniques, advanced treatment of capital budgeting and some of the complex issues involved, and corporate mergers and acquisitions.

FIN671 Advanced Topics in Corporate Finance  
2.00 credits  
Fall, Spring
This course builds directly on Finance 670 and on the MBA core classes, Finance 641 and Finance 642, and relies mainly on the analysis and vigorous class discussion of a variety of real-world cases. The cases cover a broad range of topics, including short-and long-term financing, capital budgeting decisions, corporate valuation, hedging with options and futures, dividend policy and share repurchases, corporate financial strategy, and other current issues in corporate finance.

FIN674 Financial analysis of mergers and acquisitions  
2.00 credits  
Spring
This course is designed to develop an understanding of (1) the economic and financial issues involved in the acquisition of a company; (2) the analytical valuation tools used to evaluate an acquisition; and (3) potential and empirical stock market reaction to an acquisition. Students are then asked to apply their understanding of the issues to analyze cases involving various aspects of acquisition.
FIN681 Financial Institutions
2.00 credits Fall, Spring
Finance 681 builds on Finance 641 and 642 and focuses on the management of financial institutions, such as banks. Topics include risk management, deposits and deposit insurance, liquidity, reserve requirements, capital adequacy, liability management, investment interest rate risk, and current issues connected with financial institutions.

FIN683 Financial Modeling
2.00 credits Fall
This course takes a variety of finance topics and implements them using practical spreadsheet models. Students will use the intent and financial databases to obtain input data for their models. Students will learn Visual Basic for Applications (VBA) to design functions and macros that will enhance their models. In addition to class time, this course will meet in a computer lab (a classroom) for hands-on instruction. Students are presumed to have a working knowledge of Windows and Excel.

FIN685 Mathematics of Financial Derivatives
2.00 credits Fall, Spring
Finance 685 builds on Finance 650, 660, and 670. This course provides an in-depth mathematical treatment of derivatives and is divided into three parts: (1) options; (2) futures and forwards; and (3) other derivative instruments, which include options on futures, foreign currency derivatives, swaps, exotic options, and financial engineering. The emphasis is placed on equity instruments, although there is also some coverage of short-and long-term interest bearing instruments.

FIN698 Selected Topics in Finance
1.00 - 3.00 credits Fall
Topics in selected areas of specialization.

FIN699 Directed Readings and Study
1.00 - 3.00 credits Offered By Announcement Only
Individually supervised research or reading projects in selected fields. Evaluation of project and subject by the supervising professor is required at the time of registration.

FIN730 PRE-DISSERTATION RESEARCH
1.00 - 6.00 credits Offered By Announcement Only

Management Science
MAS547 Computer Simulation Systems
3.00 credits Fall
Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and output analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

MAS548 Data Mining and Knowledge Acquisition
3.00 credits Spring
This course provides an introduction to the principles and techniques of data mining. Topics covered include the data mining process, data preprocessing, data mining techniques and data mining evaluation. The course will involve a combination of lectures, labs, projects and case studies.
MAS550 Management Science Internship
1.00 - 3.00 credits  
Fall, Spring & Summer 
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

MAS555 Management Science Honors Research Project.
0.00 - 3.00 credits  
Offered By Announcement Only 
Research project to fulfill requirements for Departmental Honors in Management Science.

MAS595 Topics in Management Science
1.00 - 3.00 credits  
Fall, Spring & Summer 
Topics in selected areas of specialization.

MAS596 Topics in Management Science
1.00 - 3.00 credits  
Fall, Spring & Summer 
Topics in selected areas of specialization.

MAS610 Statistical Analysis for Managerial Decision Making
3.00 credits  
Fall, Spring & Summer 
Data analysis, probability concepts, distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation analysis. Required of all MBA students unless satisfied by a waiver examination or equivalent undergraduate course or courses.

MAS611 Principles of Quality Management
3.00 credits  
Fall 
The definition of quality management, its history, and comparison of various schools of thought. An introduction to the theories of systems, variation, knowledge, and psychology as they relate to quality management. Deming's fourteen points for management are studied through examples and cases.

MAS612 Advanced Quantitative Analysis
3.00 credits  
Fall, Spring & Summer 
The application of probability theory to the formulation and analysis of mathematical models for decision making. Applications are taken from inventory control, forecasting, waiting lines, quality control, production, and operations management.

MAS630 Quality Management in Practice
3.00 credits  
Fall 
This course presents administrative systems necessary for an organization or an individual to pursue quality management. The course presents a functional model for quality management.

MAS631 Statistics for Managerial Decision Making
2.00 credits  
Fall 
This course aims to familiarize the student with statistical theory, tools, and methods required for business systems analysis and improvement. Topics include descriptive methods, elementary probability, random variables and the distributions, hypothesis testing, confidence intervals, statistical modeling, and regression.
MAS632 Management Science Models for Decision Making  
2.00 credits  
*Spring*  
This course aims to familiarize the student with Management Science tools for business systems analysis and improvement. The coverage includes linear and integer programming models, project management, simulation, queuing, and decision analysis. Some widely used software are illustrated through examples and case studies derived from business applications.

MAS633 Introduction to Quality Management  
2.00 credits  
*Fall*  
Introduction to the major elements of Dr. Deming's theory of management, including Dr. Deming's System of Profound Knowledge and Fourteen Points for Management. Additionally, participants are introduced to Six Sigma tools and methods. These tools and methods have been adopted with great success by many of the largest organizations in the world, for example, General Electric, Allied Signal, Dupont, American Express, and J.P. Morgan. Additionally, the course is a prerequisite for the Six Sigma Green Belt certification examination.

MAS634 Administrative Systems for Quality Management  
2.00 credits  
*Fall*  
This course presents a model to pursue quality management (QM). It features administrative systems and structures necessary for Quality Management. The administrative systems and structures presented in this course are required to sit for the Six Sigma Management Green Belt certification examination.

MAS635 Design of Experiments  
2.00 credits  
*Fall*  
This course presents tools and methodology useful in conducting experiments that provide valid answers to questions of interest to the experimenter. The course discusses an overall approach to obtaining and analyzing experimental data, the advantages of using structured multi factor experiments to screen for important factors, ways of minimizing the amount of data points needed to obtain desired information, and how to identify values of experimental factors that optimize the value of measured responses. Factorial designs, fractional factorial designs, screening designs, and response surface designs are presented. Emphasis is placed on the knowledge required for proper application of these methods through many examples in business and quality management.

MAS636 Statistical Process Control and Reliability  
2.00 credits  
*Fall*  
This course aims to introduce some fundamental concepts of statistical process control and reliability with an emphasis on business applications. The first part of the course focuses on control charts and other tools that are used to monitor and improve business processes. The second part of the course introduces some basic ideas of reliability models and presents methods used in identifying failure modes in products and in business systems.

MAS637 Applied Regression Analysis and Forecasting  
2.00 credits  
*Fall*  
This course aims to familiarize the student with statistical prediction. It covers simple and multiple regression methods as well as time series and forecasting models in business. Instead of theoretical development, the course emphasizes the application of these methods in business systems analysis and improvement.
MAS638 Management Science Consulting
2.00 credits Offered By Announcement Only
The purpose of this course is to enhance students' consulting skills in management science. In addition to skills of modeling and choosing appropriate tools for analysis, these include the communication skills of presenting quantitative and analytical material in business settings. The course is structured around a set of case studies that are based on real applications of management science models and methods discussed in MAS 631 and MAS 632.

MAS641 Operations Research Models in Management
3.00 credits Fall, Spring & Summer
The application of Operations Research techniques in Management. Topics include linear programming, PERT/CPM, queuing theory, forecasting, inventory models, statistical quality control, decision theory, and Simulation.

MAS663 Project Management and Modeling
2.00 credits Spring
This course considers the various methods, techniques, and software tools of project management and modeling with special emphasis on real estate projects and development. Topics include: project selection and strategy, risk assessment, conflict and negotiation, budgets, costs, and resource allocation, monitoring and information systems, project control and auditing, and project closure. The course is designed to show the integration of the various roles of owners, developers, builders, architects, and engineers in the project management process.

MAS693 Directed Study in Operations Research
1.00 - 3.00 credits Offered By Announcement Only
Investigation and research in special areas of interest. Offered by special arrangement.

MAS695 Directed Study in Operations Research
1.00 - 3.00 credits Offered By Announcement Only
Investigation and research in special areas of interest. Offered by special arrangement.

MAS696 Directed Study in Statistics
1.00 - 3.00 credits Offered By Announcement Only
Investigation and research in special areas of interest. Offered by special arrangement.

MAS699 Directed Study
1.00 - 3.00 credits Offered By Announcement Only
Offered by special arrangement.

MAS710 Master's Thesis
1.00 - 6.00 credits Offered By Announcement Only
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MAS720 Research in Residence
0.00 credit Offered By Announcement Only
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.
MAS725 Continuous Registration--Master's Study

0.00 credit  Offered By Announcement Only
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

MAS730 Doctoral Dissertation

1.00 - 12.00 credits  Offered By Announcement Only
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MAS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MAS750 Research in Residence

0.00 credit  Offered By Announcement Only
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Management

MGT540 Behavioral Aspects of Productivity

3.00 credits  Offered By Announcement Only
Productivity management impacts organizational strategy, efficiency, quality, and survival. Course examines these varied impacts and discusses the managerial issues related to productivity measurement, organizational values, incentives, gain sharing, motivation, organizational change, gain sharing, motivation, organizational change, and organizational politics. Course is taught from behavioral and systems theory viewpoints, focusing on how behavioral change impacts system productivity. Course is multidisciplinary and supplemented with examples of corporate applications.

MGT550 MGT Internship

1.00 credit  Fall, Spring & Summer
Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Cannot be used toward major requirements.

MGT598 Selected Topics

3.00 credits  Fall, Spring & Summer
Topics in selected areas of specialization.

MGT599 Directed Study

1.00 - 6.00 credits  Fall, Spring & Summer
Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration. Only open to undergraduate students.

MGT600 Managing Responsible Behavior in Organizations

3.00 credits  Fall, Spring & Summer
For Executive MBA students only. Course covers organizational behavior and utilizes cases and lectures to explore topics such as personality, motivation, leadership, group processes, organizational structure/design, and social responsibility.
MGT602 Human Resource Management  
3.00 credits  
Fall, Spring  
Modern personnel administration: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, job anti-discrimination legislation, and manpower planning is also discussed.

MGT603 Leading Teams  
3.00 credits  
Fall, Spring  
The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and/or exercise leadership in teams. Topics include team development, decision making, and diagnosing team process issues.

MGT620 Managing Through People  
2.00 credits  
Fall, Spring  
This core course in the MBA program introduces students to some of the key behavioral topics necessary to manage oneself and others in organizations. Specifically, the topics covered include individual attributes (personality, perception, motivation, relationship building), group processes (norms, roles, and team basics), leadership views, and organizational culture/change. An understanding of the relationship between each of these areas and organizational outcomes is enhanced through lecture, cases, and interactive exercises.

MGT621 High Performance Leadership  
2.00 credits  
Fall, Spring  
Leadership skills are critical for high performing organizations. Course utilizes lecture, cases, exercises, self-assessments, and contemporary reading materials to present leadership approaches that both motivate and enable employees to perform beyond normal or ordinary expectations. Topics include followership and organizational culture, power, influence, rewards and punishments, path-goal and exchange theories, participation and empowerment, charismatic and transformational leadership, and contingency and cognitive resources theory.

MGT622 High Performance Teams  
2.00 credits  
Fall, Spring  
This elective course highlights how to manage and construct effective teams to achieve strategic goals. Team-based organizations have been created to enhance organizational performance. The benefits of effective team leadership are performance beyond expectations and enhancement of learning for employees. Topics covered include team decision-making, team leadership, diversity in teams, conflict resolution, and team creativity.

MGT623 Human Resource Systems  
2.00 credits  
Fall, Spring  
Leaders must manage their human resource assets effectively to achieve high performance organizations. Course topics include recruitment and selection of high performance employees, designing performance appraisal systems, implementing policies to satisfy legal issues impacting human resources, and instituting training/development systems.
MGT625 Entrepreneurship: Creating New Ventures
2.00 credits
Fall, Spring
This is a two-credit course for MBA students (only). The course is designed to help students understand the basic essentials for creating a new venture. Among some of the topics covered will be: preparation of a business plan, securing sources of capital, choosing and creating appropriate distribution channels, and understanding the complexities of selecting a management team. Students will be required to critique and develop business plans as a key evaluation component for this course.

MGT628 Global Entrepreneurship
6.00 credits
Fall
This seminar-type course is an advanced elective specially designed for graduate students either interested in starting their own firms or developing the skills with which to submit business plans within the corporate world (i.e., corporate entrepreneurship) in today's global, interdependent economy. Students will learn to assess the new venture opportunities that he/she may have considered and choose the one that seems most attractive and viable and develop a unique business model which enhances the plan's viability in the short term, and ensure the development of sustainable advantages in the long term. Each student will draft a comprehensive business plan after working on its functional components (e.g., marketing, finance, human and intellectual capital plans) to be developed throughout nine classes and several individual meetings along the program's academic calendar. At the end, students will present their business plans to a panel of new venture investors who will assess all projects, give individual feedback, and choose the best project(s).

MGT643 Principles of Operations Management
2.00 credits
Fall, Spring
Introduction to operations management, forecasting, process analysis, aggregate planning, capacity management, waiting line management, system design, quality management, and inventory management.

MGT645 Principles of Supply Chain Management
2.00 credits
Fall, Spring
Course introduces students to the business discipline of Supply Chain Management (SCM) which centers on concepts and techniques that enables firms to better coordinate material and information flows, and non-material activities associated with logistical and marketing processes that occur within and across organizations. Course also discusses concepts and recent influential innovations in SCM (e.g., Cross-Docking, Vendor Managed Inventory (VMI), Third-Party Logistics (3PL), Efficient Consumer Response (ECR), and Quick Response (QR)).

MGT651 Behavioral and Organizational Systems
3.00 credits
Fall, Spring
Exploration of relevant concepts, research findings, and pragmatic implications of the behavioral sciences for the management of complex socio-technical systems.

MGT653 Operations Management
3.00 credits
Fall, Spring
Introduction to major managerial problems and decision processes of operations management. Topics include the design of operations, planning, scheduling, quality control, systems analysis and evaluation, resource allocation, materials requirement planning, and integration of operations management with the other functional areas.

MGT654 SEL TOP IN OPER MGT
3.00 credits
Fall, Spring
MGT655 Research Methods

3.00 credits

Offered By Announcement Only

Course addresses the fundamentals of research in business including exploratory designs, correlational and multivariate designs, experimental and non-experimental studies, measurement theory, internal and external validity considerations, and ethical requirements in conducting organizational research.

MGT656 Seminar: Organizational Behavior

3.00 credits

Offered By Announcement Only

Seminar addresses the current research and theoretical foundations in organizational behavior. Topics include individual attributes, job attitudes, leadership, motivation, and group processes.

MGT658 Strategic Management

3.00 credits

Fall, Spring

The formulation and implementation of strategy, from a domestic and international perspective, is explored through cases, readings, and decision simulation. An integration of all the core areas of business is emphasized. This core course is required of all MBA students.

MGT659 Management of Multinational Enterprise

3.00 credits

Fall, Spring

Analysis of the management tasks confronting managers operating in the international arena presented from both an environmental and an operational perspective. Alternatives for overall corporate policy and strategy that accommodate global operations is also included.

MGT660 Leadership and Motivation in Organizations

3.00 credits

Fall, Spring & Summer

Selected topics pertaining to leadership, motivation, and individual processes are surveyed through selected readings, class discussions, and a guided research project. Students' ability to conceptualize, integrate, and apply diverse approaches to the leadership and motivation of people in organizations is emphasized.

MGT661 Influence, Power and Politics in Organizations

3.00 credits

Offered By Announcement Only

One of the basic realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational politics aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduate business students for the challenges and realities they will ultimately face as managers. Given that most business students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and exercise power within ethical bounds.
MGT675 Business Policy and Strategy  
2.00 credits  
Fall, Spring  
The objectives of the course are to improve the student's ability to think strategically and to provide an intellectual framework that enhances understanding of the MBA program. The course focuses on relationships among the firm, its strategy, and its environment; why firms choose certain businesses; which business strategies are successful; and how firms can change in response to a dynamic environment. Models for strategic formulation, implementation, and control are developed that facilitate an integrated understanding of the courses that comprise the MBA curriculum. Readings and lectures illustrate strategic management theories and frameworks while case discussions, experiential exercises, and team projects provide opportunities for application.

MGT677 Corporate Strategy and Organization  
2.00 credits  
Fall, Spring  
This capstone course focuses on the perspective and skills of the general manager. Its purpose is to provide practice in diagnosing and identifying realistic solutions to complex strategic and organizational problems. Course builds on previous coursework by providing an opportunity to integrate various functional areas by providing a total business perspective. Since the course focus is on pragmatic, action-oriented general management skills, the course is taught primarily through the case method and requires both written analyses and case presentations.

MGT679 Merger and Acquisition Strategies  
0.00 - 2.00 credits  
Fall & Summer  
This course examines the merger and acquisition growth of two sets of actors. First, it focuses on financial buyers (hedge funds, leveraged buy-out groups, private equity funds) that acquire with the intention of divesting the asset a profit in the near or medium term. Second, it focuses on strategic buyers (corporations or companies) that acquire with the intention of operating the acquired asset as a stand-alone business or by integrating it into an on-going operation or set of businesses. The course utilizes lectures, case discussions, presentations, and guest speakers to examine issues of strategy formulation and subsequent execution.

MGT680 DOING BUSINESS IN CHINA  
2.00 credits  
Fall, Spring  
This course explores various business and management issues faced by international executives who are interested or active in various industries and markets in China, aiming to improve their understanding of this largest emerging market in the world. Several case studies of business organizations and industries are used throughout the course. Emphasis of the course material and class discussion is on critical thinking, solutions to problems, and evaluating different options.

MGT681 Essentials of Health Care Management and Policy  
3.00 credits  
Offered By Announcement Only  
This course develops an understanding of the basic elements of the health Services industry in the United States. A systems approach will be used utilizing a historical perspective as a basis and moving on to current and potential future system dynamics. The various components of the health care system will be examined, including physician services, hospital and hospital systems, long-term care providers, mental health services, and pharmaceutical services. Various elements associated with the financing of health services will be examined as well as indemnity insurance, capitation, and the role of managed care and consumer driven health care in theory and practice. The role of government and its impact on our health care system will be explored as well.
MGT682 Issues in Health Care Administration  
3.00 credits  Offered By Announcement Only  
A seminar on current problems and issues in health care administration.

MGT684 Analysis of Health Care Delivery and Policy  
3.00 credits  Summer  
This course examines theoretical and operational incentive structures which guide health care consumers, providers and health care organization toward decisions both efficient and inefficient.

MGT685 Economic Models in Operations and Supply Chain Management  
3.00 credits  Fall, Spring  
In this course we will study the academic literature that is based on analytical models of supply chain and channel management. In particular we will be concerned with models that capture the economics that govern the interaction among the firms in a supply chain/distribution channel. Since this topic is of interest to both the marketing and operations management communities, we will draw upon readings from both areas. One of our objectives will be to identify opportunities for building bridges between these two bodies of knowledge.

MGT687 Health Care Organization, Economics, and Ethics  
3.00 credits  Offered By Announcement Only  
Course provides the student insight into organizational and behavioral aspects of the various sectors and agents within the health care industry and understanding of how such aspects in turn affect performance measured in terms of both economic and ethical criteria.

MGT688 Individual and Interpersonal Processes  
3.00 credits  Offered By Announcement Only  
Basic Overview of many topics relevant to studying individuals and dyads in organizations. Course will introduce students to a variety of topics related to individual and interpersonal differences, processes, and behaviors in organizations. Students will begin to see how to link research designs with a theoretical framework for empirical testing.

MGT689 Doctoral Seminar in Leadership and Group Processes  
3.00 credits  Offered By Announcement Only  
This seminar examines the theory and research that focuses individual leadership and examines implications for individual and group behaviors as well as bridging the micro-macro divide. You will perform a critical in-depth examination of the primary research literature, focusing on appropriateness of design, analysis, interpretation, contribution and future research directions.

MGT690 Sustainable Business Operations: Value Creation & Environmental Considerations  
3.00 credits  Spring  

MGT691 International Management  
2.00 credits  Fall, Spring  
Course is designed to provide an overview of management problems and issues for organizations and executives operating internationally. Students learn how multinational enterprises are different, why they behave as they do, and how to apply management principles to problem-solving in such contexts.
MGT692 Theories in Management and Organization
3.00 credits
Fall
This course provides an in-depth review of major theories in the broad field of management and organization. It covers a multitude of management and organization theories that are derived not only from general management but from economics, sociology, ecology, and the like. The course will use several techniques, including lectures, article presentations and discussions, theory development, research project, and manuscript preparation. By the end of the term, students are expected to understand the central notions of each theory being discussed, comment on various arguments in these theories, improve the skills in applying these theories to their specific research questions, and sharpen their ability to develop theoretical models.

MGT693 Theories and Research in Global Strategic Management.
3.00 credits
Fall, Spring
This course is designed to provide doctoral students an in-depth review of major theories, paradigms, and perspectives in global strategy and international business. We'll also explore how to apply existing theories and perspectives to new contextual settings, such as emerging markets and outsourcing. Furthermore, we'll do all this while reading and critiquing the major branches and works within the strategic management and international business literature. The course is intended for doctoral students in business or related fields. There are no formal prerequisites for the course although some basic knowledge of global business is expected.

MGT694 Ph.D Seminar in Strategic Management
3.00 credits
Spring
This course is designed to provide doctoral students an in-depth review of major theories, perspectives, and methods in strategic management. The course is intended for doctoral students in business or related fields.

MGT695 Ph.D Seminar in Emerging Market Research
3.00 credits
Fall
This course is designed to provide doctoral students an in-depth review and study of major theories, perspectives, methods, findings, and future research issues in business and management involving emerging economies. It encompasses both macro- (e.g., strategic management, international business, entrepreneurship), and micro- (e.g., culture, human resources management, leadership, and organizational behavior) levels.

MGT698 Selected Topics
1.00 - 6.00 credits
Offered By Announcement Only
Topics in selected areas of specialization.

MGT699 Directed Study
1.00 - 6.00 credits
Fall, Spring & Summer
Individually supervised research project in selected field of management. Approval of supervising professor of the topic/scope of work/evaluation is required prior to registration.

MGT725 Comprehensive Test Preparation
0.00 - 3.00 credits
Fall, Spring & Summer
Doctoral students who are preparing for their qualifying examinations may use this course designation. Enrolled students must develop, with the approval of their advisor, a Plan of Study for these credits.
MGT730 Doctoral Dissertation
1.00 - 12.00 credits                              Fall, Spring & Summer
Course is required of all candidates for the Ph.D. The student enrolls for credit as determined by his/her advisor.

Marketing
MKT555 Marketing Honors Research Project
3.00 credits                                          Offered By Announcement Only
Research project to fulfill requirements for Departmental Honors in Marketing.

MKT640 Foundations of Marketing Management
2.00 credits                             Fall, Spring
Course introduces students to the analytical concepts and tools of marketing management. Special emphasis is placed on the relationships between marketing and overall company strategy, the development of a customer orientation, the integration of marketing throughout the organization, and the implementation of systems for planning and controlling the marketing effort. Students consider problems of consumer analysis, product planning, integrated communication, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of readings, case exercises, and class discussions.

MKT641 Marketing Research
2.00 credits                             Fall, Spring
The objective of the course is to allow students to understand functional analysis of consumer and market behaviors utilizing statistical tools. The course will cover topics of secondary sources of data, sampling, questionnaire design, and analysis and interpretation of data. Project and case analysis methods will be used for instruction.

MKT642 PRICING AND VALUE MANAGEMENT
2.00 credits                                          Offered By Announcement Only
Pricing decisions require a synthesis of economic and marketing principles, an appreciation of legal and ethical constraints, and the ability to use accounting, financial, and market research data. This course is designed to teach students how to price goods and services by providing a framework for understanding pricing strategies and tactics. While pricing strategies are taught under the rubric of many diverse disciplines, we will take an integrative approach, combining strategic, economic, marketing, and psychological considerations. Topics covered include economic value and break-even analysis, price elasticity, markup and profit margin, price bundling, among others.

MKT644 Services Marketing
2.00 credits                             Fall, Spring
Course develops skills necessary to manage companies in an increasingly service-oriented and technology-driven economy and to gain sustainable competitive advantage through delivering superior quality services. Course covers the special marketing challenges posed by the unique characteristics of services and discusses their managerial implications. The need and strategies for synergistic management of operations, systems, and people to satisfy customers in order to achieve marketing excellence and superior financial performance are also included.
MKT645 International Marketing
2.00 credits Fall, Spring
Course analyzes the theories and practice of international marketing management. Course allows students to understand markets and aid in the development of marketing plans based on the nature of national as well as international markets. Issues of globalization, standardization, intermarket segments, trading blocks, global marketing strategies, local branding, global branding in the context of customer movements, product development, pricing, distribution, communication, and segmentation in global markets are also discussed.

MKT646 Consumer Behavior
2.00 credits Fall, Spring
This course provides an overview of psychological and normative principles of consumer decision-making and judgment by focusing on underlying behavioral research and theory. How people process information, make decisions involving risk and uncertainty, conflicting objectives, and imperfect information are some of the main topics discussed. The implications of consumer behavior on a marketing strategy are highlighted.

MKT647 Advertising and Communications Management
2.00 credits Fall, Spring
Billions of dollars are wasted every year on ineffective advertising and communication campaigns. This problem is due to an absence of a compelling strategy to serve as a foundation for developing creative executions and media plans. The course provides a balanced analysis of strategy and execution of integrated marketing communication campaigns. The effectiveness of existing and emerging communication vehicles to attain strategic marketing goals is assessed. Special emphasis is placed on advertising, sales promotions, and online communications. Current and historical campaigns are also reviewed. Course requirements include case reports, projects, and class participation.

MKT648 New Product Development
2.00 credits Fall
This course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are included through two assignments and one class project.

MKT649 Strategic Brand Marketing
2.00 credits Spring
More and more firms have come to realize that their brands are among their most valuable assets. The goal of this course is to teach students the strategic significance of brands in creating shareholder value. Students should develop fluency with the core principles associated with branding including: an understanding of how to develop a brands positioning; managing total brand experience; how to manage the brand relevancy over time; familiarity with the various qualitative and quantitative methodologies that are used to evaluate brand equity; how to achieve growth through brand extension; brand design and brand messaging. The basic philosophy for this course is to blend theory and practice of brand management. Branding is both an art and a science. Few branding situations have a definitive, unqualified right answer as to what is the best approach. However, when armed with relevant and comprehensive theories, appropriate frameworks and models, familiarity with past successful and unsuccessful branding strategies, managers can make better and more informed decisions that are more likely to yield successful implementation.
MKT650 Strategic Marketing
2.00 credits  Fall, Spring
Course develops the skills necessary to strategically manage business-unit level marketing activities in a multi-brand firm. This necessitates examining all marketing mix elements, R&D, financial and production considerations simultaneously in the context of the many markets, products, and services that may concern a typical firm. The emphasis is placed on understanding internal capabilities, market competitors, and customers. Market simulation exercise, cases, and readings are utilized.

MKT660 Foundations of Marketing Management
3.00 credits  Fall, Spring
Marketing problems experienced by top executives are examined and fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

MKT665 International Marketing
3.00 credits  Fall, Spring
Analysis of major U.S. foreign markets, marketing policies, and techniques are discussed.

MKT672 Services Marketing
3.00 credits  Fall, Spring
Course develops the skills necessary to manage services marketing and compete through delivering quality service. The unique characteristics of services and their managerial implications are examined. Importance of the synergistic management of operations, environment, systems and people to satisfy the customer is highlighted.

MKT686 Behavioral Decision Theory in Consumer Research.
3.00 credits  Spring
The objective of this seminar is to acquaint students with important theories and findings regarding consumer behavior and to stimulate research. Students will learn how to identify important research problems, ask interesting research questions, develop theories and hypotheses, and design experiments.

MKT687 Marketing Strategy
3.00 credits  Fall
Marketing Strategy is a vast, exciting and exploding literature that almost defies classification. However, despite this difficulty one common theme unifies and distinguishes this stream of research: it is marketing as seen through the eyes of a manager. Is it worth fighting for market share? How do we analyze competitors? Is it more profitable to introduce a new product or enter a new market? Should we build on existing relationships or seek new customers? Does loyalty management pay? Do consumers understand product quality? Can we quantify the effects of advertising and promotions? What metrics should we use to evaluate the effectiveness of marketing effort? Can we run policy simulations before committing to marketing action? These are some of the questions that marketing managers need to address. Often the questions are very broad and complex, reflecting the bewildering range of techniques that have been used to address those questions. The seminar will try to impart an appreciation of how to define and solve research problems in a marketing strategy.

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MKT688 Ph.D. Seminar in Consumer Behavior and Decision Making
3.00 credits
Fall
This course is designed to provide students with a background regarding a wide set of topics in consumer behavior focusing on theoretical models. In addition to developing a knowledge base in several extant consumer behavior literatures, this course has several additional goals. Students will: 1) become familiar with the content and style of consumer behavior research published within the marketing field, 2) develop an understanding of many methodologies and paradigms that can be used to investigate theoretical issues, 3) have several opportunities to explicate research ideas that they will hopefully be able to pursue in the remainder of the program or early in their careers, and 4) learn to critically evaluate the research of others to aid in strengthening their thinking and ultimately their own research activities.

MKT695 Topics in Marketing
1.00 - 3.00 credits
Topics in selected areas of Marketing.
Offered By Announcement Only

MKT696 Topics in Marketing
1.00 - 3.00 credits
Topics in selected areas of Marketing.
Offered By Announcement Only

MKT697 Topics in Marketing
1.00 - 3.00 credits
Topics in selected areas of Marketing.
Offered By Announcement Only

MKT698 Topics in Marketing
1.00 - 3.00 credits
Topics in selected areas of Marketing.
Offered By Announcement Only

MKT730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MKT 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.
COM598 Special Topics in Communication
3.00 credits Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

COM601 Theories of Communication
3.00 credits Fall
Comparison of theories dealing with the processes and effects of communication is discussed.

COM602 Methods of Communication Research
3.00 credits Fall
A comprehensive survey of communication research methods. Qualitative and quantitative approaches will be explained and practiced.

COM603 Qualitative Research Methodologies
3.00 credits Spring
Research methods and theories for participant-observation, phenomenology, symbolic interactionism, ethnomethodology, content analysis, and historical-critical interpretation.

COM604 Advanced Communication Research Methods and Statistics
3.00 credits Offered By Announcement Only
Provides an advanced examination of the problems and methods found in quantitative communication research.

COM605 Theories and Methods for Mass Communication Research
3.00 credits Spring

COM609 Special Topics in Communication
3.00 credits Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

COM610 Doctoral Colloquium
0.00 credit Fall
This course will introduce students to the nature and scope of doctoral study.

COM672 Seminar in Persuasive Communication
3.00 credits Offered By Announcement Only
This course is designed to provide students with a basic understanding of the role of communication in the persuasion process. This will be achieved by exploring historical and contemporary theories of persuasion as well as examining research that has focused on persuasion.

COM695 Directed Readings
1.00 - 3.00 credits Fall, Spring & Summer

COM710 Master's Thesis
1.00 - 6.00 credits Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.
COM 720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in COM 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

COM 725 Continuous Registration--Master's Study
0.00 credit  Fall, Spring & Summer
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.

COM 730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours.

COM 750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Communication Studies
COS 545 Intercultural Communication: International Perspectives
3.00 credits  Offered By Announcement Only
Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Effects of language on the structure of thought. Ethics and process of the diffusion of cultural innovations are analyzed.

COS 546 Intercultural Communication: Domestic Perspectives
3.00 credits  Offered By Announcement Only
Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Diffusion of cultural innovations, prejudice, discrimination, and equality are discussed. Emphasis is placed on intercultural interactions within the United States.

COS 560 The Executive Communicator
3.00 credits  Offered By Announcement Only
Audience analysis, speech writing, delivery in professional presentations, theory, and history of great speeches are covered. Detailed critiques of student's speaking styles and performances are also included.

COS 591 Advanced Special Topics in Communication Studies
3.00 credits  Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

COS 599 Advanced Projects and Directed Research
1.00 - 6.00 credits  Fall, Spring & Summer
Individual study. Course may be repeated to a maximum of six credits.
COS674 Seminar in Interpersonal Communication
3.00 credits         Offered By Announcement Only
This course focuses on theoretical approaches to interpersonal communication. Emphasis is placed on current research including fundamentals of relationships, developmental issues, interaction management, and interpersonal competence.

COS682 Seminar in Organizational Communication
3.00 credits         Offered By Announcement Only
This course explores theoretical perspectives and the impact of communication in organizations. Critical analysis includes management styles, decision-making, group interaction, conflict resolution, and diffusion of innovations.

COS690 Communication Studies Practicum
1.00 - 3.00 credits       Fall, Spring
Prescribed graduate study and supervised work with practitioners in organizations.

Communications Elect Media
CEM517 Television News Reporting
3.00 credits       Fall, Spring
Gathering and preparation of news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural elements, writing, producing and performing for on-air presentation.

CEM527 Television Newscast
3.00 credits       Fall, Spring
Studio anchoring, producing and field reporting for news and public affairs programming. Live field reporting and field and studio interviewing techniques are covered.

CEM535 MEDIA TECHNOLOGY
3.00 credits         Offered By Announcement Only

CEM592 SPECIAL TOPICS IN JOURNALISM AND MEDIA MANAGEMENT
3.00 credits         Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CEM599 Advanced Projects and Directed Research
1.00 - 6.00 credits       Fall, Spring & Summer
Individual study. Course may be repeated for a maximum of six credits.

CEM605 News Technologies.
3.00 credits       Fall
This course emphasizes how television, digital, and multimedia technologies contribute to the storytelling process. Understanding of production theories and news processes will be gained through hands on work with television and multimedia projects.

CEM606 Writing and Reporting Across Platforms
3.00 credits       Fall
An introduction to professional operating practices in multimedia journalism with emphasis on news writing and news production skills.

CEM607 Broadcast Journalism
3.00 credits       Spring
Advanced instruction in techniques of news writing and field reporting, including conducting research for stories, preparing complete field packages for newscasts, filing live remotes, and conducting interviews.
CEM608 Long-Form Public Affairs Programming
3.00 credits  
Summer  
Development and production of longer form news, information magazine, and documentary style programming.

CEM609 Internship in Electronic Media journalism
1.00 - 3.00 credits  
Fall, Spring & Summer  
The internship program is a supervised activity in which graduate students advance their skills and acquire professional experience by working with a sponsoring organization. Students learn through observation, discussions with supervising personnel, and performance of professional activities.

CEM635 The Broadcasting, Cable, and Electronic Media Industry
3.00 credits  
Spring  
Examination of broadcasting, cable, and related electronic media from a business perspective.

CEM653 PRACTICUM IN PRODUCING NEWS
1.00 - 3.00 credits  
Fall, Spring  
The mechanics of planning and executing professional style newscasts and/or long-form television news program.

CEM725 Journalism Internship
3.00 credits  
Fall, Spring & Summer  

News Editorial Jour

CNJ510 Comparative Media Systems
3.00 credits  
Offered By Announcement Only  
This course deals with issues in international news gathering and distribution, giving special attention to Latin America and the Caribbean. The class takes a comparative approach, looking at media systems in the United States and other nations.

CNJ511 Global Media
3.00 credits  
Offered By Announcement Only  
An analysis of issues and practices surrounding globalization, regionalization, and global/local as they relate to media industries, journalism, and communication.

CNJ513 Computer-Assisted Reporting
3.00 credits  
Offered By Announcement Only  
Use of computer applications for newsgathering with emphasis on the World Wide Web, commercial online services, and database tools.

CNJ515 Reporting and the Internet
3.00 credits  
Offered By Announcement Only  
Overview of uses of online computer services for newsgathering and distribution with emphasis on the Internet.

CNJ523 Sports Reporting
3.00 credits  
Offered By Announcement Only  
An analysis of sports journalism that will develop students' skills in sports reporting and sports writing. Discussions range across the entire field of sports reporting, including broadcasting, but the greatest emphasis is concentrated on sports reporting and writing for newspapers and magazines.
CNJ533 SOCIAL MEDIA FOR JOURNALISTS
3.00 credits  Spring
Examination of best practices for use of social media for gathering, disseminating and promoting news.

CNJ537 THE BUSINESS OF MODERN JOURNALISM
3.00 credits  Fall

CNJ544 Feature Writing
3.00 credits  Offered By Announcement Only
Analyzing and writing feature articles for magazines, newspapers, and other news media.

CNJ595 Special Topics in Journalism
3.00 credits  Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CNJ599 Advanced Projects and Directed Research
1.00 - 6.00 credits  Fall, Spring & Summer
Individual study. Course may be repeated to a maximum of six credits.

CNJ609 INTERNSHIP IN JOURNALISM AND MEDIA MANAGEMENT
1.00 - 3.00 credits  Fall, Spring & Summer
Prescribed study and supervised work with professionals in newspapers, magazines, web sites or related news media.

CNJ611 Newswriting and Reporting Seminar
3.00 credits  Fall
Development of newswriting and reporting skills for news media.

CNJ612 History of Journalism Seminar
3.00 credits  Offered By Announcement Only
The development and impact of journalism in America traced through industry leaders and events.

CNJ614 Media Law and Ethics Seminar
3.00 credits  Offered By Announcement Only
A survey of legal and ethical issues concerning First Amendment theories and practices regarding defamation, privacy, freedom of information, free press vs. fair trial, reporter privilege, access to media, intellectual property, obscenity, broadcasting, and new media.

CNJ617 International Journalism
3.00 credits  Offered By Announcement Only
News gathering, transmission, and distribution outside the United States, with emphasis on Latin America.

CNJ619 Advanced Newsgathering and Writing Seminar
3.00 credits  Spring
Refining news writing and reporting skills for the media.

CNJ624 Seminar in Editing and Design for Print and Websites
3.00 credits  Offered By Announcement Only
Theory and practice in news media copy editing, layout, and design.
CNJ626 Specialized Writing and Reporting Seminar
3.00 credits                                           Offered By Announcement Only
Techniques in writing and reporting about specialized and complex subjects for news media.

CNJ654 Writing for Publication
1.00 - 3.00 credits                                           Fall, Spring & Summer
This course focuses on writing principles and practices of the news media. It is designed to give the student exposure and practical experience in writing for the print media.

Motion Pictures

CMP501 Principles of Aesthetics and Analysis
3.00 credits                                                                   Fall
Provides graduate students with introductory immersion in aesthetics, analysis, and history of film and media.

CMP503 Film Directors
3.00 credits                                                                   Fall
This course will address the conditions of authorship in film through an intensive study of the films of two or more directors, whose careers will serve as case studies. These directors will be historically important and their work will represent significant achievements in the art of film.

CMP504 Aspects of Contemporary Cinema
3.00 credits                                           Offered By Announcement Only
The study of the ways in which film communicates. Intensive analysis and criticism of cinematic techniques exemplified through particular films.

CMP506 Genres
3.00 credits                                           Offered By Announcement Only
A study of selected movie genres from a variety of critical perspectives. Issues pertaining to selfhood, sexual difference, and other concerns of present-day film criticism will be examined.

CMP507 National Cinemas
3.00 credits                                                                 Spring
Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social/political and cultural contexts.

CMP509 Legal Aspects of Motion Pictures
3.00 credits                                                                 Spring
The law, contracts, and negotiating techniques of the business affairs aspects of the production of motion pictures.

CMP510 Foundation of Screenwriting
3.00 credits                                                                   Fall
This course explores the fundamental skill set necessary to manipulate the basic elements of cinematic writing. The course will investigate common dramatic elements found in all screenplays as well as teach format principles of feature, TV and emerging media scripts.

CMP511 Writing the Short Film
3.00 credits                                           Offered By Announcement Only
CMP520 Cinematography
3.00 credits
This hands-on course provides students with the aesthetic and technical aspects of professional concepts and techniques in film and digital media cinematography.

CMP529 Nonfiction Film
3.00 credits
An examination of American and world nonfiction films.

CMP530 Introduction to Editing
3.00 credits

CMP540 PROGRAMMING FOR DESIGNERS
3.00 credits
Fall

CMP541 TECHNOLOGY TRENDS
3.00 credits
Fall

CMP542 PHYSICAL COMPUTING AND PROTOTYPING
3.00 credits
Fall

CMP543 INTERACTION DESIGN
3.00 credits
Fall

CMP544 MEDIA ACTIVISM
3.00 credits
Fall
In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

CMP550 MOTION GRAPHICS AND COMPOSING
3.00 credits
Spring
Methods, techniques and aesthetics of 2D computer animation and compositing including animated text, title design and green screen.

CMP551 Advanced Motion Graphics and Compositing
3.00 credits
Spring
Extend the 2D skills of students who have taken CMP 550 to 3D motion graphics and animation. Emphasis on title design and animation.

CMP552 Motion Picture Marketing and Distribution
3.00 credits
Fall
Economic and marketing considerations in the production and distribution of motion pictures.

CMP553 Advanced Motion Picture Marketing
3.00 credits
Offered By Announcement Only
Advanced marketing considerations in the distribution of motion pictures.
CMP558 Documentary Production
3.00 credits
Offered By Announcement Only
An introduction to the documentary genre including the production of a documentary from start to finish.

CMP560 Directing the Actor
3.00 credits
Fall
The purpose of this course is to teach and practice the craft of directing, including text analysis, characterization, visualization, design, intention and rehearsal: to train students to articulate their ideas to actors and film crew.

CMP566 Character and Dialogue
3.00 credits
Offered By Announcement Only
An examination of the craft and techniques of creating original characters and dialogue.

CMP570 Producing the Motion Picture
3.00 credits
Spring

CMP586 Online Screenwriting
3.00 credits
Fall, Spring & Summer
The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.

CMP590 BUILDING INTERFACES
3.00 credits
Fall

CMP591 GAME DESIGN FUNDAMENTALS
3.00 credits
Fall

CMP593 DYNAMIC DATA
3.00 credits
Fall

CMP594 Special Topics in Motion Picture
3.00 credits
Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CMP595 Directing Techniques
3.00 credits
Fall, Spring
To build a more advanced set of professional skills and practices through scene work, shooting, and collaboration.

CMP605 Production Management
3.00 credits
Spring
A comprehensive examination of the skills and techniques employed by line producers and production managers in the preproduction, production, and post-production of motion pictures.

CMP607 PEDAGOGICAL APPROACHES TO FILM
3.00 credits
Fall

CMP610 Writing the Feature-Length Screenplay
3.00 credits
Fall
CMP612 Writing for Episodic Television
3.00 credits  
Spring
The course will explore the art and craft required to write a spec Television episode. The course will explore how TV writing differs from feature writing and how the TV writer/producer business model works. By the end of the course the student will have finished an hour-long spec script for an existing TV show or a two-part sitcom teleplay.

CMP621 GAME DEVELOPMENT STUDIO
3.00 credits  
Fall

CMP622 UX RESEARCH
3.00 credits  
Fall

CMP627 Scriptwriting
3.00 credits  
Fall, Spring
Study of and practice in writing feature-length, narrative motion picture scripts. Focus is placed on cinematic structure and presentation of character.

CMP638 Writing the Short Film
3.00 credits  
Spring
A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film.

CMP650 Production Workshop II - Individual Projects
3.00 credits  
Fall
A concentration on four distinctive film directors and their work. Utilization of techniques from film theory, film criticism, and film history to arrive at a definition of their unique cinematic styles.

CMP652 Advanced Cinematography
3.00 credits  
Spring
Advanced technical and photographic principles begun in CMP 651. Preparation for the filming of the MFA project film.

CMP656 Motion Picture Post-Production Procedures
3.00 credits  
Fall
An examination of the esthetics of editing, recording, re-recording, and laboratory procedures following completion of principal photography.

CMP661 Directing the Camera
3.00 credits  
Fall, Spring
Directorial techniques and methods in the narrative film: conceptualizing scripted material, staging, and directing the performer.

CMP694 Motion Picture Internship
1.00 - 3.00 credits  
Fall, Spring & Summer

CMP695 Special Topics in Motion Pictures
3.00 credits  
Offered By Announcement Only

CMP699 Advanced Projects and Directed Research
1.00 - 6.00 credits  
Offered By Announcement Only
CMP715 MFA Thesis
1.00 - 6.00 credits                     Fall, Spring & Summer
Film production in which the student functions as a minimum, in the capacity of a producer, director, or a screenwriter. Course may be repeated to a maximum of six credits.

CMP734 MFA Thesis
1.00 - 6.00 credits                     Fall, Spring & Summer
Film production in which the student functions as a minimum, in the capacity of a producer, director, or a screenwriter. Course may be repeated to a maximum of six credits.

Public Relations
CPR501 CRISIS COMMUNICATION AND MANAGEMENT
3.00 credits                           Offered By Announcement Only
This course introduces the student to crisis communication and management from a strategies, theory-based approach steeped in case research from historical cases and business case studies.

CPR517 Media Relations
3.00 credits                           Fall, Spring
The practice of media relations within the public relations milieu.

CPR533 SPORTS, PUBLICITY, & PROMOTIONS
3.00 credits                           Offered By Announcement Only
This course will provide a review, examination and practical application of sports communications, publicity and promotions in strategic communications.

CPR546 RELIGION, COMMUNICATION, & CULTURE
3.00 credits                           Offered By Announcement Only
The historical, political, economic, and social dynamics of the convergence of religion, communication, and culture in society.

CPR581 PUBLIC RELATIONS EXPERIENCE PROGRAM (PREP)
3.00 credits                           Offered By Announcement Only
Develop skills used by professionals in the public relations/media relations, communications, promotions/marketing and journalism professions through faculty-supervised hands-on experience in the field with real organizations.

CPR582 International Public Relations
3.00 credits                           Fall
History, theory, and practice of public relations in a global, multi-cultural environment.

CPR584 SPECIAL TOPICS IN PUBLIC RELATIONS
3.00 credits                           Fall
Principles and practice of public relations management in a variety of contexts including agency, consultancy, corporate, and nonprofit.

CPR590 SPECIAL TOPICS IN PUBLIC RELATIONS
3.00 credits                           Offered By Announcement Only
This course subject matter varies according to announced special topic. See class schedule for details.

CPR599 Advanced Projects and Directed Research in Public Relations
1.00 - 6.00 credits                     Fall
Individual study. May be repeated to a maximum of six credits.
CPR620 Public Relations Fundamentals  
3.00 credits  
Fall  
A seminar to explore the theories and methodologies of public relations encompassing writing, principles and campaigns.

CPR621 WRITING FOR PUBLIC RELATIONS PRACTICE  
3.00 credits  
Offered By Announcement Only  
Principles and techniques for the development of strategic thinking, information-gathering, and writing public relations messages across traditional, digital, social and web-based media.

CPR622 DESIGN FOR PUBLIC RELATIONS  
3.00 credits  
Fall, Spring & Summer  
An introduction to design principles and tactics used in the creation of public relations messages and campaigns.

CPR625 CASES IN PUBLIC RELATIONS ADMINISTRATION  
3.00 credits  
Spring  
Course analyzes organizational principles, internal budgeting, and evaluation of public relations departments and counseling firms.

CPR629 SPECIAL TOPICS SEMINAR IN PUBLIC RELATIONS  
3.00 credits  
Offered By Announcement Only  
A seminar to identify and discuss the role of fundraising in the not-for-profit sector.

CPR632 Seminar in Public Relations and Political Campaigns  
3.00 credits  
Offered By Announcement Only  
A seminar to examine the role of public relations in American political campaigns.

CPR634 NON-PROFIT AND PUBLIC INFORMATION CAMPAIGNS  
3.00 credits  
Offered By Announcement Only  
A public seminar that focuses on non-profit organizations and governmental institutions.

CPR635 SEMINAR IN PUBLIC RELATIONS MEASUREMENT  
3.00 credits  
Offered By Announcement Only  
This course will delve into the measures, mechanisms, and necessary considerations for measuring public relations effectiveness and evaluating the impact of public relations efforts.

CPR650 STRATEGIC COMMUNICATION IN HEALTH CARE  
3.00 credits  
Offered By Announcement Only  
An examination of health industry communication from business and promotional perspectives, including the special issues that have an impact on health communicators. Best practices and case studies from notable practitioners are used; strategic communication plan development, writing and presentation are emphasized.

CPR660 CORPORATE COMMUNICATION AND PUBLIC RELATIONS  
3.00 credits  
Offered By Announcement Only  
This course monitors the sociopolitical environment of organizations, explores managing corporate crises and confrontations, analyzes issues, formulates organizational and political strategies, develops programs of advocacy communication and explores constituency communications and public involvement.
CPR690 Public Relations Practicum I  
3.00 credits  
Fall, Spring  
Professional functions related to public relations requirements in a professional environment acting as an account executive.

Visual Journalism  
CVJ519 Interactive Storytelling  
3.00 credits  
Spring  
Digitization allows us to merge several forms of media that were not connected in the past. This course is intended as an exploration of how storytelling is re-inventing itself utilizing the new digital communication tools available to us today. This course will cover linear and non-linear storytelling techniques and production processes.

CVJ521 Seminar in Visual Storytelling  
3.00 credits  
Fall  
An advanced seminar class designed to enhance the knowledge and practice of the visual storytelling narrative. This seminar stresses the importance of converging media, still images, video, and sound. Particular emphasis will be placed upon the creation of a multimedia portfolio.

CVJ522 INFOGRAPHICS AND DATA VISUALIZATION  
3.00 credits  
Fall  
This course is an introduction to the visual display of information in digital and interactive media, with a special focus on the encoding of data by means of statistical charts, maps, and diagrams.

CVJ530 Programming for Interactivity  
3.00 credits  
Fall  
This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories.

CVJ531 Database Journalism  
3.00 credits  
Fall  
This course teaches data analysis and interactive deployment of data of the World Wide Web and other digital platforms.

CVJ541 Advanced Audio Video Narratives  
3.00 credits  
Spring  
This course examines uses of audio and video to communicate journalism. Students learn to investigate, gather content, and produce documentary stories primarily for online distribution.

CVJ550 3D Design and Graphics  
3.00 credits  
Spring  
This course focuses on the use of 3D Design software for communication and how to integrate with other print and digital technologies.
CVJ551 Advanced Programming
3.00 credits Summer
This course explores the role of the programmer as journalist. Students will perform the basic tasks of journalism from a programmatic perspective including: gathering, distilling and presenting information. Students will learn how to gather information from public databases and government websites. They will learn how to automate processes for filtering information and learn how to present this information in a visual and interactive news report. Students will also learn how to combine multiple sources of information, to personalize information for the end reader, and account for the relevant permutations of the data. Students will learn to build and query databases as well as mine and visually present the information using programming languages such as PHP and Python. Rapid development frameworks such as Django, Zend and Symfony will also be covered in the class.

CVJ560 Team Multimedia Project
1.00 - 3.00 credits Summer
Students will work in a team to produce a documentary multimedia project in conjunction with one or more partner universities. Students will study the genre of documentary multimedia storytelling, research their assigned topic(s), content-gather, edit, wireframe, design and program the project and produce it on multiple platforms depending on the topic and intended audience. Students will use audio, photographic, video, infographic and text reporting tools in producing the project. They will also study methodologies for evaluating multimedia and beta test the site using established research methodologies.

CVJ596 Special Topics in Visual Journalism
1.00 - 6.00 credits Fall, Spring
This course subject matter varies according to announced special topic. See class schedule for details.

CVJ599 Advanced Projects and Directed Research
3.00 credits Fall, Spring

CVJ606 Multimedia Design
3.00 credits Fall
This is a project-based course in multimedia design, with emphasis on visual concepts and graphics development. Students will be learning about the various software packages to design and integrate interaction into their projects. Topics covered include preparing existing content for multimedia journalism, animation, layout for interactive media, typography, photography and usability.

CVJ715 Multimedia Project
1.00 - 6.00 credits Fall, Spring & Summer
Students, in consultation with program faculty, will complete a final project that reflects in-depth knowledge and analysis of a subject and professional competence in multimedia storytelling. Course may be repeated to a maximum of six credits.

CVJ738 M.A. Multimedia Project
1.00 - 6.00 credits Fall, Spring & Summer
Students, in consultation with program faculty, will complete a final project that reflects in-depth knowledge and analysis of a subject and professional competence in multimedia storytelling. Course may be repeated to a maximum of six credits.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
School of Education
Education and Psych Study

EPS505 Lifespan Human Development
3.00 credits
Spring
Theories and research relating to the biophysical, cognitive, and psychosocial
domains of human lifespan development.

EPS509 Field Studies in Education
1.00 - 6.00 credits
Fall, Spring
Individual study of a school or school system, identifying its strengths and weaknesses,
and making positive recommendations.

EPS510 Professional, Legal and Ethical Issues in Counseling
3.00 credits
Summer
Professional, legal, ethical, and licensing issues in the counseling profession.

EPS511 Lifestyle and Career Counseling
3.00 credits
Spring
An introductory course in career development and career counseling, focusing on
theories of career development, counseling tools, strategies, and sociological,
economic, and psychological influences on the American worker.

EPS512 Assessment Strategies for Counselors I
3.00 credits
Spring
This course places emphasis on diagnosis, appraisal, assessment, and testing for
individual and interpersonal disorders. It addresses statistical procedures and
psychometric principles necessary for responsible test use and exposes the student
to a variety of test and non-test assessment techniques in marriage and family,
and mental health counseling.

EPS513 Counseling Process and Practice
3.00 credits
Fall
The development of basic communication and clinical skills necessary for establishing
the counseling relationship and conducting therapy.

EPS514 Psychosocial Bases of Social and Cultural Diversity
3.00 credits
Fall
Interrelationship between psychology and sociology in understanding development
of diversity in human social systems. Implications for counseling and therapy.

EPS515 Dynamics of Marriage and Family Systems
3.00 credits
Fall
Introduction to the history and development of marriage and family systems theory
as a method for understanding individuals' behavior and functioning. Introduction
to several modes of family therapy. Throughout the course, lectures will also be
integrated with other topics including race, culture, gender, sexual orientation,
ability.

EPS526 Counseling in Community Settings
3.00 credits
Fall
Exploration of a variety of perspectives on community services relevant to mental
health counselors. Topics include: the variety of community settings; community,
national, and international diversity in mental health services; diversity of clients
(e.g., cultures, religions, GLBT, elderly, social classes, disabilities); mental
health funding; the role of politics, policy, advocacy, and research; interviewing
across cultures.
EPS533 Organization and Administration of Higher Education I
3.00 credits Fall
Theoretical approaches from organizational analysis. Applications to problems, processes, and patterns of higher education institutions. Consideration given to legal status, governance patterns, and external relations. Administrator, faculty, trustee, and student roles are also explored.

EPS539 Effective Teaching, Learning, Assessment & Curriculum in Higher Education
3.00 credits Fall & Summer
Provides an overview of current theories, research, and best practices in effective teaching, learning, assessment, and curricular design.

EPS543 The Community College
3.00 credits Offered By Announcement Only
An overview of American community colleges including historical evolution, purposes and functions, characteristics of students and faculty, organization and administration, curricula, current issues, and trends.

EPS545 Administration of Student Affairs
3.00 credits Summer
History and philosophy of student affairs will be addressed as well as principles and organization of student affairs administration, current problems, procedures, and recent developments.

EPS553 Introductory Statistics
3.00 credits Fall & Summer
Basic Statistical procedures will be discussed including measures of central tendency, variability and relationship, sampling, and basic tests of statistical significance.

EPS554 Essentials of Research in Social and Behavioral Sciences
3.00 credits Fall
Study of the standards methods and techniques of research in the behavioral and social sciences. Brief orientation to quantitative and qualitative procedures used in the analysis and interpretation of research data are emphasized.

EPS558 Community Youth Development
3.00 credits Summer
This course in community youth development (CYD) will focus on the philosophical, sociological, and educational foundations of a youth development perspective that highlights youth as powerful catalysts for change and positive forces in shaping communities. We reflect on how youth development is inextricably linked with family and community development. After reviewing and critiquing traditional adolescent development theories, students will engage with theories and practices of CYD, youth empowerment, youth civic engagement, youth organizing, social justice youth development, youth activism, and critical youth engagement.

EPS568 Computer Applications in Educational and Behavioral Science Research
3.00 credits Offered By Announcement Only
An introduction to the use of microcomputer statistical packages in social science research, with emphasis given to SPSS for Windows. Course content will cover a broad range of activities encountered in the data analytic process including planning and creating a database, data coding, file manipulation tasks, data screening, and statistical analysis.
EPS570 Basic skills in Counseling and Interviewing
3.00 credits  Spring
Introductory course on essential skills used in counseling and interviewing. Through lectures, discussions, and small group exercises, students will explore their natural style of helping and learn effective listening and communication skills. This course is not intended to train students to become a professional counselor.

EPS591 Workshop in Education
1.00 - 3.00 credits  Offered By Announcement Only
Study in special interest areas in education.

EPS592 Workshop in Education
1.00 - 3.00 credits  Offered By Announcement Only
Study in special interest areas in education.

EPS593 Workshop in Education
3.00 credits  Fall, Spring
Study in special interest areas in education.

EPS595 Workshop in Education
3.00 credits  Fall, Spring
Study in special interest areas in education.

EPS596 Workshop in Education
1.00 - 3.00 credits  Offered By Announcement Only
Study in special interest areas in education.

EPS598 Workshop in Education
1.00 - 3.00 credits  Offered By Announcement Only
Study in special interest areas in education.

EPS599 Workshop in Education
1.00 - 3.00 credits  Offered By Announcement Only
Study in special interest areas in education.

EPS602 PSYCHOSOCIAL CHANGE AND WELL-BEING IN EDUCATION
3.00 credits  Summer

EPS603 Higher Education in the United States: From Harvard to Present
3.00 credits  Fall
Broad view of issues and problems in higher education. Fundamental ideas and significant literature are analyzed from historical, philosophical, and societal perspectives.

EPS605 Psychological Bases of Education
3.00 credits  Fall
Review and extension of basic principles of psychology underlying educational practice. Basic concepts of educational psychology which contribute to effective education will be discussed.
EPS606 Community Well-being and Change: Theory and Practice  
3.00 credits  Fall  
This course is designed to promote an understanding of the factors associated with healthy communities. It provides a comprehensive overview of the relevant skills and theories including: ecological/systems theory/models; community theories (sense of community, social capital, environmental psychology); and critical social theory, social justice, and social determinants of well-being.

EPS607 Advanced Individual Study  
1.00 - 6.00 credits  Fall, Spring  
Individual work on a special project under faculty guidance.

EPS608 Advanced Individual Study  
1.00 - 3.00 credits  Fall, Spring  
Individual work on a special project under faculty guidance.

EPS609 Managing Community Organizations  
3.00 credits  Summer  
This course is designed to develop leadership skills for individuals engaged with community based organizations. Topics will include administrative, management, and fiscal issues. Grant writing, fund-raising, organizational communication, program planning, marketing, innovation, strategic planning, and accountability issues will be examined from a nonprofit organizational perspective.

EPS610 Therapeutic Group Procedures  
3.00 credits  Summer  
This course examines both the theory and practice of group counseling. The course covers therapist issues, patient selection criteria, group structuring as well as basic therapeutic techniques. The course prepares students to design structured counseling groups, to prepare group counseling materials, and to lead counseling groups of various types.

EPS611 Assessment Strategies for Counselors II  
3.00 credits  Summer  
This course emphasizes use of procedures that facilitate preparation for, and evaluation of, mental health interventions. This course involves intensive study of theory and research relating to various models and processes of clinical assessment and practice in the performance of psychological evaluations.

EPS612 Counseling Theories and Practice  
3.00 credits  Spring  
Study of theories and concomitant practices in counseling and therapy.

EPS613 Psychopathology for Counselors  
3.00 credits  Fall  
In depth introduction to abnormal human behavior patterns of concern to mental health professionals. Clinical conditions will be examined within the context of currently most viable theory and research relating to etiology, assessment, diagnosis and treatment.

EPS614 Counseling and Sexuality  
3.00 credits  Summer  
Emphasis is placed on self-awareness and acceptance of all dimensions of human sexuality. Readings and classroom activities focus on biological aspects of sexuality, an understanding of sexual dysfunctions, and their treatment.
EPS615 Family Therapy  
3.00 credits  
*Spring*  
Concentrated study of several approaches to family therapy including systemic and psychosocial perspectives. Theory and techniques of family therapy are taught in lecture, videotape, and simulation.

EPS616 Therapy for Couples  
3.00 credits  
*Summer*  
Theory and technique linked to working with couples, in marriage and in other relationships.

EPS618 Practicum in Counseling I  
1.00 - 3.00 credits  
*Fall, Spring*  
Supervised experience at the Institute for Individual and Family counseling and other appropriate clinical settings relating theoretical formulations to intervention strategies appropriate to specialization.

EPS619 Practicum Laboratory I  
1.00 - 3.00 credits  
*Fall, Spring & Summer*  
Individual, dyad, and small group supervision.

EPS620 Counseling Psychology: Theory, Research and Practice  
3.00 - 6.00 credits  
*Fall, Spring*  
Orientation to counseling psychology as a discipline including theories, research methodology, contemporary research, lifestyle and career development theory, and professional issues. Required of all first year counseling psychology students. May be taken for 3 or 6 credits to a maximum of 12 credits.

EPS621 Psychological Appraisal I  
3.00 credits  
*Fall*  
Orientation to psychological appraisal with emphasis on development of skill in assessment of intellectual functioning.

EPS622 Psychological Appraisal II  
3.00 credits  
*Spring*  
Orientation to psychological appraisal with emphasis on use of procedures which facilitate preparation for, and evaluation of, intervention efforts in the personality and social-behavioral areas.

EPS623 Substance Abuse and Addictions: Theories and Counseling  
3.00 credits  
*Fall*  
Theories and research on individual, systemic causes, and outcomes of substance abuse, and concomitant practices in counseling and therapy.

EPS624 Theory and Practice with Children and Adolescents  
3.00 credits  
*Summer*  
Course prepares students to provide preventive and therapeutic interventions with children and adolescents including theory, research, and practice.

EPS625 Research and Program Evaluation in Counseling  
3.00 credits  
*Spring*  
Course focuses on the interpretation and application of research data as applied to clinical practice. Skills in using behavioral research-based literature to identify, evaluate and interpret appropriate interventions are also emphasized.
EPS626 Bereavement and Attachment Factors for Children and Families
1.00 - 3.00 credits

This course will focus on attachment and development of factors as they relate to the bereavement and loss experience of children, adolescents, young adults, and families. Effective methodology in the care of these populations will be explored. Content will include the trajectory of grief in childhood development, manifestation of loss and grief, risk factors in the loss experience, attachment issues, types of loss, popular notions of loss and treatment, and best practice in bereavement work.

EPS628 Doctoral Practicum I
1.00 - 9.00 credits

Supervised counseling experiences with clients at the Institute for Individual and Family Counseling. Individual and small group supervision by program faculty.

EPS629 Doctoral Practicum II
1.00 - 9.00 credits

Supervised counseling and assessment experience in outside agencies, hospitals and community settings. Small group case conference conducted by program faculty.

EPS630 Advanced Practicum in Counseling Psychology
1.00 - 9.00 credits

Supervised experience appropriate to the work of the counseling psychologist.

EPS631 Student Diversity in American Higher Education
3.00 credits

Emphasis on the diversity of today’s undergraduate students. An examination of the sociological context and philosophical orientation of contemporary college students is included.

EPS632 Preparing Future Faculty Seminar
1.00 - 3.00 credits

The goal of this course is to introduce you to the larger role of university professor. The class is designed to give you some general sense of university structure and of the breadth of opportunities in higher education, to think through your own vision of being a professor particularly the part of that role that focuses on teaching, and to help you on the job search by preparing a professional portfolio that will help you get that first job and, hopefully, set you on a smooth career path. The PFF seminar will provide you with contextual and interdisciplinary knowledge of professoriate. Each seminar will be designed to aid you in your goal to become an outstanding faculty member. PFF will give you an overview of life on the academic job market and the pre-tenure years. It is your responsibility to tailor that information to fit your needs. It is expected that you take the information you learn in PFF and speak with mentors in your discipline to glean further insights into faculty life.

EPS633 Organization of Higher Education II: Governance, Leadership and Finance
3.00 credits

Provides an overview of selected topics in governance, administrative leadership and finance in higher education.
**EPS634 Supervision in Counseling Psychology**

3.00 credits  
**Fall, Spring**

The course includes a didactic presentation of theories of supervision and consultation. Application of supervision theories with opportunities to practice beginning supervisor skills.

**EPS635 College Student Development: Theory, Research and Practice**

3.00 credits  
**Spring**

Emphasis on student growth and development during college and an analysis of the factors which affect development along cognitive and affective dimensions. An in-depth examination of college student development theories is included.

**EPS636 Critical Issues in Student Affairs**

3.00 credits  
**Offered By Announcement Only**

Emphasis on the most pressing issues facing the profession of student affairs today including diversity, funding, staff retention and the law and student affairs.

**EPS640 Enrollment Management: Theory and Practice**

3.00 credits  
**Fall**

Comprehensive overview of principles and practices of a strategic process that begins with recruitment and continues through graduation.

**EPS641 Advanced Seminar in Enrollment Management**

3.00 credits  
**Spring**

In-depth exploration of topics in enrollment management, including market research, market testing, pricing strategies, strategic planning, and development of a future vision.

**EPS644 Development & Change in Community Organizations: Theory & Practice**

3.00 credits  
**Spring**

This course focuses on the unique role of non-profit, community-based organizations in promoting human and community development. Students will engage in an analysis of the range of functions that organizations serve and the various organizational strategies used in community settings.

**EPS646 Seminar in Higher Education/Enrollment Management: Contemporary Issues**

3.00 credits  
**Fall**

**EPS647 Seminar in Higher Education Administration: Contemporary Issues**

3.00 credits  
**Spring**

ONLINE course: Special refund policy apply. No refunds given after the start of the course. Open to only students admitted to the Online Graduate Certificate Program. Please contact Carol Wilson at umiamionline@miami.edu regarding registration.

**EPS648 Multicultural Communities in a Globalized Society**

3.00 credits  
**Fall**

This course examines the relationship between multiculturalism and globalization and how these concepts impact education and the world at large. Topics include dimensions of human diversity, identities and acculturation; race and class; gender and power; children and youth; social inclusion and social justice; health disparities; poverty and work; racism and inequality.
EPS650 Meta-analytic methods for research synthesis.
3.00 credits
Fall
Meta-analysis is the general practice of combining, comparing, and interpreting statistics across a set of studies that investigate the same (or similar) phenomena using a properly motivated theoretical framework. Meta-analysis has become a popular tool in a variety of research disciplines, including the social sciences, education, medicine, and business. This course provides a thorough introduction to the theoretical foundations of meta-analysis, discusses commonly used statistical techniques, and analyzes several examples of the existing meta-analysis. Emphasis is placed on application, so that students are trained to independently perform a meta-analysis, from start to finish, in whatever substantive area interests students the most.

EPS654 Program Evaluation
3.00 credits
Fall
Terminology, models, standards, practices, and common problems associated with program evaluation in Educational and Social Service settings. Prerequisite: EPS 670 and 553 or equivalents.

EPS658 Seminar in Community & Social Change
3.00 credits
Fall, Spring & Summer

EPS659 Field Experience in Educational Research
2.00 - 6.00 credits
Fall, Spring
A total of 125 hours of supervised practical experiences in educational research. Emphasis is placed on actual participation in a wide variety of on-going research projects through associations with an approved educational R & D center. Normally taken in two or three credit blocks.

EPS661 Measurement and Psychometric Theory
3.00 credits
Spring
This course provides an introduction to the theory and application of measurement and psychometric models used in the behavioral sciences.

EPS662 Item Response Theory
3.00 credits
Fall
The purpose of the course is to provide training in the theory and application of item response theory (IRT) as it pertains to educational and psychological measurements. Focus will be given to discussing IRT as a measurement model used to measure the properties of items and individuals. Particular attention will be given to contrasting the properties of the IRT model to the classical test theory, and the application of IRT to actual data sets.

EPS663 Professional Psychological Spanish
3.00 credits
Summer
Acquisition of Spanish language skills necessary for functioning as a psychologist or mental health professional. Implications of language for the therapy process. Professional roles of bilingual counselors and psychologists.

EPS665 Psychological Interventions with Hispanic/Latino Populations
3.00 credits
Fall
Explores the diversity of experiences among Hispanics and their implications for therapy. Topics include: racial diversity among Hispanics, sociopolitical factors in mental health, the impact of immigration on mental health, special psychological treatments: trauma treatment, family interventions and bilingual counseling.
EPS670 | Introduction to Research Methods  
--- | ---  
3.00 credits | Fall  
The nature of disciplined inquiry in behavioral and social sciences. Includes philosophy of science, quantitative and qualitative research, basic concepts in sampling and measurement, and systematic searches of the research literature. Students required to complete literature search on a topic of their interest and submit a report of their findings.  

EPS671 | General Linear Models  
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3.00 credits | Fall, Spring  
Group comparative designs, univariate parametric and nonparametric methods and statistical inference will be discussed. Topics include probability, sampling, estimation, ANOVA, ANCOVA. Students will be required to use computer packages (SAS/SPSS).  

EPS672 | APPLIED MULTIVARIATE STATISTICS  
--- | ---  
3.00 credits | Spring  
This course will provide: (1) a conceptually-oriented introduction to regression methods and (2) opportunities to learn related data-analytic techniques.  

EPS673 | An Introduction to Structural Equation Modeling for Multivariable Data  
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3.00 credits | Spring  
This course will provide (1) a conceptually-oriented introduction to Structural Equation Modeling for multivariate data and (2) opportunities to learn related data-analytic techniques.  

EPS674 | Introduction to Multilevel Modeling  
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3.00 credits | Fall  
This course will provide: (1) a conceptually-oriented introduction to multilevel modeling and (2) opportunities to learn related data-analytic techniques.  

EPS675 | Qualitative Methods I  
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3.00 credits | Fall  
An overview of the history, nature, characteristics, strategies, and ethics of qualitative research methods. Critical analysis and evaluation of various types of qualitative studies, including design, sampling, processes of data collection and analysis, and reporting results.  

EPS676 | Qualitative Methods II: Case Studies and Grounded Theory  
--- | ---  
3.00 credits | Spring  
Types and designs of case studies, development of protocol, field work, data analysis, and report writing. Practical procedures and techniques for conducting grounded theory studies, including data coding and analysis, and reporting of results.  

EPS677 | Qualitative Methods II: Interviews and Content Analysis  
--- | ---  
3.00 credits | Spring  
Sociological and oral history interview methods, including methodological issues, computer-based coding, decoding, and interpreting data. Visual and text based content analysis, scoring schemas, and inter-rated reliability are also covered.
EPS678 REGRESSION METHODS
3.00 credits
Spring
The aim of this course is to provide a solid foundation in the basic concepts of multivariate statistics, and its application to practical research questions. This course extends the content of EPS 671 (ANOVA methods) and EPS 672 (regression methods) to cover methods used when there are multiple dependent variables to be modeled simultaneously. This course focuses on the traditional multivariate methods (as opposed to the contemporary models of structure equation modeling) that see wide use in the behavioral sciences. The general topics covered in the course include, but are not limited to: introductory matrix algebra, multivariate analysis of variance (MANOVA), factorial MANOVA, discriminant function analysis, and exploratory factor analysis. In all cases, this course is intended to provide a solid conceptual background of these topics, as well as a thorough description/practice of the application of these topics to real data scenarios.

EPS679 Research Practicum
1.00 - 6.00 credits
Fall, Spring
Hands on experience in various aspects and processes in research.

EPS680 Cultural Diversity and Mental Health
3.00 credits
Fall
Advanced training in conceptualizing the individual within cultural and sociopolitical contexts with purpose of creating more reflective and intentional clinicians. Includes learning skills for improving the lives of clients in these areas.

EPS685 Dissertation Seminar
3.00 credits
Offered By Announcement Only
The development and analysis of dissertation proposals will be required. Detailed coverage of the research process, proposal elements, dissertation writing and all aspects of doctoral research will be emphasized. Extensive feedback on research ideas and writing is involved.

EPS687 Internship in College Teaching
3.00 credits
Fall, Spring
A program in observation and supervised teaching in the community junior or liberal arts college. The student spends 15-20 hours per week. Included is a seminar held with the college supervisor which meets several times during the semester.

EPS688 Practicum: Administration of Higher Education
1.00 - 6.00 credits
Fall, Spring & Summer
This course is designed to provide students with an opportunity to develop professional competencies while they apply theory to practice. Opportunities can be pursued in enrollment management or student affairs related offices either on campus or at other higher education institutions. Students will contract for the type of experience desired and a formal research paper and presentation will culminate this activity.

EPS690 ADVANCED TOPICS IN RESEARCH, MEASUREMENT, AND EVALUATION
3.00 credits
Fall, Spring
Review of emerging quantitative methodological advances relevant to educational research for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allow for experimental instructional formats. See Course Notes for specific topic.
EPS698 Advanced Individual Study
1.00 - 3.00 credits                                           Fall, Spring & Summer
Individual work on a special project under faculty guidance.

EPS699 Advanced Individual Study
1.00 - 3.00 credits                                           Fall, Spring & Summer
Individual work on a special project under faculty guidance.

EPS702 Advanced Practicum in Counseling
1.00 - 6.00 credits                                                    Fall, Spring
Group supervision meetings in which students present case conceptualizations, review
information from professional sources regarding their clients, and discuss the
supervisory and organizational dynamics of their out placements settings.

EPS703 Internship in Counseling Psychology
1.00 - 6.00 credits                                                    Fall, Spring
Supervised internship in Counseling Psychology in an approved facility.

EPS710 Master's Thesis
1.00 - 6.00 credits                                           Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments
not to exceed six, as determined by his/her adviser. Credit is not awarded until
the thesis has been accepted.

EPS720 Research in Residence
0.00 credit                                                   Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree
after the student has enrolled for the permissible cumulative total in EPS 710
(usually six credits). Credit not granted. May be regarded as full time residence.

EPS725 Continuous Registration--Master's Study
0.00 credit                                                   Fall, Spring & Summer
To establish residence for non-thesis master's students who are preparing for major
examinations. Credit not granted. Regarded as full time residence.

EPS730 Pre-Candidacy to Dissertation Research
1.00 - 12.00 credits                                          Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as
determined by his/her advisor but not for less than a total of 24. Not more than
12 hours of EPS 730 may be taken in a regular semester, nor more than six in a
summer session. Where a student has passed his/her (a) qualifying examinations,
and (b) is engaged in an assistantship, he/she may still take the maximum allowable
credit stated above.

EPS735 Doctor of Education Dissertation
1.00 - 12.00 credits                                          Fall, Spring & Summer
Required of all candidates for the Ed.D. The student enrolls for credit as determined
by his/her advisor. Credit is not awarded until the doctoral project has been accepted.
Total enrollment may not exceed 12 credits.

EPS740 Post-Candidacy Dissertation Research
1.00 - 12.00 credits                                          Fall, Spring & Summer
EPS750 Research in Residence
0.00 credit  
Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and Ed.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate school.

Kinesiology

KIN502 Sport Sponsorship and Promotion
1.00 - 3.00 credits  
Summer

KIN520 Cellular Exercise Physiology
3.00 credits  
Spring
The course examines Bioenergetics and Muscular Physiology in training and detraining. Topics include the energy systems and their functional application during exercise, muscle structure and function, cellular and sub-cellular modifications of organelles and contractile mechanisms as result of training and physiological bases of training techniques.

KIN521 Systemic Exercise Physiology
3.00 credits  
Fall
The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular and the pulmonary systems. Students will be able to understand and interpret terminology and research literature published in the field.

KIN524 Athletic Training Techniques - Rehabilitation
3.00 credits  
Fall
This course will introduce theoretical concepts that must be understood in order to be able to rehabilitate a musculoskeletal injury. Regarding actual rehabilitation techniques, the emphasis will be on therapeutic exercise with only a brief introduction to therapeutic modalities.

KIN525 Advanced Kinesiology
3.00 credits  
Fall, Spring
In-depth study of the human skeletal and muscular systems with a focus on the mechanics of movement as related to physical activity, sports, and athletics.

KIN527 Community and Global Nutrition
3.00 credits  
Fall, Spring
This course is designed to provide an overview of nutritional issues & related aspects of infectious and chronic disease impacting the health and performance of athletes, individuals & groups domestically & globally. Economic and environmental issues which impact nutritional status and deficiency in the Western societies & third world countries will be addressed. An international and cultural perspective on food, eating behaviors and customs will be explored.
KIN530 Laboratory Techniques in Functional Evaluation of Skeletal Muscle
3.00 credits
Spring
This course examines the theories of data collection and collection techniques used to evaluate musculo-skeletal and neuromuscular function. The application of both computerized and non-computerized collection systems for performance evaluation is covered. The course is also designed to establish a clear linkage between the acute and chronic musculo-skeletal and neuromuscular changes that occur during exercise and the laboratory methods used to assess those changes. Collection theory, musculoskeletal and neuromuscular function, methods of strength evaluation, anaerobic power testing, electromyography, and a number of other functional parameters will be discussed.

KIN532 Sports Injuries: Prevention and Treatment
3.00 credits
Fall, Spring
Prevention, diagnosis, treatment and rehabilitation of sports injuries. Anatomical and Kinesiological application to sports injuries.

KIN534 Integrative & Functional Medicine
3.00 credits
Fall
This course will discuss integrative and functional medicine and how it emerged. This course will analyze the healthcare models that include personalized care and the whole-person perspective. In this course we will discuss various factors that influence disease including diet and nutrition, stress, activity level, pharmaceuticals and environmental pollutants. Alternative approaches to treatment will also be discussed.

KIN535 Clinical Biomechanics for Sport Medicine Professionals
3.00 credits
Fall & Summer
A lecture course stressing biomechanics of joints and pathomechanics of orthopedic injuries.

KIN536 Strength and Conditioning I
3.00 credits
Fall, Spring
This course serves as the practical/technical foundation for major compound movements and Olympic lifts. It also provides comprehension of movement specific dynamic warm-ups, advanced stretching techniques, methods for identifying movement compensations and underlying issues as well as evaluating Olympic techniques. Due to the practical nature of the course, all the sections of this course are held in the Hecht Athletic Center (HAC).

KIN537 Strength and Conditioning II
3.00 credits
Fall, Spring
This course is the continuation of Strength and Conditioning I (KIN 536). It provides more advanced Olympic weightlifting techniques and ballistic training, alongside a continued focus on corrective exercises to ensure a reduced risk of injury. The course also provides an introduction to exercise programming including specialized training techniques for athletic development. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

KIN538 Nutrition during the Lifecycle
3.00 credits
Fall
This course is designed to examine the changes in nutrition requirements during the life cycle, particularly as related to growth, development and aging. Psychosocial, cultural, and economic issues related to food intake at various life stages will be reviewed.
KIN543 Professional Training and Counseling for Integrative Health
3.00 credits
Fall
Students will learn the integrative health care model, theories, behavior change models, approaches & techniques used in nutritional counseling to help athletes, individuals and groups implement and sustain behaviors, lifestyles, and attitudes to achieve optimal health. Lecture & personal application will allow for the development of skills in each of these areas.

KIN545 Special Sport Populations
3.00 credits
Spring
This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, and the most recent therapeutic treatments prescribed for the condition.

KIN546 Elite Conditioning I
3.00 credits
Fall, Spring
Elite Conditioning I provides an introduction to evaluation techniques catered specifically to the athletic population including tests for strength, power, speed, agility, balance and stability. The courses also provides instruction on how to apply these evaluations to their respective sports/positions. These evaluation techniques provide data that students will use in the process of corrective exercise prescription. Students are taught how to implement corrective strategies to improve athletic performance. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

KIN547 Elite Conditioning II
3.00 credits
Fall, Spring
Elite Conditioning II is the continuation of Elite Conditioning I (KIN 546. This course provides students with an understanding of the design and implementation of periodized conditioning programs for athletes based on the testing, evaluation, and applications to specific sports learned in Elite Conditioning I. The course focuses on speed agility and quickness for sports. It also includes practical implementation of ballistic, plyometric, speed, and conditioning drills emphasizing evidence based methods and training techniques. Due to the practical nature of the course, all sections of this course are held in Hecht Athletic Center (HAC).

KIN549 Nutrition Assessment and Lab
3.00 credits
Fall
Application of the principles of normal and therapeutic nutrition, nutrition assessment, evaluation and intervention as related to sports performance and the management and treatment of disease states. Laboratories will allow for the development of skills in each of these areas.

KIN550 Nutrition Biochemistry and Integrative Metabolism
3.00 credits
Fall, Spring
To learn the fundamental biochemical structure and pathways governing nutrient intake and utilization. Students will learn how major forms of nutrients (macronutrients, vitamins, minerals and trace elements) are processed and utilized by different organs with a particular emphasis on muscle metabolism. Students will also learn how to relate their newly acquired knowledge to health and disease outcomes with focus on lifestyles disease related to metabolism such as diabetes and obesity.
KIN557 Diagnostic Imaging Techniques In Sports Medicine
3.00 credits Spring
This course is designed as an elective for undergraduate KIN students or graduate students. The basic physics of radiological imaging will be covered including radiology, fluoroscopy, CT scan, ultrasound, MRI, and nuclear medicine including image archiving. Normal anatomy will be compared to the corresponding radiographic anatomy. Common sports injuries will be evaluated by multiple radiographic modalities and will be correlated with the clinical condition. Discussion will include bony pathology as well as soft tissues such as ligaments, tendons, and menisci.

KIN561 Facility Management
3.00 credits Fall, Spring
Facility management provides students with an understanding of fitness entrepreneurship, giving students a comprehensive understanding of the, laws, regulations, policies, and work involved in setting up a fitness facility such as a gym, wellness center, or athletic training center. Students are responsible for developing a viable sports or fitness complex including all aspects of administrative and facility management.

KIN562 Fiscal Management in Sport Administration
3.00 credits Fall
Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

KIN563 Facilities and Event Management
3.00 credits Spring
This course is designed to introduce students to principles and practices of planning, funding and managing facilities associated with sports participation including professional sport venues, college sports, parks, recreational sport and health/fitness clubs. Students will gain an understanding of promoting, marketing, and maintaining sport facilities.

KIN564 Principles of Sport Marketing
3.00 credits Fall, Spring
This course will focus on the vast world of sports marketing. The basic principles of marketing and marketing management will be introduced and integrated with application of these principles to sport and sports-related organizations.

KIN565 Legal Aspects of Sports and Exercise Science
3.00 credits Spring
Legal liability, personal injury, negligence and other related legal aspects of sports and exercise science.

KIN567 Elements of Sports Psychology
3.00 credits Fall, Spring & Summer
Introduction to the study of sport and exercise psychology including theory, current research and practical application.

KIN569 The Foundations of Exercise Prescription
3.00 credits Fall, Spring
Students will learn various assessments of Health and Wellness, and discover how to most effectively prescribe exercise strategies to treat the diagnosed needs of an individual.
KIN570 Advanced Programming
3.00 credits
Fall, Spring
Advance programming allows students to dissect sports by movement, metabolism and limitation. The course investigates current trends and evidenced based applications of specific training techniques for optimal sport performance. Students will perform complete sports analysis and develop periodized programs for major sports.

KIN572 Creative Approaches to Problem Solving and Conflict Management
3.00 credits
Spring
This hands-on course will examine the concepts of problem solving and conflict management from both personal and organizational perspectives. Students will have the opportunity to study in-depth both of these concepts (and the relationship between them) through a combination of lecture, theory, individual and group activities, readings, practical exercises, and self-assessment tools.

KIN573 ADVANCED SPORT GOVERNANCE
3.00 credits
Spring & Summer
This course provides the student with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and Olympic levels. In addition, policy development in sport management will be explored.

KIN574 Ethical Decision Making in Sports and the Professions
3.00 credits
Fall, Spring
This course will examine ethical decision-making in a variety of environments with an emphasis on sport professions. Real and hypothetical situations will be utilized, and the course will combine theory with practical application. The case method in sport ethics will be incorporated.

KIN575 Essential Leadership in Sport and the Professions
3.00 credits
Fall, Spring
This course will examine the concept of leadership as it pertains to sports and other professions. Various leadership and management skills will be included with a focus on practical applications in a work environment. Theory and self-assessment strategies will be incorporated.

KIN577 Advanced Nutrition for Health and Fitness
3.00 credits
Fall, Spring & Summer
This course presents an in-depth study of the nutritional concerns of today's Recreational and competitive athlete. Topics include dehydration, classic carbohydrate loading, protein needs, ergogenic aids, and more. State-of-the-art research in the field is provided. This is also a writing intensive course. Thus, writing skills will represent an integral part of one's grade.

KIN578 Pharmacology for Allied Health Professionals
3.00 credits
Spring
The study of drug families and drugs in common use across spectra of age, illness, disease, and disability. Students will understand body systems treated with current pharmaceuticals over-the-counter (OTC) medications, and nutraceuticals. Actions, key adverse effects, and influences on individuals undergoing physical activity will be emphasized.
KIN579 Principles of Exercise Prescription/Assessment: Cardiovascular
3.00 credits Spring
This course presents a comprehensive overview of the physical, physiological and metabolic responses of the human body to exercise testing and training both in health and disease. The successful student will gain an understanding of the process involved in prescribing safe and effective therapeutic exercise in healthy individuals as well as patients with heart and lung disease, diabetes and obesity. An overview of environmental and legal considerations in the prescriptive process will also be discussed.

KIN580 Principles of Exercise Prescription: Neuromuscular
3.00 credits Spring
An examination of the scientific bases of modern training techniques designed to optimize performance, their functional application and potential impact on performance in sport and everyday activity.

KIN584 Obesity, Metabolic Disease, and Inflammation
3.00 credits Fall, Spring
The focus of this course is on the integrative neurophysiological functions that regulate and influence obesity, metabolic disease, and inflammation. Students will be able to understand the role that chronic inflammation plays in the pathology of disease. A combination of lecture, critical reading, and group discussion will be utilized to explore the underlying basis for metabolic abnormalities.

KIN585 Advanced Topics in Kinesiology and Sport Sciences
3.00 credits Spring & Summer
This course will provide a synthesis of essential concepts in specialty subjects relevant to one's field of interest.

KIN586 Exercise Prescription/Assessment Laboratory
3.00 credits Fall
This course presents an overview of the laboratory techniques used to assess cardiovascular endurance and general fitness, pulmonary function and anaerobieses observed during competition.

KIN588 ADVANCED GROSS ANATOMY in Kinesiology and Sport Sciences
3.00 credits Spring
Human dissection of the major muscles, arteries and nerves of the body. Course is held at the University of Miami, Medical Campus, cadaver laboratory. Special consideration is given to injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. Students are required to pay a $100 laboratory fee for the class. This course is to be taken by undergraduate Athletic Training majors and for the 5-year Sports Medicine with a Concentration in Athletic Training program students only.

KIN589 Directed Readings in Kinesiology and Sport Sciences
3.00 credits Fall, Spring & Summer
Directed Readings focusing on research and contemporary trends in the field.

KIN590 Special Topics in Kinesiology and Sport Sciences
1.00 - 3.00 credits Fall, Spring & Summer
This course is designed for students wishing to focus on a specific area of study within the umbrella of the Kinesiology and Sport Sciences curriculum. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.
KIN599 Advanced Programming for Endurance Athletes  
3.00 credits  
Fall, Spring  
This course provides students with training techniques to improve aerobic capacity, endurance, and lactate threshold for optimal performance. Students will review evidenced based principles of sports nutrition, strategies to ensure proper hydration, thermoregulation, and fuel (substrate) availability during prolonged exercise as well as develop programs for competitive sports including triathlon, marathon, and cycling.

KIN603 Contemporary Issues in Kinesiology and Sport Sciences  
1.00 - 3.00 credits  
Spring  
Problem identification, investigation, analysis, and problem solving approaches in Kinesiology and Sport Sciences.

KIN610 Advanced Adolescent Growth and Maturation  
3.00 credits  
Spring  
This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes that impact physical performance. Additionally, students will learn the basis of training pediatric populations.

KIN612 Applied Sport Psychophysiology  
3.00 credits  
Fall  
The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular system, and the pulmonary system. Students will be able to understand and interpret terminology and research literature published in the field.

KIN615 Evidence-Based Sports Medicine  
3.00 credits  
Spring  
Introduction to clinical epidemiology and the evaluation of the efficacy of prevention, diagnostic, and treatment strategies or orthopedic injuries in sports medicine.

KIN616 Advanced Rehabilitation Techniques in Sports Medicine  
3.00 credits  
Spring  
This is an advanced athletic training course designed to enhance the athletic trainer's ability to plan and implement a comprehensive sports injury rehabilitation program based on the sequential events of musculoskeletal tissue healing. Discussion focuses on the development of a conceptual model for sports injury rehabilitation which incorporates rehabilitation phases, intervention goals, and progression criteria. Application of the problem-oriented approach to the management of athletic injuries is a predominant theme throughout this course.

KIN617 Advanced Evaluation Techniques in Sports Medicine  
3.00 credits  
Fall  
A lecture/lab course stressing clinical techniques involved in the use of posture evaluation, back evaluation, advanced orthopedic evaluation, and gait analysis, in conjunction with the scientific foundations of physiology and biomechanical principles associated with advanced evaluation techniques.
KIN620 Practicum in Athletic Training
2.00 credits  Fall
Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and as a clinical instructor.

KIN621 Independent Study I
1.00 credit  Fall
This course is an advanced study of a particular theme or topic in the athletic training field such as students, research topic, and current issues of relevance to certified trainers and other professionals in the sports health care profession. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

KIN622 Practicum in Athletic Training 2
2.00 credits  Spring
Field experience at that athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as certified athletic trainer and a clinical instructor as well.

KIN623 Independent Study 2
1.00 credit  Spring
This course is an advanced study of a particular theme or topic in the athletic training field such as students’ research topic, current issues of relevance to certified athletic trainers and other professionals in the sports health care professions. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

KIN624 Practicum in Athletic Training III
2.00 credits  Fall, Spring & Summer
Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and clinical instructor as well.

KIN625 Independent Study III
1.00 credit  Fall, Spring & Summer
This course is an advanced study of a particular theme or topic in the athletic training field such as students’ research topic, current issues of relevance to certified athletic trainers and other professionals in the sports health care professions. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

KIN626 Practicum in Athletic Training IV
2.00 credits  Spring
Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and clinical instructor as well.
KIN627 Independent Study IV
1.00 credit
Spring
This course is an advanced study of a particular theme or topic in the athletic training field such as students' research topic, current issues of relevance to certified athletic trainers and other professionals in the sports health care professions. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

KIN635 Methods in Biomechanical Analysis
3.00 credits
Spring

KIN640 Neurophysiology in Exercise Science
3.00 credits
Spring
Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

KIN641 Aging: Physiological Changes and Their Implications of Training
3.00 credits
Spring
The physiological changes that occur due to aging and their impact on fall prevention, independence and the application of prophylactic exercise prescriptions.

KIN642 Fundamentals of Cardiology
3.00 credits
Spring
This course represents an in-depth review and evaluation of the field of cardiology. Students must understand the etiology of coronary artery diseases, assessment techniques in the evaluation of cardiac pathologies, the latest risk factors, and most recent trends in treatment and rehabilitation. Phase I through Phase IV review of Cardiac Rehabilitation will be fully examined.

KIN646 Research Methods in Kinesiology and Sport Sciences
3.00 credits
Fall
This course reviews the approach and research methods used to evaluate quantitative research questions in the field of Kinesiology and Sport Sciences.

KIN655 Exercise Biochemistry
3.00 credits
Fall
This course presents an in-depth examination of the biochemical basis of exercise. Topics include carbohydrate and lipid metabolism at rest and during exercise, integration of metabolism, the use of stable isotopes in the characterization of substrate kinetics, and metabolic bases of fatigue. Both the instructor and the students will incorporate current peer-reviewed research in the field.

KIN679 Optional Internship-Strength and Conditioning
1.00 credit
Fall, Spring & Summer
This 1 credit internship allows students to pursue professional internships in the field of strength and conditioning/fitness entrepreneurship. Students will be provided with contact information and a number of opportunities by Dr. Biagioll respective to their interests.
KIN681 Issues Specific to Women's Health
3.00 credits  
This course focuses upon clinical health issues relevant to women. Students will acquire a body of knowledge concerning the specific biological and physiological changes women experience from birth to maturity, and from the pre- to post menopausal state. Women will learn significant issues related to women's health and be able to make more educated decisions regarding their health and treatment options.

KIN683 Sports Medicine for the Female Athlete
3.00 credits  
This course focuses upon the physiological effects of exercise on the female athlete as it relates to her performance and health. Physiological differences between male and female will be examined as it impacts the women's performance abilities and potential. Gender specific problems regarding the exercising female will be explored.

KIN690 STRENGTH AND CONDITIONING INDEPENDENT STUDY/PROJECT
3.00 credits  
Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

KIN691 Practicum in Kinesiology and Sport Sciences/Master's students
1.00 credit  
The course presents graduate students with the theoretical and practical tools necessary for expanding their critical thinking and argumentative skills in order to present their scientific research results in an evaluative, logical and analytical manner. The course consists of weekly presentations of related literature, results, and findings on various Master's projects.

KIN693 Research Colloquium.
1.00 - 3.00 credits  
This course presents graduate students with the theoretical and practical tools necessary for presenting their scientific research in an organized, logical, and analytical manner.

KIN694 Advanced Individual Study
1.00 - 3.00 credits  
The Application for Admission to Individual Study Form will be required.

KIN695 Graduate/Clinical Field Experience in Kinesiology and Sport Sciences
3.00 credits  
Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

KIN696 Field Experience in Sport Administration I
1.00 - 9.00 credits  
Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.
KIN697 Field Experience In Sport Administration II
1.00 - 3.00 credits                      Fall & Summer
Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

KIN698 Field Experience in Sport Administration III
1.00 - 3.00 credits                      Summer
Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

KIN699 Special Project
1.00 - 3.00 credits                      Fall, Spring & Summer
This course represents the capstone course in a student's field and should represent a culmination of all information learned in class.

KIN710 Master's Thesis
1.00 - 6.00 credits                      Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

KIN720 Research in Residence
0.00 credit                             Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ESS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

KIN725 Continuous Registration--Master's Study
0.00 credit                             Fall, Spring & Summer
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

KIN730 Pre-Candidacy to Dissertation Research
1.00 - 10.00 credits                     Fall, Spring & Summer
Admission to doctoral program. Requires approval of advisor and department chair.

KIN735 PRACTICUM
1.00 - 2.00 credits                      Fall, Spring & Summer
The course presents graduate students with the theoretical and practical tools necessary for expanding their critical thinking and argumentative skills in order to present their scientific research results in an evaluative, logical and analytical manner. The course consists of weekly presentations of related literature, results, and findings on various Doctoral projects.

KIN740 Post-Candidacy Dissertation Research
1.00 - 12.00 credits                     Fall, Spring & Summer

KIN750 Research in Residence
0.00 credit                             Fall, Spring & Summer
Used to establish research in residence for the PH.D. Student, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate school.
TAL501 CLASSROOM BASED ASSESSMENT
1.00 - 3.00 credits
Fall, Spring
Principles and classroom applications of educational measurement and assessment.

TAL502 Classroom Based Research
3.00 credits
Offered By Announcement Only
Application of research principles to evaluation and improvement of teacher effectiveness.
Use of scientific methods in problem solving and decision making in the classroom.
Student experiences in the planning, conduct, analysis and reporting of classroom research are included.

TAL503 Technology Applications in Education
3.00 credits
Fall, Spring
Technology and its role in transforming teaching and learning; core academic-curriculum literacy; and education social systems.

TAL504 Building Positive Relationships in Inclusive Secondary Schools
3.00 credits
Fall, Spring
Designed to assist general education teachers in meeting the needs of diverse secondary school students. Focus on students with disabilities, language and culture in the classroom, and developing culturally competent classroom management methods.

TAL506 Issues and Strategies for ESOL
3.00 credits
Offered By Announcement Only
This course provides a comprehensive foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and TESOL standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development.

TAL508 Language Development for Linguistically and Culturally Diverse Students
3.00 credits
Fall, Spring & Summer
Course will provide an introduction to theories of linguistics, first and second language acquisition, as well as foundations of English learner education. Readings and lectures will serve to highlight the development of language and literacy, including challenges faced by students for whom Standard English is a second language and/or a second dialect. This course will be the first in a two- course ESOL sequence.

TAL517 Curriculum, Assessment, Teaching and Learning for Physical Science
3.00 credits
Fall, Spring
Analysis of content knowledge, pedagogy, and materials appropriate for teaching physical science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in physical science, pedagogy, and student literacy in physical science.

TAL518 Curriculum, Assessment, Teaching and Learning for Number, Operations, and Algebra
3.00 credits
Fall, Spring
This course examines topics that address the mathematical ideas underlying number, operations and algebra. Related curriculum, instructional and assessment issues will be also discussed.

TAL520 Curriculum, Assessment, Teaching and Learning for Measurement and Geometry
3.00 credits
Fall, Spring & Summer
Topics involving measurement and geometry in the K-16 mathematics curriculum, how students learn and reason, assessment, instructional strategies.
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Graduate Course Listing
School of Education
Teaching and Learning

TAL522 Curriculum, Assessment, Teaching and Learning in the Earth Sciences
3.00 credits
Fall, Spring
Analysis of content knowledge, pedagogy, and materials appropriate for teaching Earth science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in Earth science, pedagogy, and student literacy in life science.

TAL524 Education and the Arts
3.00 credits
Fall, Spring
Exploration of the fine and performing arts and their relation to PreK-12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

TAL526 Practicum in Reading
3.00 credits
Fall, Spring
Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

TAL527 Language and Assessment in ESOL
3.00 credits
Offered By Announcement Only
Study of language systems with a focus on understanding and applying linguistic terms. Course prepares teachers to conduct informal and formal assessment procedures with English language learners. Field experience with English language learners is required.

TAL528 ESOL Curriculum, Methods, and Assessment.
3.00 credits
Offered By Announcement Only
This course focuses on applying TESOL theories, principles, and current research to the development and use of instructional materials, curriculum, and methods. The course will enhance participant's knowledge of the regular English language arts curriculum in comparison with the ESOL curriculum.

TAL531 Educating Exceptional Students
3.00 credits
Fall, Spring
A survey course in special education emphasizing characteristics and problems associated with various categories of exceptional learners. Policy, issues, and trends in special education will be discussed.

TAL540 Instruction and Assessment in the Secondary School.
3.00 credits
Fall, Spring
Research-based instructional processes in the secondary school.

TAL541 Instruction in Secondary English.
2.00 - 3.00 credits
Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching language arts in the secondary school.

TAL542 INSTRUCTION IN SECONDARY MATHEMATICS
1.00 - 3.00 credits
Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching mathematics in the secondary school.
TAL543 INSTRUCTION IN SECONDARY SCIENCE
1.00 - 3.00 credits  Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

TAL544 INSTRUCTION IN SECONDARY SOCIAL STUDIES
1.00 - 3.00 credits  Fall, Spring & Summer
Analysis of methods, materials, and content appropriate for teaching the social sciences in the secondary school.

TAL545 METHODS OF TEACHING IN THE ELEMENTARY SCHOOL
3.00 credits  Offered By Announcement Only

TAL550 Language and Early Reading Instruction
3.00 credits  Fall
Factors related to emergent literacy with an emphasis on diverse aspects of language that influence literacy and learning; development of emergent literacy and word perception; emergent literacy curriculum development; appropriate assessment and instructional techniques. Understanding of reading as a process of student engagement in fluent decoding and construction of meaning. Writing intensive.

TAL552 Reading Comprehension
3.00 credits  Spring
Development of comprehension, rate, and study skills; reading in the content areas; evaluation of materials, organization of programs; issues, problems, and exceptional readers. Emphasis is placed on understanding reading as a process of student engagement in fluent decoding of words and construction of meaning.

TAL553 Mentoring and Internship in Classroom Teaching
3.00 - 6.00 credits  Fall, Spring
A comprehensive program of supervised teaching in elementary or secondary class rooms.

TAL554 Literacy and Learning Strategies in the Content Area
3.00 credits  Fall, Spring
Literacy instruction in content areas for grades 6 through 12; instructional methods and materials for development of language arts, reading, and study skills. Emphasis on appropriate materials, motivation, and support for students with exceptional needs and English language learners.

TAL557 Exceptional Student Education and Classroom Management
1.00 - 5.00 credits  Fall, Spring
Introduction to theories and methods of effective classroom management and learning environments, perceptions of disabilities, addressing disruptive behaviors in classrooms and behavioral assessment.

TAL558 ESOL Strategies and Classroom Management
1.00 - 5.00 credits  Fall, Spring
This course provides a general overview of foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and ESOL Standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development. A Classroom Management Plan will be developed based on current issues and effective classroom strategies for diverse populations.
TAL568 Reform, Politics and Social Organizations of Schooling
3.00 credits  Fall, Spring
This course is designed to introduce students to the politics and policy debates in American education, including how the U.S. K-12 public education is organized as a socially-constructed system. We will examine the politics of a variety of recent reforms at the local, federal and state levels and their impact on institutions, students and the public.

TAL569 Teaching and Management for Diverse Classrooms
3.00 credits  Fall, Spring
This course will emphasize building a classroom culture and community that meets the needs of all students, including learners with disabilities and learners with culturally and linguistically diverse backgrounds. A history of major legal requirements for diverse populations is examined, including the meaning of learning differences, definitions and causes of disabilities, language acquisition processes, and methods for teaching diverse populations. An introduction to theories and methods of effective classroom management for building learning communities is integrated throughout the course.

TAL570 Student Teaching in the Elementary School.
6.00 - 9.00 credits  Offered By Announcement Only
A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full-time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

TAL572 Student Teaching in the Secondary School.
6.00 - 9.00 credits  Offered By Announcement Only
A comprehensive program in observation and supervised teaching in the secondary school. The student spends full-time in a secondary school participating in all activities of the teacher under the guidance of school and university personnel.

TAL577 Human Development, Learning and Schooling
3.00 credits  Fall, Spring
Major theories of child development and learning will be discussed with a focus on how they apply to teaching and learning in K-12 schools.

TAL580 Seminar on Teaching
1.00 - 3.00 credits  Offered By Announcement Only
Topical seminar to accompany associate teaching

TAL584 Topics in the Professional Development and Supervision of Teachers.
3.00 credits  Offered By Announcement Only
Topics include the preparation of clinical teachers to induct, guide, and supervise the field experiences of students and associate teachers; techniques in the observation and supervision of in-service teachers; creation and implementation of professional development plans; reading in the research on teacher development across the career.

TAL590 Topics in Education
3.00 credits  Spring
Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.
TAL591 Workshop in Education
1.00 - 6.00 credits  Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL593 Online Teaching and Leadership
3.00 credits  Fall, Spring
Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

TAL596 Workshop in Education
1.00 - 6.00 credits  Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL597 Workshop in Education
1.00 - 6.00 credits  Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL598 Workshop in Education
1.00 - 6.00 credits  Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL599 Workshop in Education
1.00 - 6.00 credits  Offered By Announcement Only
A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

TAL601 Instructional Leadership
3.00 credits  Offered By Announcement Only
An examination of the components of effective supervision of instruction. Leadership theories which apply to educational settings; legal rights and responsibilities of students, teachers and administrators will be covered. As well as the examination of various models of teaching.

TAL603 Teacher in American Society
3.00 credits  Spring
An historical, philosophical, and sociological analysis of the teaching profession in American society. The role and status of teachers in American culture will be discussed. Contemporary issues such as the union movement, status assignment, rewards and incentives, and the role of the teacher as an instrument in the definition of the culture will also be covered.
TAL608 Practicum in Education and Social Change
3.00 credits  
Fall, Spring
This practicum course is the culminating project for the Education and Social Change Master's Program. Participants will review the literature, design, and present an action project within the context of a school or community setting.

TAL609 Practicum in Reading
3.00 credits  
Fall, Spring
Practicum in an educational setting. Participants will apply effective practices in teaching Reading.

TAL610 Early Childhood Curriculum Development
3.00 credits  
Summer
Development of curriculum for children from birth to eight years of age. Emphasis on application of research findings. 20 hours of field experience required.

TAL614 Typical and Atypical Child Development
3.00 credits  
Spring
Theories and research in the development of children from conception through eight years of age. Factors which influence development and the relationship of typical development to patterns of delayed and atypical development. Writing intensive course.

TAL615 Evaluation and Assessment in Infant and Early Childhood Special
3.00 credits  
Fall
Students will become familiar with a variety of formal and informal screening, evaluation, assessment instruments, and procedures currently in use with children birth to eight. They will learn criteria for selecting and using developmentally and culturally appropriate instruments and become familiar with the multi-, inter-, and trans-disciplinary team approaches. Students will write formal reports and develop an IEP and an IFSP. May require field experience.

TAL616 Intervention Strategies in Infant and Early Childhood Special Education
3.00 credits  
Spring
The focus of this course will be the implementation of IEPs and IFSPs through the use of developmentally appropriate curriculum, methods, and intervention strategies for infants, toddlers, and young children with special needs. This will include implementation and adaptation of existing curriculum and materials for young children to meet the special needs of this population. May require field experience. Writing Intensive course.

TAL617 Working with Children who Exhibit Challenging Behaviors
3.00 credits  
Fall, Spring
Challenging behaviors in young children; influences of culture, language, ethnicity; applying Response to Intervention in Preschool settings; evidence-based classroom and behavior management strategies; planning intensive individualized interventions; applying positive behavioral support.

TAL620 Reading in the Elementary School
3.00 credits  
Summer
Extending competencies in teaching reading, including exceptional children in the regular classroom, with emphasis on applying findings from research in reading to classroom practices. 20 hours of field experience required for all students who are not currently teaching.
TAL621 Language Arts and Culture in the Classroom
3.00 credits  
Spring  
Extending competencies in the language arts including linguistic and cultural diversity and children with disabilities in elementary classrooms. Emphasis on research applications. 20 hours of field experience required for all students who are not currently teaching. Writing intensive course.

TAL622 Mathematics in the Elementary School
3.00 credits  
Spring  
Content, methods, and research appropriate for teaching mathematics in the elementary school, including exceptional children in the regular classroom. Content is defined as a pre-algebra mathematics. 20 hours of field experience required for all students who are not currently teaching. Writing intensive course.

TAL623 Science in the Elementary School
3.00 credits  
Summer  
Extending competencies of elementary school teachers in teaching science to children, including exceptional children in the regular classroom. Development of science programs based on research which has classroom applications. 20 hours of field experience required for all students who are not currently teaching.

TAL624 Social Studies in the Elementary School
3.00 credits  
Fall  
Extending competencies in teaching social studies to children, including exceptional children in the regular classroom, with an emphasis on research applications. 20 hours of field experience required for all students who are not currently teaching.

TAL625 Literature for Children and Adolescents.
3.00 credits  
Fall  
Study of literature for children and adolescents emphasizing multicultural literature and use of literature across the curriculum. Twenty hours of field experience required.

TAL626 Instructing Students Who Have Literacy Challenges
3.00 credits  
Fall, Spring  
Administration and interpretation of instructional assessments with instructional strategies and materials based upon scientifically based reading research for the prevention and remediation of reading difficulties.

TAL629 Language and Reading Instruction
3.00 credits  
Fall, Spring  
Extending competencies of K-12 school teachers in teaching reading to children, including exceptional children in the regular classroom. Emphasis on applying findings from research in reading and writing to classroom practices.

TAL631 Theory and Instructional Practices for Exceptional Student Education
3.00 credits  
Spring  
Theoretical issues, research, diagnosis, planning, and organization of instruction for exceptional students. Programs of differential instruction, ongoing assessment, and team relationships will be covered.
TAL632 Classroom and Behavior Management  
3.00 credits  
Spring  
An examination of the principles of various theoretical perspectives of classroom management and discipline. Applications to the management of behavior problems of children and adolescents. Contemporary research analyzed and discussed. Writing intensive course.

TAL634 Prescriptive Teaching of Exceptional Students  
3.00 credits  
Fall  
Techniques for individualization of instruction for exceptional students, including educational prescription, and curriculum adaptation.

TAL635 Seminar in Special Education  
3.00 - 12.00 credits  
Offered By Announcement Only  
Study in special interest areas in special education. May be taken for up to 12 credits.

TAL637 Assessment in Exceptional Student Education  
3.00 credits  
Fall  
Administration and interpretation of assessment tools used to assess and evaluate reading and learning difficulties; includes a survey of instructional strategies and materials for the prevention and remediation of reading difficulties based on the results of the assessments.

TAL647 Understanding Culture in the Classroom  
3.00 credits  
Spring  
This course explores the conflicts and the strategies for resolution between the patterns of culture in the classroom and the patterns of culture that school children bring to the classroom - patterns which are learned in their families and communities.

TAL651 Assessment of Reading and Related Learning Disabilities  
3.00 credits  
Fall  
Theories and procedures for screening, diagnosis, and progress-monitoring of reading and related learning disabilities. Includes instruction and supervised clinical experiences in administration and interpretation of assessments with an emphasis on prevention, identification, and remediation of reading and related learning disabilities.

TAL652 Intervention for Reading and Related Learning Disabilities  
3.00 credits  
Spring  
Theories and procedures for screening, diagnosis, and progress-monitoring of reading and related learning disabilities. Includes instruction and supervised clinical experiences in administration and interpretation of assessments with an emphasis on prevention, identification, and intervention of reading and related learning disabilities.

TAL653 APPLIED LINGUISTICS  
3.00 credits  
Fall, Spring  
In-depth study of phonology, morphology, syntax, semantics and pragmatics of spoken and written discourse and the application to second language acquisition theories. Issues of nonstandard dialects and creoles as well as their impact on literacy challenges will be discussed. Globalization of English and linguistic imperialism will be addressed.
TAL655 Seminar in Reading/Learning Disabilities

Offered By Announcement Only

3.00 - 12.00 credits

Contemporary topics in reading and learning disabilities. Rotating topics and faculty. Open only to advanced graduate students in reading and learning disabilities pursuing specialist or doctoral degrees. Specialist students enroll for a total of six hours, and doctoral students for a total of 12 hours. Course may be repeated for a total of 12 credits. Subtitles describing the topics to be offered will be shown in parentheses in the printed schedule, following the title.

TAL656 Seminar in Reading

3.00 credits

Fall, Spring

Seminar providing intensive study of contemporary topics in reading. Open to advanced graduate students in reading.

TAL658 THEORY AND RESEARCH IN WRITING

3.00 credits

Fall, Spring

Seminar that explores the complementary relationship between reading and writing through the reading and analysis of theoretical and research literature on writing theory and writing instruction.

TAL661 The Social and Cultural Foundation of Education

3.00 credits

Fall, Spring

This course is an interdisciplinary seminar reviewing the major literature in the Social and Cultural Foundation of Education. Classic, Modern and Post-Modern texts will be read with an emphasis on the literature written after 1980 (Post-Modern). Emphasis will be placed on the exploration of key policy questions, as well as the analysis of key sociological concepts related to the field such as hegemony, cultural reproduction, social capital and privilege. The course is intended to provide a baseline for understanding the field.

TAL662 Issues and Trends in Multicultural Education

3.00 - 6.00 credits

Offered By Announcement Only

The study and critical examination of the theory and practice of multicultural education. Development of a personal theory of effective education for pluralism is included.

TAL666 Research in Special Education

3.00 credits

Fall, Spring

Critical analysis of empirical research studies in selected areas of special education research, focusing on research designs, data analysis methods, and interpretation of findings.

TAL668 CURRENT ISSUES IN SPECIAL EDUCATION

3.00 credits

Fall, Spring

Current issues and trends in special education from historical, societal, policy, practice and research perspectives. Topics may include identification, referral and eligibility; inclusion and Least Restrictive Environment; parent involvement; participation of students with disabilities in high-stakes testing; cultural/linguistic diversity; the disproportionate placement of minorities; and teacher qualifications, certification and education.
TAL669 Topics in Special Education  
1.00 - 3.00 credits  
Fall, Spring  
Review of emerging policy, practice, empirical research and scholarly writing in important educational issues for which format course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topics.

TAL674 Internship in the Elementary School  
3.00 - 6.00 credits  
Offered By Announcement Only  
A comprehensive program of supervised teaching in a K-6 classroom in the elementary school. The student spends a full semester employed as a full-time teacher while under the guidance of school and university personnel.

TAL675 Internship in the Secondary School  
3.00 - 6.00 credits  
Offered By Announcement Only  
A comprehensive program of supervised teaching in the secondary school. The student spends two full semesters employed as a full-time teacher while under the guidance of school and university personnel.

TAL676 Internship in Special Education Settings  
3.00 - 6.00 credits  
Offered By Announcement Only  
A comprehensive program of supervised teaching in special education settings. The student spends two full semesters employed as a full-time teacher while under the guidance of school and university personnel.

TAL677 Practicum/Internship with Infants and Toddlers with Disabilities (0-3 yrs.)  
1.00 - 6.00 credits  
Offered By Announcement Only  
A comprehensive program in observations and supervised teaching in a school/center for infants and toddlers with disabilities (0-3 yrs.). The student spends full time in the school/center participating in all activities of the teacher under the guidance of school and university personnel.

TAL678 Practicum/Internship with Children with Disabilities (3-5 yrs.)  
1.00 - 6.00 credits  
Offered By Announcement Only  
A comprehensive program in observation and supervised teaching in a school/center for children with disabilities (3-5 yrs.). The student spends full time in the school/center participating in all activities of the teacher under the guidance of school and university personnel.

TAL680 Working with Families of Young Children with Disabilities: Strategies and Medic  
3.00 credits  
Fall  
This course will address issues related to working with families of young children with special educational and health needs. This will include strategies for effective communication and collaboration with all members of the interdisciplinary team. This is a writing intensive course.

TAL681 Methods for Communications and Language in Young Children with Disabilities  
3.00 credits  
Spring  
This course will focus on language theories, models, and methods for birth-eight year olds. The course will present an overview of normal development in communication and discuss conditions that might impede progress as well as signs that would suggest a problem is present. This course may require field experience.
TAL683 STEM TEACHING AND TEACHER EDUCATION  
3.00 credits 
Fall, Spring 
Advanced and specialized topics in research on the teaching and learning of science, technology, engineering and mathematics (STEM) including the development of teachers across their careers, professional development, design experiments, and teacher-learning in and out of school.

TAL684 STEM LEARNING  
3.00 credits 
Fall, Spring 
Provides an overview of the historical roots and current state of the learning sciences, as they apply to the study of learning in science, technology, engineering and mathematics (STEM). Organized around reading, discussion and synthesis of research.

TAL685 STEM CURRICULUM AND POLICY  
3.00 credits 
Fall, Spring 
Study of mathematics and science curricula, with the inclusion of engineering and technology as applied science and mathematics. Study of the competing forces that shape curriculum including standards documents, state and national policy, conceptions of the disciplines, modern and postmodern analyses of curriculum theory.

TAL686 ASSESSMENT IN STEM EDUCATION  
3.00 credits 
Fall, Spring 
Overview of the theoretical and research frameworks for student assessment in science, technology, engineering and mathematics (STEM). Topics include classroom-based assessment, testing for high stakes and other purposes, national and international comparisons in mathematics and science achievement and factors impacting on STEM-related persistence and careers.

TAL687 STEM-EDUCATION RESEARCH PRACTICUM  
3.00 credits 
Fall, Spring 
Defining an empirical or theoretical research issue, arguing for its importance; framing the study based on related research; designing, implementing and documenting appropriate research methods; reporting and interpreting the results; writing and submitting a manuscript in the fields that comprise STEM-education.

TAL688 TOPICS IN STEM EDUCATION  
1.00 - 3.00 credits 
Fall, Spring 
Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which format course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topics.

TAL690 Advance Topics in Education  
1.00 - 3.00 credits 
Spring 
Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

TAL693 Advanced Individual Study  
1.00 - 3.00 credits 
Fall, Spring & Summer 
Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.
TAL694 Advanced Individual Study
1.00 - 3.00 credits Fall, Spring & Summer
Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

TAL696 Practicum/Internship: Elementary Exceptional Student Education Classroom
1.00 - 6.00 credits Fall, Spring
A comprehensive program of observations and supervised teaching in an elementary exceptional student education classroom. The student spends full time in the classroom participating in all activities of the teacher under the guidance of school and university personnel.

TAL710 Master's Thesis
1.00 - 6.00 credits Fall, Spring
The student working on his/her master's or Ed.S. thesis enrolls for credit. In most departments no to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

TAL715 Post-Candidacy Thesis Research
1.00 - 12.00 credits Offered By Announcement Only
Masters-degree and Ed.S. students enrolled for credit as determined by advisor. Credit awarded when thesis is accepted.

TAL720 Research in Residence - Masters
0.00 credit Offered By Announcement Only
Masters-degree and Ed.S. students enrolled for credit as determined by advisor. Credit awarded when thesis is accepted.

TAL725 Continuous Registration - Master's Study.
0.00 credit Fall, Spring
To establish residence for non-thesis master's study who are preparing for major examinations or working on culminating project. Credit not granted. Regarded as full time residence.

TAL730 Pre-Candidacy to Dissertation Research.
1.00 - 12.00 credits Fall, Spring
Doctoral students enrolled for credit as determined by advisor. Credit is awarded when dissertation is accepted.

TAL735 Doctor of Education Dissertation
1.00 - 12.00 credits Offered By Announcement Only
Required of all candidates for the Ed.D. The student enrolls for credit as determined by his/her advisor. Credit is not awarded until the doctoral project has been accepted. Total enrollment may not exceed 12 credits.

TAL740 Post-Candidacy Dissertation Research.
1.00 - 12.00 credits Fall, Spring
Doctoral students enrolled for credit as determined by advisor. Credit is awarded when dissertation is accepted.

TAL750 Research in Residence
0.00 credit Fall, Spring & Summer
Doctoral students enrolled for credit as determined by advisor. Credit awarded when dissertation is accepted.
BME501 Unified Medical Sciences I
3.00 credits Fall
Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry and certain aspects of clinical medicine are unified with an emphasis on cellular and subcellular systems. Not open to BME undergraduates.

BME502 Unified Medical Sciences II
3.00 credits Fall
Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on cardiovascular, renal, digestive, endocrine, and reproductive systems. Not open to BME undergraduates.

BME503 Unified Medical Science III
3.00 credits Spring
Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on neural, sensory, and muscular systems. Not open to BME undergraduates.

BME506 Computer Aided Design in Biomedical Engineering
1.00 credit Spring
Laboratory course for computer based two and three dimensional drawing and design based on ProEngineer. Parametric design, parts, features, assemblies for complex modeling. Applications in biomedical engineering design.

BME507 LabView Applications for Biomedical Engineering
1.00 credit Spring
Laboratory course for computer based instrumentation and design based on Labview. Virtual instrumentation, data acquisition and display, GPIB instrument control, biomedical applications in biosignal recording, and monitoring are discussed.

BME512 Regulatory Control of Biomedical Devices
3.00 credits Spring
Regulatory agencies and requirements, Food and Drug Administration, 510(k) and premarket approval (PMA), international regulatory requirements, ISO 9000 series, CE, UL, product and process validation, quality engineering, quality improvement programs, rapid prototyping, packaging and sterilization, and project management are discussed.

BME520 Medical Imaging Systems
3.00 credits Fall
Engineering and scientific principles of medical imaging systems. The concepts of instrumentation and diagnostic applications of different techniques and systems are presented. Demonstrations or exhibitions of medical systems are given in the visits to clinic and research laboratories. Topics include digital image and image processing fundamentals, radiographic (X-ray, CT), magnetic resonance (MRI) and radio-isotopic (PET) systems, and associated image reconstruction techniques. Basic concepts and simulation of imaging systems are emphasized.
BME521 Medical Imaging Applications
3.00 credits
Medical applications of imaging systems and image processing techniques. Topics include image fundamentals (resolution, format, and storage), image processing fundamentals (transformation, compression, enhancement, segmentation, registration, and reconstruction), and image analysis fundamentals (calibration, quantification, correlation, linearity, and depiction). Course includes dedicated computer laboratory projects and demonstrations given in clinical and research laboratories at the medical campus. Corequisite: BME 570 or equivalent.

BME522 Scanning Electron Microscopy in Biomedical Devices
3.00 credits
Physics and operating principles of scanning electron microscope (SEM), transmission electron microscope (TEM), and optical light microscope. Biological tissue preparation, storage, fixation and digital image storage. Each student will learn to use the SEM in the design and/or analysis of a biomedical device.

BME525 Special Problems
1.00 - 3.00 credits
Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

BME526 Special Problems
1.00 - 3.00 credits
Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

BME531 Technical Entrepreneurship I
1.00 credit
The first half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students propose product ideas, assess those collectively, select a few, form teams, define the product, and perform market analysis. The course is concluded with a business and technical development plan for the team's project. Lectures are presented on a variety of entrepreneurial topics.

BME532 Technical Entrepreneurship II
2.00 credits
The second half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students complete the development of a working prototype and refine their marketing and business plan based on experience gained during the development phase. Lectures are presented on relevant entrepreneurial topics.

BME535 Advanced Biomaterials
3.00 credits
Applications of biomaterials in different tissue and organ systems. Relationship between physical and chemical structure of materials and biological system response are discussed as well as choosing, fabricating, and modifying materials for specific biomedical applications.
BME540 Microcomputer-Based Medical Instrumentation
3.00 credits Offered By Announcement Only
Principles and design of microcomputer-based biomedical instruments, analog and digital signal conversion, microcomputer hardware and software design, algorithm development for medical applications, medical signal processing with microcomputers, software safety in life support systems, and current applications are discussed.

BME541 Medical Electronic Systems Laboratory
2.00 credits Spring

BME545 Biomedical Optical Instruments
3.00 credits Fall
Introduction to geometrical optics, light sources, detectors, and fiber optics with an emphasis on engineering aspects and medical applications. Fiber-optic delivery systems for medical applications, optics of the eye and visual instruments, and optical instruments used in medicine (microscopes, endoscopes, ophthalmic instruments) are discussed. Hands-on sessions in the laboratory are included.

BME546 Medical Applications of Lasers
3.00 credits Spring
Review of geometrical optics, fiber optics, wave optics, laser physics, and technology. Medical laser systems, optical properties of tissue, light propagation in tissue, laser-tissue interactions, and surgical applications of lasers are also covered. Hands-on sessions in the laboratory are included.

BME555 Fundamentals of Computational Neuroscience
3.00 credits Spring
Major concepts include neural signaling and communication from the single neuron to system of neural ensembles and the role of neural computation in engineering applications. Theory and principles of information processing in the brain are presented. Experimental data and computer simulations are used to provide real examples for students experimentation.

BME560 Biomedical Transport Phenomena
3.00 credits Fall, Spring
Fundamentals of transport phenomena in biological systems including diffusion, osmosis, convection, electrophoresis, and transport with binding. Applications to cell electrophysiology and drug delivery. Introduction to physiological fluid flow in tissues.

BME565 Principles of Cellular and Tissue Engineering
3.00 credits Fall
Introduction to cellular and tissue engineering. Current therapeutic approaches for lost/damaged tissue or organ function, tissue engineering strategies to replace/repair tissue or function: infusion of cells, production and delivery of tissue-inducing substances, cells placed on or within biomaterial scaffolds, examples of tissue engineering applications: skin, heart muscle, blood vessels, and blood.
BME570 Biomedical Signal Processing
3.00 credits  Spring
Course topics include quantitative description, analysis, and processing of biophysical and physiological (cardiovascular, neural, sensory, muscular, respiratory and other) signals using computers. Survey of time-frequency representations, correlation, convolution, coherence, filtering, averaging, and classification is also included.

BME571 Introduction to Biosignal Processing Lab
1.00 credit  Fall, Spring
Laboratory course in conjunction with BME 570 course. Corequisite: BME 570.

BME575 Biomechanics II
3.00 credits  Offered By Announcement Only
Applications of linear and nonlinear viscoelastic concepts to the biomedical characteristics of biological tissues and structures at small and large deformations of blood flow, experimental methods of analysis, artificial organs, and life-support systems.

BME581 Radiation Biology and Physics
3.00 credits  Fall
The principles, methods, and results of radiation biology with physics applications in radiation therapy will be introduced in the course. The course will focus on mechanisms of radiation and biological system interaction, biological aspects of the foundation of radiation therapy, and mathematical models for radiobiological analysis. Corequisite or prerequisite: BME 502 or permission of instructor.

BME583 Radiation Protection
3.00 credits  Fall

BME587 Finite Element Analysis for Engineers
3.00 credits  Fall, Spring
Introduction to the finite-element method. Hands-on applications of FEMLAB software to the analysis of structural, thermal, chemical, electro-magnetic, optical, and fluid flow problems.

BME599 Cooperative Education.
1.00 credit  Offered By Announcement Only
Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

BME605 Master's Design Project I
3.00 credits  Fall, Spring & Summer
Comprehensive M.S. design project in biomedical engineering. Open to students in the BS/MS and MS programs.

BME606 Master's Design Project II
3.00 credits  Fall, Spring & Summer
Comprehensive M.S. design project in biomedical engineering. Open to students in the BS/MS.

BME613 Application of Computers in Medicine
3.00 credits  Offered By Announcement Only
Applications in the clinical and medical research laboratories for physiological data acquisition, analysis, and management of patient records. Differences among computer systems and languages for clinical and research activities are also covered.
BME623 Neural Engineering
3.00 credits  
Fall, Spring  
Biophysics of neural communication, quantitative electroencephalography and evoked potentials, sleep, seizure, anesthesia and intraoperative monitoring, neural stimulation, artificial and biological neural networks, cochlear and visual implants, brain and muscle stimulation.

BME625 Special Problems
1.00 - 3.00 credits  
Fall, Spring & Summer  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

BME626 Special Problems
1.00 - 3.00 credits  
Fall, Spring  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

BME628 Advanced Topics
1.00 - 3.00 credits  
Fall, Spring  
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

BME629 Advanced Medical Imaging
3.00 credits  
Offered By Announcement Only  
Analysis of contemporary medical imaging systems and the associated technologies. The course focuses on principles of advanced medical imaging systems. Topics include multimodality imaging, three-dimensional image reconstruction and visualization, clinical and research applications, and derivation and comparison of algorithms.

BME631 Advanced Topics
1.00 - 3.00 credits  
Fall, Spring  
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

BME632 Advanced Topics
1.00 - 3.00 credits  
Fall, Spring  
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

BME640 Implantable Biomedical Devices
3.00 credits  
Offered By Announcement Only  
Development and advances in implantable materials and devices especially those used as electrically driven prostheses. Topics include pacemakers, defibrillator s, catheters, neurological stimulators, heart assist, bone repair, and other diagnostic and therapeutic devices. The historical, medical significance, business, economic, and technical aspects of these devices and the associated instruments for monitoring are discussed. Fundamentals of electrochemical corrosion and stimulation as well the technology of implantable power sources are reviewed.
BME645 Biomedical Optical Imaging and Diagnostics
3.00 credits Offered By Announcement Only
Review of geometrical optics, fiber optics, and tissue optics. Introduction to physical optics: interference, diffraction, and polarization; optical imaging resolution limits, super-resolution imaging, advanced optical microscopy, and optical coherence tomography (OCT). Imaging through scattering tissue, imaging and diagnostics with polarized light, fluorescence, infrared, and Raman spectroscopy and applications are also discussed. Optical diagnostics using scattered light: laser Doppler flowmetry, and dynamic light scattering; and opto-chemical and evanescent wave sensors are also covered.

BME650 Advanced Biomedical Transport Phenomena
3.00 credits Offered By Announcement Only
Continuum mixture theory and applications to mass transport in biological tissues, hydrogels, and other porous media. Mechano-electrochemical coupling phenomena in biological tissues and cells.

BME660 Fundamentals of Cellular and Tissue Engineering
3.00 credits Spring
Principles and advanced topics on cellular and tissue engineering. Topics include biodegradable and non-biodegradable biomaterials, cytokines, the traditional and stem cell-based tissue engineering approaches, bioreactors and special topics such as bone, cartilage and other tissues.

BME680 Biomedical Engineering Seminar
0.00 credit Fall, Spring
Presentation of biweekly seminars by selected speakers and graduate students on current topics of interest in biomedical engineering. Attendance is required of all graduate students registered in biomedical engineering graduate programs.

BME681 Radiation Therapy Physics
3.00 credits Fall, Spring
Application of radiation physics in the field of radiation therapy. The course will cover the relevant subjects of modern physics, the basic modalities and basic instrumentations of radiation therapy, the principles of particle transport and radiation dose computation and quality assurance of radiation therapy instruments. The subject of radiation protection will also be discussed.

BME683 Radiation Therapy Physics Clinical Rotation
3.00 credits Fall, Spring
Students will observe clinical activities at a designated radiation therapy center for ten hours per week. Rotation includes observation of daily treatment, simulation, dose planning, physics quality assurance and routine physics support activities (special physics consultation, weekly physics chart check, monitoring radiation safety activities, support of brachytherapy procedures). Students will meet with the course instructor one and a half hours/week to discuss the schedule and the progress of the rotation activities. Students need to submit reports on each radiation therapy category.

BME710 Master's Thesis
1.00 - 6.00 credits Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.
BME720 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in BME 710 (usually six credits). Credit not granted. May be regarded as full time residence.

BME725 Continuous Registration--Master's Study
0.00 credit
Fall, Spring & Summer
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

BME730 Pre-candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of BME 730 may be taken in a regular semester, nor more than six in a summer session.

BME740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in BME 740 may be taken in a regular semester, nor more than six credits in a summer session.

BME750 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Civil/Architectural Eng

CAE510 Structural Mechanics
3.00 credits
Offered By Announcement Only
Analysis of stress and deformation of solids. Application to systems in the elastic and inelastic range. Topics include beams of special geometry and support, stress concentrations, stresses in elastic foundations, torsion, energy methods, failure theories, and brittle fracture.

CAE511 Advanced Structural Analysis
3.00 credits
Fall
General methods of indeterminate analysis. Elements of energy methods in indeterminate analysis of axial, flexural torsional, and composite members. Basic flexural and stiffness methods and matrix development are also included.

CAE520 Advanced Design of Concrete Structures
3.00 credits
Spring
Design of reinforced concrete flat plates, flat slabs, two-way slabs, long columns, and slab-column connections are discussed. Deflections, crack widths, and background of current ACI Building Code are also included.

CAE521 Advanced Design of Steel Structures
3.00 credits
Fall
Steel framing systems, design of members and connections of braced and rigid frames, design for torsion, and design of steel-concrete composite members are discussed.
CAE522 Design of Prestressed Concrete Structures
3.00 credits Offered By Announcement Only
Materials and systems for prestressing, design of prestressed concrete members for flexure and shear, camber, deflection, and crack control are discussed. Design of continuous beams, compression members, two-way concrete floor systems, and the loss of prestress are also included. Prequisite: CAE 320.

CAE523 Design of Masonry Structures
3.00 credits Offered By Announcement Only
Masonry construction. Design of flexural and compression members, bearing walls, shear walls, diaphragms, and connections of masonry structures. Arches, vaults, and buttresses are also included.

CAE525 Timber Structural Systems
3.00 credits Offered By Announcement Only
Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.

CAE530 Water Resources Engineering II
3.00 credits Fall
Runoff models, routing models, water-quality models, and evapotranspiration models. Design of storm water management systems. Principles of groundwater flow. Design of wells and well fields for public water supply. Legal regulatory, and economic components of water-resources management systems. Comprehensive design project.

CAE531 Surface-Water Hydrology
3.00 credits Offered By Announcement Only
Rainwater characteristics, abstraction processes, surface-runoff, routing, and water-quality models. Design of stormwater-management systems, evapotranspiration, and regional water-management is also included as well as case studies.

CAE532 Ground-Water Hydrology
3.00 credits Offered By Announcement Only

CAE533 Water-Quality Control in Natural Systems
3.00 credits Offered By Announcement Only
Water quality regulations, fate and transport processes, water-quality control in rivers, lakes, wetlands, oceans, and ground water.

CAE540 Environmental Chemistry
3.00 credits Spring
Kinetics, equilibrium, acid-base, oxidation-reduction, and reaction chemistry applied to water and wastewater engineering.
CAE541 ENGINEERING SYSTEMS FOR DISEASE CONTROL AND BIOREMEDIATION
3.00 credits
Classification of microorganisms. Microbial agents of infectious diseases and modes of disease transmission. Control of pathogens through water and waste treatment, food protection, and insect control. Microbial ecology and bioremediation systems. Laboratory exercises in microbiology.

CAE542 Solid and Hazardous Waste Engineering
3.00 credits
Solid-waste characteristics, recycling, incineration, hazardous waste characteristics, prevention, and physical and chemical treatment are covered. Design projects are also included.

CAE543 Air Pollution Control Engineering
3.00 credits
Spring
Fundamentals of air pollution and air quality; properties and control of particulates, volatile organic compounds, carbon monoxide, sulfur oxides, and nitrogen oxides; motor vehicle emissions; health and aesthetic effects (acid rain, visibility), laws and regulations, meteorology and pollutant transport in the atmosphere; indoor air pollution.

CAE553 Transportation Systems Planning and Demand Modeling
3.00 credits
Offered By Announcement Only
Transportation demand analysis and forecasting. Sampling techniques, collection and analysis of survey data. Disaggregate and aggregate models. Trip generation, distribution, modal split and assignment. Transportation network equilibrium. Transportation system management.

CAE560 Sustainable Construction
3.00 credits
Offered By Announcement Only

CAE570 Advanced Foundation Engineering
3.00 credits
Spring

CAE580 Hospital and Health Care Facility Design
3.00 credits
Summer
CAE581 Energy-Efficient Building Design
3.00 credits
Spring
Concepts and methods of energy-efficient and environmentally-friendly building design. Topics include energy and sustainable design strategies, climate, passive and active solar design, passive cooling systems, day lighting, and computer simulation of energy flows in buildings. A quantitative understanding of energy fundamentals, examples from practice, and design exercises using computer simulation programs are emphasized.

CAE590 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Special Topics.

CAE591 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Special Topics.

CAE594 Special Topics
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Special Topics.

CAE595 Special Problems
1.00 - 4.00 credits
Offered By Announcement Only
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

CAE599 Cooperative Education
1.00 credit
Offered By Announcement Only
Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

CAE602 Finite Element Methods
3.00 credits
Offered By Announcement Only
Variational principles and their application to finite element methods. Applications to: plane stress and plane strain, three-dimensional stress analysis, bending of plates, and axi-symmetric shells. Lecture, 3 hours.

CAE603 Master's Design Project I
3.00 credits
Fall, Spring & Summer
Comprehensive design project in civil, architectural, or environmental engineering.

CAE604 Master's Design Project II
3.00 credits
Fall, Spring & Summer
Continuation of CAE 603.

CAE605 Master's Project
3.00 credits
Fall, Spring & Summer
Project in civil, architectural, and environmental engineering. Course is required for the non-thesis master's student.
CAE611 Theory of Elasticity
3.00 credits Offered By Announcement Only

CAE612 Structural Reliability
3.00 credits Offered By Announcement Only
Development of structural safety concepts, design code applications, load process analysis, and interaction of load and resistance variability. Consideration is given to structural system serviceability and safety.

CAE614 Structural Dynamics
3.00 credits Offered By Announcement Only
Dynamic responses of structural elements in both the elastic and inelastic ranges. Lagrange's equations, energy models, numerical and analytical methods, vibrations of continuous systems (beams and plates) are discussed. Assigned readings.

CAE616 Fracture Mechanics
3.00 credits Offered By Announcement Only
Theory of fracture mechanics for linear elastic and nonlinear material behavior, energy release rate, stress intensity factor, and J-integral with practical application to brittle fracture and fatigue. Case studies involving civil infrastructure such as bridges, buildings, pipelines and ships. Metallurgical aspects of fatigue and fracture.

CAE630 Environmental Hydrology
3.00 credits Offered By Announcement Only
Principles of ecohydrology, agricultural hydrology, impacts of climate change, fundamentals of remote sensing and geographic information systems for hydrologic applications, statistical applications in hydrology.

CAE631 Wastewater Treatment and System Design
3.00 credits Offered By Announcement Only
Characterization of domestic wastewater and flows. Sources of wastewater and health considerations. Unit processes for treatment of wastewater including screening, sedimentation, filtration, flocculation floatation, activated sludge, disinfection, sludge digestion, and sludge disposal.

CAE632 Water Treatment and System Design
3.00 credits Offered By Announcement Only
Drinking water treatment standards, philosophy of setting standards, public health aspects of organic and inorganic contaminants, basis for design of treatment facilities, design of unit processes for aeration, sedimentation, coagulation, filtration, softening, disinfection, and oxidation are covered. Theory of membrane processes, ion exchange, and water treatment plant residuals are also included.

CAE635 Water and Wastewater Engineering: Treatment and Reuse
3.00 credits Offered By Announcement Only
CAE643 Risk Analysis

3.00 credits
Offered By Announcement Only


CAE680 Indoor Environmental Modeling

3.00 credits
Offered By Announcement Only

Prediction of indoor environment using computational fluid dynamics techniques. Advanced topics in thermal comfort and indoor air quality. Basic concepts of turbulence modeling and numerical methods for natural, forced, and mixed convection and jet flows indoors. Simulation of air velocity, temperature, and contaminant concentrations in buildings. Comparison of the simulated results with measured data.

CAE690 Special Problems

1.00 - 3.00 credits
Offered By Announcement Only

Research and/or design projects. Individual investigation of current problems. Offered by special arrangement only.

CAE695 Advanced Topics

1.00 - 3.00 credits
Offered By Announcement Only

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

CAE696 Advanced Topics

1.00 - 3.00 credits
Offered By Announcement Only

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

CAE697 Advanced Topics

1.00 - 3.00 credits
Offered By Announcement Only

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

CAE710 Master's Thesis

1.00 - 6.00 credits
Fall, Spring & Summer

The student working on his/her Master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

CAE720 Research in Residence

0.00 - 6.00 credits
Fall, Spring & Summer

Used to establish research in residence for the thesis for the Master's degree after the student has enrolled for the permissible cumulative total in CAE 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

CAE725 Continuous Registration--Master's Study

0.00 credit
Fall, Spring & Summer

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.
CAE730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits            Fall, Spring & Summer
Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of CAE 730 may be taken in a regular semester, nor more than six in a summer session.

CAE740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits            Fall, Spring & Summer
Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in CAE 740 may be taken in a regular semester, nor more than six credits in a summer session.

CAE750 Research in Residence
0.00 credit                    Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Elec/Computer Engineering

EEN502 Engineering Acoustics
3.00 credits                    Fall
Introduction to basic principles of acoustics, methods of sound measurement, physiological, psychological acoustics, the acoustics of the major classes of musical instruments and speech, fundamentals of transducers, architectural acoustics, and the effects and control of noise are covered.

EEN503 Principles of Electro-optics
3.00 credits                    Fall
Principles of optics, optical fibers, electro-optics, light wave propagation in anisotropic and periodic media, guided waves, and integrated optics are discussed. Electro-optic devices including sources and detectors, optical fiber communication, and optics for medical and biomedical applications are also observed.

EEN504 Optics and Fiber Communication
3.00 credits                    Spring
Introduction to optics and fiber communication, light propagation in free space and waveguides, imaging, wave phenomena and diffraction, interferometer, spectrometer, holography, fiber coupling, and fiber communication are covered. Lecture, 1 1/2 hours; laboratory, 3 hours.

EEN505 Semiconductor Photonic Devices
3.00 credits                    Fall
Principles of semiconductor electronics: energy bands of semiconductors; Fermi level; carrier distribution and transport mechanisms. Application of semiconductor theory to various junction and field effect devices. PREREQUISITE: EEN 305.

EEN506 Microfabrication
3.00 credits                    Spring
Principles of operation, properties and applications of semiconductor devices, junction, metal-semiconductor, metal-oxide-semiconductor, optoelectronic, bulk-effect, and charge-coupled are covered.
EEN511 COMPUTABILITY, COMPLEXITY, AND ALGORITHMS
3.00 credits  Offered By Announcement Only
Advanced programming techniques: dynamic programming, fast data retrieval and sorting, enumerators, data structures, and data management. The limits of software engineering, computability and models of computation, complexity analysis.

EEN512 Software Engineering and Architecture
3.00 credits  Spring

EEN513 Software Design and Verification
3.00 credits  Spring

EEN514 Computer Architecture
3.00 credits  Spring & Summer
Computer data and instruction types, survey of existing architectures, and the interaction between hardware and software sub-systems are discussed. Advanced topics in computer architecture.

EEN519 Design of Computing Languages
3.00 credits  Offered By Announcement Only
Major features of modern programming languages with emphasis on design and software efficiency. Interaction between language design and the design of its compiler are included.

EEN521 Computer Operating Systems
3.00 credits  Fall
The design and implementation of operating systems. Virtual memory and memory management, resource allocation, device drivers, process creation, control, communications and scheduling, file systems, data protection, security, parallel processing and time-sharing. The class includes a significant operating system implementation project.

EEN532 VLSI Systems
3.00 credits  Fall
Fundamentals of MOS Technology in VLSI. System data, control flow, structures, design, layout, maskmaking, fabrication, packaging, and testing of VLSI chips are discussed. Highly concurrent Very Large Scale Integration computational systems are also covered.

EEN533 Random Signals and Noise
3.00 credits  Fall
Probability models, Bayes' theorem, Limit theorems of Laplace and Poisson, functions of random variables, Central limit theorem, conditional expectation and estimation, Stochastic processes, stationarity and ergodicity, cross-spectral analysis, filtering, and prediction are discussed.
EEN534 Communication Networks  
3.00 credits  Fall  
Principles of digital communications, Local Area Networks (LANs), Wide Area Networks (WANs), Open systems Intercommunication (OSI), Internet reference models, internet architecture and protocols, packet switching and routing, and network performance are discussed.  
PREREQUISITE: EEN 310 OR IEN 310.

EEN536 Adaptive Filters and Signal Processing  
3.00 credits  Offered By Announcement Only  
Fast Fourier transform, design, implementation, realization of digital filters, finite wordlength effects, decimation, interpolation, multirate signal processing, and Discrete Hilbert transform are covered.

EEN537 Principles of Artificial Intelligence  
3.00 credits  Fall  
Search techniques, game trees, exhaustive vs. cutoff search, natural language processing, augmented transition networks, knowledge representation, cognitive aspects, semantic networks, problem-solving, expert systems, and AI machines are covered.

EEN538 Introduction to Digital Image Processing  
3.00 credits  Fall  

EEN539 Digital Communications  
3.00 credits  Offered By Announcement Only  
Principles for the analysis and design of digital communications systems. Nyquist sampling, signal space representation, digital modulation techniques and optimal receiver design, ISI channels, error control coding, convolutional codes, Viterbi decoder, and wireless applications.

EEN540 Digital Speech and Audio Processing  
3.00 credits  Spring  
Introduction to human speech production, hearing, and perception. Digital speech and audio signal analysis in time and frequency, speech and audio coding, speech synthesis and recognition, language modeling, design of systems for human-machine interaction are also covered.

EEN543 BioNanotechnology  
3.00 credits  Spring  
Introduction on the fundamentals of nanotechnology with a focus on Biomedical Applications. A foundation of nanotechnology concepts will be established through lectures on nanometrology with quantum physics basics, nano manufacturing tools, physical, chemical properties of nanomaterials. Application of these principles in electronics, magnetics, mechanics and optics will be discussed. Use of these nanoengineering principles and concepts to focus on biomedical technology applications such as biosensors, biomaterials, biomimetics and therapeutics

EEN546 Reliable Digital System Design  
3.00 credits  Offered By Announcement Only  
Topics include descriptive technique for digital systems, synchronizer failure and metastability estimation, design for testability, and estimating digital system reliability. Computer-Aided Engineering (CAE) tools are also covered. Not open to students with credit in EEN 454. Offered only for Graduate students.
EEN548 Machine Learning
3.00 credits
Offered By Announcement Only
Fundamentals of intelligent system design and strategies of learning capability simulation. Selected case studies of learning systems for engineering applications are included.

EEN552 Power Electronics
3.00 credits
Fall
Analysis and design of solid-state power electronic circuits including DC/DC, AC/DC and DC/AC converters, controller design, power electronics applications, and associated laboratory experiments.

EEN553 Neural Networks
3.00 credits
Offered By Announcement Only
Artificial neural network algorithms and structures, learning process, perceptron, least-mean-square algorithms, multilayer perceptron, error back-propagation, radial-basis function networks, the Hopfield network, and self-organizing systems are discussed.

EEN562 Wireless and Cellular Communication
3.00 credits
Fall
Wireless Channel Characterization: path loss, shadowing, fading, frequency-selective channels, Doppler spread, and delay spread. Diversity techniques: frequency, time and space diversity. Multiple Antenna Systems: space-time coding, beamforming and layered space-time system. Digital Modulation: adaptive modulations and Orthogonal Frequency Division Multiplexing (OFDM). Cellular Concept: frequency reuse, co-channel interference and handoff. Multiple Access Methods: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and random access. CDMA: spreading codes, RAKE receiver, multiuser detection and power control.

EEN563 Wireless Communication Lab
1.00 credit
Offered By Announcement Only
Computer simulation of path loss, shadowing and fading in wireless channels, performance of various digital modulation methods in both Gaussian and wireless channels, diversity methods, equalization methods including zero-forcing, minimum mean-square error (MMSE) and decision-feedback equalization (DFE), co-channel interfacing in cellular systems, space-time coding. Orthogonal Frequency Division Multiplexing (OFDM) systems, spreading codes for Code Division Multiple Access (CDMA) systems, and matched-filter receiver and multiuser detector for CDMA systems. Measurement of wireless signals in various environments.

EEN564 Wireless Networks
3.00 credits
Spring
Introduction of wireless channels and network. Introduction of medium access control: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Carrier Sense Multiple Access. Wireless data networks IEEE 802.11 (WiFi), IEEE 802.16 (WiMax) and Bluetooth. Wireless network layer: mobile IP and mobile ad-hoc networks. Wireless transport layer: mobile TCP. Wireless Cellular systems: network structure and call processing of GSM and CDMA systems.
EEN567 Database Design and Management
3.00 credits                                                                 Spring
Database systems design, modeling, implementation, management methodologies, and
techniques. Different database systems are addressed including relational, object-oriented,
object-relational, and distributed database systems. Internet (WWW) technology,
data warehousing, and online analytical processing applications of database management
systems and hands-on experience with commercial database systems is also included.

EEN570 Network Client-Server Programming
3.00 credits                                                                 Spring
Introduction to server-client systems and programming. Advanced server-client design
and implementation based on distributed component object model in Windows and UNIX.

EEN572 Object-Oriented and Distributed Database Management Systems
3.00 credits                                           Offered By Announcement Only
Object-Oriented modeling concepts in languages and database systems. Object-Oriented
database systems. Semantic data models, nested-relational, object-relational databases.
Distributed database system. Federated Databases. Application to engineering design
problems.

EEN574 Agent Technology
3.00 credits                                           Offered By Announcement Only
Agent definition and applications, agent modeling, theories, agent representation
using KIF (Knowledge Interchange Format), agent behavior, ethical and emotional
agents, agent communication languages (KQML (Knowledge Query and Manipulation
Language)), agent development environments and tools, agent systems (cooperative
agents, interface agents, information agents, learning agents, believable agents,
agents for workgroups, mobile agents), and agent case studies are covered.

EEN575 Data Network Design and Management
3.00 credits                                                                 Spring
Networking fundamentals and current technologies. Data network planning, analysis,
design, and management techniques. Different network technologies are addressed
and contrasted in terms of topology, performance, and scope of real applications.
Network management systems are investigated including fault, configuration, security,
and performance management. Network management information bases, protocols, and
hands-on experience with network equipment and network management systems are also
included.

EEN576 Internet and Intranet Security
3.00 credits                                                                   Fall
Security issues and applications for securing internet and intranet-based information
exchange. Secure information models, security tools, security services, security
protocols, electronic commerce, virtual private networks, firewalls, and security
versus cost tradeoffs are covered.

EEN577 Data Mining
3.00 credits                                           Offered By Announcement Only

EEN579 Mobile Computing
3.00 credits                                           Offered By Announcement Only
Mobile computing and proxy architectures, mobile web protocols, mobile user interfaces,
applications, systems-ware adaptations, mobile databases, transactions, data synchronization,
privacy, authentication, and security are covered.
**EEN580 Electrical and Computer Engineering Internship**  
1.00 - 3.00 credits  
*Fall, Spring*  
Analysis, design, and research experience obtained at an operating and recognized industry. Approved project jointly supervised and assessed by departmental faculty and industrial partner.

**EEN581 Special Problems**  
1.00 - 3.00 credits  
*Fall*  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

**EEN582 Special Problems**  
1.00 - 3.00 credits  
*Spring*  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

**EEN583 Special Problems**  
1.00 - 3.00 credits  
*Summer*  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

**EEN584 Special Problems**  
1.00 - 3.00 credits  
*Summer*  
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

**EEN590 Special Topics in Information Technology**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Information Technology.

**EEN591 Special Topics in Information Technology**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Information Technology.

**EEN594 Special Topics in Computer Engineering**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Computer Engineering.

**EEN595 Special Topics in Computer Engineering**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Computer Engineering.

**EEN596 Special Topics in Computer Engineering**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Computer Engineering.

**EEN597 Special Topics in Electrical Engineering**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Electrical Engineering.

**EEN598 Special Topics in Electrical Engineering**  
1.00 - 3.00 credits  
*Offered By Announcement Only*  
Lecture courses in selected areas of specialization within Electrical Engineering.
EEN599 Special Topics in Electrical Engineering  
1.00 - 3.00 credits \hspace{1cm} \textit{Offered By Announcement Only}  
Lecture courses in selected areas of specialization within Electrical Engineering.

EEN615 M. S. Design Project I  
3.00 credits  \hspace{1cm} \textit{Fall, Spring}  
Comprehensive M.S. design project in electrical or computer engineering. Open only to students in the BS/MS dual-degree program.

EEN616 M.S. Design Project II  
3.00 credits \hspace{1cm} \textit{Fall, Spring}  
Continuation of EEN 615. Open only to students in the BS/MS dual-degree program.

EEN634 Modeling and Analysis of Computer Networks  
3.00 credits \hspace{1cm} \textit{Offered By Announcement Only}  
Elements of queuing theory, performance analysis of protocols, flow and congestion control, random access schemes, routing algorithms, and integrated services digital networks (ISDN) are discussed.

EEN638 Computer Vision  
3.00 credits \hspace{1cm} \textit{Spring}  
Principles of computer vision. Segmentation, shape and texture analysis, 3D scene analysis, polyhedral scenes, time-varying image analysis, parallel processing algorithms, matching, and recognition are covered.

EEN653 Pattern Recognition and Neural Networks  
3.00 credits \hspace{1cm} \textit{Offered By Announcement Only}  
Statistical pattern classification, feature extraction, cluster analysis, neural net models, Hopfield net, competitive learning, multi-layer perceptron, and the Boltzmann machine are discussed.

EEN656 Information Theory  
3.00 credits \hspace{1cm} \textit{Offered By Announcement Only}  
Measure of uncertainty and entropy, two dimensional sources, noisy channels, mutual and trans information, equivocation, efficiency and channel capacity, minimum redundancy coding, error-detecting, error-correcting codes, continuous channel without memory. Gaussian additive noise, sampling theorem, and vector space are covered.

EEN681 Advanced Problems  
1.00 - 3.00 credits \hspace{1cm} \textit{Fall}  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

EEN682 Advanced Problems  
1.00 - 3.00 credits \hspace{1cm} \textit{Spring}  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

EEN683 Advanced Problems  
1.00 - 3.00 credits \hspace{1cm} \textit{Summer}  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.
EEN684 Advanced Problems
1.00 - 3.00 credits Summer
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

EEN694 Advanced Topics in Computer Engineering
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

EEN695 Advanced Topics in Computer Engineering
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

EEN696 Advanced Topics in Computer Engineering
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

EEN697 Advanced Topics in Electrical Engineering
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings in electrical engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

EEN698 Advanced Topics in Electrical Engineering
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings in electrical engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

EEN699 Advanced Topics
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

EEN710 Master's Thesis
1.00 - 6.00 credits Fall, Spring
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.
EEN720 Research in Residence
0.00 credit  Fall, Spring
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in EEN 710 (usually six credits). Credit not granted. May be regarded as full time residence.

EEN725 Continuous Registration--Master's Study
0.00 credit  Fall, Spring
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

EEN730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of EEN 730 may be taken in a regular semester, nor more than six in a summer session.

EEN740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in EEN 740 may be taken in a regular semester, nor more than six credits in a summer session.

EEN750 Research in Residence
0.00 credit  Fall, Spring
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Industrial Engineering
IEN501 Manufacturing Analysis and Design I
3.00 credits  Offered By Announcement Only
Analysis of Production Systems stressing diagnosis of problems associated with work measurement, manufacturing methodologies, and their interaction with cost factors.

IEN502 Manufacturing Analysis and Design II
3.00 credits  Offered By Announcement Only
Analysis of production systems stressing diagnosis of problems of quality and production control, utilizing quantitative techniques and analytical methods.

IEN505 Robotics
3.00 credits  Fall
Fundamentals of robotics including kinematics and dynamics, trajectory planning, sensors and actuators, robotic vision, and case studies. Building your own robot is an integral part of hands-on laboratory exercises. Matlab control toolbox and image analysis toolbox will be extensively used for design and analysis.

IEN507 Design of Manufacturing Systems
3.00 credits  Spring
State-of-the-art techniques and tools relevant to the design, analysis, and control of modern manufacturing systems. Topics include modeling of manufacturing systems, tools for manufacturing system analysis, manufacturing system planning and scheduling, and lean manufacturing systems.
IEN512 Statistical Quality Control and Quality Management  
3.00 credits  
Spring  
This course addresses the concepts, theories, tools and methodologies employed in the management and improvement of quality. The course examines many of the advance topics in statistical quality control including control charts and process capability studies, acceptance sampling, as well as Quality Function Deployment (QFD) and introduction to reliability. Also covered in the course are Lean Six Sigma methodology, tools and concepts.

IEN513 Quality Management in Service Organizations  
3.00 credits  
Fall  
Course examines the issues of quality and productivity management in the service sector. Topics covered include the development and use of questionnaires, service industry applications of quality such as in banking, insurance, healthcare, transportation, government, public utilities, and retail trade.

IEN524 Decision Support Systems in Industrial Engineering  
3.00 credits  
Spring  
Theory and application of decision support systems in industrial engineering. Topics include the study of model-based, data-based, knowledge-based, and communication-based decision support systems. Emphasis is placed on the selection process of the appropriate systems for various decision problems in industrial environments.

IEN547 Computer Simulation Systems  
3.00 credits  
Spring  
Computer simulation and the development of simulation models. Application of discrete and continuous system simulation languages to systems studies is also included.

IEN551 Accident Prevention Systems  
3.00 credits  
Spring  
Introduction to the basic principles of accident prevention and how to apply the safety engineering approach to the design of industrial accident prevention systems.

IEN557 ERGONOMICS AND HUMAN FACTORS ENGINEERING  
3.00 credits  
Fall & Summer  
The study of human capacities and limitations with emphasis on human performance in system design. Topics include design of displays and controls, workload, job design, human information processing, anthropometry, workplace design, biomechanics, task analysis, and research techniques in human factors engineering. Lecture, 3 hours.

IEN558 Industrial Hygiene I  
3.00 credits  
Fall  
Recognition of occupational chemical health hazards. Evaluation methods and analytical procedures used to determine level of exposure to chemical and toxic hazards. Control measures and compliance with OHSA requirements with special emphasis on industrial ventilation, and other methods of control are included.

IEN568 Materials Handling and Facilities Planning  
3.00 credits  
Spring  
Analysis and design of production and service facilities, emphasis on material handling requirements. Capacity requirements, facility location, layout, storage systems and warehousing are discussed.
IEN570 Engineering Management
3.00 credits
Spring
Integrating engineering discipline into the social and economic considerations of managing systems. Tools and techniques used by engineering managers including engineering project life cycle, role playing, communication, decision-making in engineering management, and managing change in engineering organizations are discussed.

IEN571 Engineering Entrepreneurship
3.00 credits
Fall
The conversion of technological know-how and engineering theories into business enterprises. The role of technology in creating wealth, connecting technology with market, the role and characteristics of entrepreneurs, starting a business and the business plan, innovation, industrial and service organizations, and the new business environment.

IEN572 Management of Technological Innovation
3.00 credits
Fall & Summer
Engineering, Science and Management Principles contributing to the development of a successful framework for managing technology with an organization, nationally or internationally. The process of technological innovations, technological, planning and forecasting, and socio-economic changes. PREREQUISITE: Senior or graduate standing.

IEN590 Special Topics in Industrial Engineering
1.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics are shown in parentheses in the class schedule, following the title Special Topics.

IEN594 Master's Capstone Design Project
0.00 - 3.00 credits
Fall
A capstone design project for students in the five-year BSIE/MSIE program. Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems is emphasized. Offered for students in this program only.

IEN595 Special Problems
1.00 - 3.00 credits
Offered By Announcement Only
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

IEN596 Special Problems
1.00 - 3.00 credits
Offered By Announcement Only
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

IEN599 Cooperative Education
1.00 credit
Offered By Announcement Only
Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

IEN612 Design of Experiments
3.00 credits
Fall
Design and analysis of experiments, randomized blocks, Latin Squares, factorials, multiple correlation and regression, and application to response surfaces are discussed. 3 hours.
IEN642 Linear Programming and Extensions
3.00 credits
Fall
Formulation, solution, postoptimality analysis of linear programming problems; revised simplex, parametric programming, decomposition of large-scale systems. Use of computer packages. Introduction to integer programming, network flows, and nonlinear programming applications.

IEN657 Ergonomics and Occupational Biomechanics
3.00 credits
Spring
Effects of human factors in the improvement of performance of systems. Human capacities, capabilities, and limitations as derived from anatomical, physiological, and psychological principles are applied to the design of tools and equipment. Incorporation of all factors into systems design to achieve better system performance is emphasized.

IEN658 Ergonomics and Special Populations
3.00 credits
Spring
Ergonomic issues relevant to design for older adults and special populations such as the handicapped. Primary emphasis is placed on work environments, transportation and communication systems, and home environments. Topics include cognitive and physiological characteristics of special populations, workplace design, job and equipment design, rehabilitation engineering, clinical ergonomics, and legislation such as the ADA. Lecture, 3 hours.

IEN660 Productivity Measurement and Evaluation
3.00 credits
Fall
Basic concepts. Productivity measurement approaches at international, national, industry, and company levels. Latest measurement models for manufacturing companies. Relationships between total and partial productivities, profit and total productivity. Productivity evaluation: theory and methodology.

IEN661 Engineering Cost Management
3.00 credits
Fall
Issues of cost management, including activity based costing of engineering projects. A detailed study of how to separate, identify, understand and manage the major activities performed, and how these activities relate to customer needs. Overall view of costs associated with products, processes, and customers.

IEN663 Project Management Techniques
3.00 credits
Fall
Techniques and Tools in Project Management. Use of network flow techniques including PERT/CPM, planning, systems concepts, time management, conflicts, cost and resource control, tradeoff analysis.

IEN664 Supply Chain Management
3.00 credits
Offered By Announcement Only
Supply Chain Management focuses on the flow of products, information, and money throughout the supply chain. An overview of issues, opportunities, tools, and approaches is provided. Emphasis is placed on business processes, system dynamics, control, design and re-engineering, and on the relationship between the supply chain and the company's strategic position relative to its clients and its competition. The dimensions of inter-corporate relationships with partners, including decision-making, incentives, and risk are also covered.
IEN665 Advanced Production Systems
3.00 credits  

IEN672 Strategic Management of Technological Innovation.
3.00 credits  Fall, Spring  
Advanced topics in the management of technology emphasizing the relationship between technology and competitiveness in the global marketplace. Technology development in the U.S., Japan, and Europe, industrial R & D, strategic technological planning, and conditions for successful implementations. Case studies are used with individual and group assignments. PREREQUISITE: IEN 572 - Management of Technology or permission of Instructor.

IEN691 Industrial Engineering Seminar
0.00 credit  Spring  
Oral presentation and discussion of current topics in Industrial Engineering.

IEN694 Master's Project
3.00 credits  Fall, Spring  
A capstone project for M.S. students in the non-thesis option.

IEN695 Special Problems
1.00 - 3.00 credits  Offered By Announcement Only  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

IEN696 Special Problems
1.00 - 3.00 credits  Offered By Announcement Only  
Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

IEN699 Advanced Topics
1.00 - 3.00 credits  Offered By Announcement Only  
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

IEN710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer  
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

IEN720 Research in Residence
0.00 credit  Fall, Spring & Summer  
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in IEN 710 (usually six credits). Credit not granted. May be regarded as full time residence.
IEN725 Continuous Registration--Master's Study  
0.00 credit  
Fall, Spring & Summer  
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

IEN730 Pre-Candidacy Doctoral Dissertation  
1.00 - 12.00 credits  
Fall, Spring & Summer  
Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of IEN 730 may be taken in a regular semester, nor more than six in a summer session.

IEN750 Research in Residence  
0.00 credit  
Fall, Spring & Summer  
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Mech and Aero Engineering  

MAE501 Methods of Engineering Analysis  
3.00 credits  
Fall  
Analysis of engineering systems in equilibrium and motion. Examples considered from mechanical, electrical, thermal and fluids engineering. Mathematical theory and computer methods for obtaining numerical solutions are developed for various cases involving discrete and continuous systems. Lecture, 3 hours.

MAE502 Vibrations  
3.00 credits  
Fall  
Basic theory of free and forced vibrations of mechanical systems with and without damping. Applications to systems with one and several degrees of freedom are included.

MAE503 Internal Combustion Engines  
3.00 credits  
Fall  
Course discusses engine types, characteristics, and operation. Topics include performance factors, fuel combustion, power cycles, knock and engine variables, exhaust emissions, fuel metering, compressors, and turbines.

MAE505 Design for Manufacturability  
3.00 credits  
Offered By Announcement Only  
Manufacturing concerns at design stage. Design theory and methodology. Statistical considerations in geometric dimensioning, tolerances, reliability-based design, and quality control. Producibility, design for assembly, and value engineering. Life cycle costs and optimum design using nonlinear programming and Taguchi approaches. Hands on projects on machine tools.

MAE507 Advanced Mechanics of Solids  
3.00 credits  
Spring  
Courses discusses the basic elements of elasticity, plasticity, and viscoelasticity. Application to mechanical systems at rest and in motion are included.

MAE508 Intermediate Heat Transfer  
3.00 credits  
Spring  
Course discusses steady and unsteady heat transfer by conduction, convective heat transfer in laminar and turbulent fluid flow, natural convection, and heat transfer by radiation.
MAE512 Intermediate Fluid Mechanics
3.00 credits
Fall
Course topics include conservation of mass, momentum, and energy, potential flow, viscous laminar and turbulent flows, the Reynolds analogy, and Boundary-layer approximations. Gas dynamics are also discussed.

MAE514 Advanced Internal Combustion Engines Experimental Studies
3.00 credits
Spring
Experimental mechanical engineering as it pertains to internal combustion engines. The principal measurements necessary to analyze the operation of an internal combustion engine are covered. Emphasis is placed on experiment planning, data interpretation, and error analysis.

MAE516 Introduction to Composite Materials
3.00 credits
Offered By Announcement Only
Course provides an introduction to composite materials and terminology. Topics include advantages offered by composite materials, current aerospace, automotive, and bio-mechanics applications, experimental results, analytical models, and effects of impact and fatigue loads. The environment's impact on composite materials' performance and design procedures are discussed. Case studies examining composite materials as efficient replacements are also included.

MAE521 Exhaust Emission Control
3.00 credits
Spring
Course topics include automotive emissions, air pollution, combustion of homogeneous mixtures, emission control systems, Federal emission standards, and emission instrumentation and measurement. Lecture, 2 hours; Laboratory, 3 hours.

MAE528 Fuel Cells
3.00 credits
Spring
Introduction to fuel cells, thermodynamics of fuel cells, electrochemical kinetics in fuel cells, transport phenomena in fuel cells, introduction to various types of fuel cells.

MAE539 Heating, Ventilating and Air Conditioning System Design
3.00 credits
Fall
Course topics include basic HVAC systems, multizone systems, dual-duct systems, terminal reheat systems, variable air volume systems, induction and induction reheat systems, special applications, hydronic systems, unitary and heat pump systems, hydronic heat recovery systems, cooling and heating load calculation duct and piping design, overall system design, and integration.

MAE551 Special Problems
1.00 - 3.00 credits
Fall, Spring & Summer
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

MAE552 Special Problems
1.00 - 3.00 credits
Fall, Spring & Summer
Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.
MAE570 Aero Propulsion
3.00 credits
Fall
Definition of the atmosphere, propulsion basics, rocket fundamentals, turbine fundamentals, gas turbine cycles, component matching, math and computer models, aircraft missions, cycle section, reliability, and durability are analyzed.

MAE590 Special Topics
1.00 - 4.00 credits
Fall
Subtitles describing the topics will be shown in parentheses in the class schedule, following the Special Topics.

MAE591 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Subtitles describing the topics will be shown in parentheses in the class schedule, following the Special Topics.

MAE592 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Subtitles describing the topics will be shown in parentheses in the class schedule, following the Special Topics.

MAE599 Cooperative Education
1.00 credit
Fall, Spring & Summer
Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

MAE601 Advanced Heat Transfer--Conduction and Radiation
3.00 credits
Spring
Advanced analytical methods of solutions of boundary value problems of steady, periodic, and unsteady heat conduction. Topics include techniques of transient point, line, and plane sources and sinks, thermodynamics of radioactive equilibrium, radioactive exchange, geometrical factors, network, and other methods. Lecture, 3 hours.

MAE602 Advanced Heat Transfer--Convection
3.00 credits
Spring
The analogy between heat, mass, and momentum transfers. Topics include the transfer mechanism, heat transfer to liquid metals, boiling and condensation mechanisms, heat transfer in two-phase flow, ablation heat transfer, transpiration, film cooling, and heat exchanges. Lecture, 3 hours.

MAE605 Finite Element Methods in Mechanical and Aerospace Engineering
3.00 credits
Spring
Finite-element analysis methods for static and dynamic analysis of mechanical and aerospace structures, heat transfer analysis, and fluid flow applications. Primary emphasis is placed on underlying mechanics and numerical techniques. Consideration is also given to the use of existing programs, such as ANSYS, NASTRAN and FIDAP, designing proper meshes, and choosing the proper element. A term project is included.
MAE606 Experimental Methods in Fluid Mechanics
3.00 credits Offered By Announcement Only
Course topics include methods of flow visualization, laser techniques in measurement of wall motions, conduit compliance, Newtonian and non-Newtonian properties of fluids, measurement of unsteady flow and pressure, laser Doppler anemometry, ultrasound Doppler velocimetry, electro-magnetic flowmetry, measurement of steady and unsteady wall shear stresses and boundary layers.

Mech and Aero Engineering
MAE613 Transport Phenomena
3.00 credits Offered By Announcement Only
Course topics include laws of molecular transfer, the kinetic theory explanation of molecular transfer phenomena, introduction to turbulence, and molecular transfer in laminar and turbulent flows with experimental results. A unified treatment of salient aspects of momentum, heat, and mass transfer including the relationship between rate and conservation equations are also discussed.

MAE614 Computational Fluid Dynamics
3.00 credits Spring
Incompressible flow equations in rectangular co-ordinates. Topics include basic computational methods for incompressible flow, three dimensional flows, compressible flow equations in rectangular coordinates, basic computational methods for compressible flows, treatment of shocks, artificial viscosities, convergence, other mesh systems, programming, testing, and information processing.

MAE630 Mechanical Systems Optimization
3.00 credits Spring
Optimization as an element of the engineering design process. Topics include comparative examination of unconstrained algorithms, as well as development and application of methods for constrained optimization problems. Case studies which demonstrate the theory and application of mathematical programming as a design tool are also included.

MAE640 Continuum Mechanics
3.00 credits Fall
Course discusses concepts that are common to all continuous media. Topics include elements of tensor analysis, motion, deformation, vorticity, material derivatives, mass and the continuity equation, and balance of linear and angular momentum as well as energy. Stress and its geometric characterization, constitutive equations of solid and fluid type behavior, virtual work, fundamental applications, and the Clausius-Duhem inequality are also covered.

MAE651 Master's Project
3.00 credits Fall, Spring & Summer
A required project for M.S. students in the non-thesis option.

MAE652 Master's Capstone Project
4.00 credits Fall, Spring & Summer
A required project for the five year BSME/MSME program.

MAE680 Graduate Colloquium
0.00 credit Fall, Spring
Presentations by selected speakers of weekly programs dealing with topics of interest in Mechanical Engineering. Attendance is required of all students registered in Mechanical Engineering graduate programs.
MAE692 Special Problems
1.00 - 3.00 credits Fall, Spring & Summer
Research and/or design projects consisting of individual investigation of current problems. Offered by special arrangement only.

MAE710 Master's Thesis
1.00 - 6.00 credits Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MAE720 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAE 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MAE730 Pre-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of MAE 730 may be taken in a regular semester, nor more than six in a summer session.

MAE740 Post-Candidacy Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in MAE 740 may be taken in a regular semester, nor more than six credits in a summer session.

MAE750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
IDS699 Directed Study
1.00 - 6.00 credits
Fall, Spring & Summer

IDS725 Master Study
1.00 - 6.00 credits
Spring & Summer

IDS730 PRE-CANDIDACY DISSERTATION RESEARCH
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of IDS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

IDS740 Post-Candidacy Dissertation
0.00 - 6.00 credits
Fall, Spring & Summer

IDS750 Research and Residence
0.00 credit
Fall
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Research Training
RST501 Responsible Conduct of Research
0.00 credit
Fall, Spring
Online research ethics training via CITI Program Responsible Conduct of Research course.

RST502 Responsible Conduct of Research
0.00 credit
Fall, Spring
Research ethics training via Ethics Programs Responsible Conduct of Research classroom course.

RST511 Responsible Conduct of Research
0.00 credit
Fall, Spring

RST512 Responsible Conduct Of Research
0.00 credit
Fall, Spring

RST720 Research Ethics
3.00 credits
Fall
Course focuses on topics related to what is sometimes called the responsible conduct of research (RCR). It covers the landscape of scientific integrity - both the principles and day-to day practicalities of research ethics. The course is inter-disciplinary in its approach. Readings and other materials used as part of the course draw on the examples from many academic fields, and are in tended to have application to any academic or professional area of study in which research is conducted.
AMP509 Coastal Physics and Engineering
3.00 credits  
Spring  
Course addresses linear wave theory, wave statistics, wave generation, tides, wind-driven currents, near shore circulation, sediment transport by waves and currents, bedforms, bedload, and suspended load. Other topics include longshore and cross-shore transport, equilibrium beach profiles, coastal processes models, Pelnard-Considere model for shoreline change, and Escoffier model for inlet stability.

AMP531 Ocean Measurements
3.00 credits  
Spring  
Course topics include instrumentation, automatic data acquisition and analysis, time series analysis, signals and noise, filtering, and applied statistics.

AMP535 Introduction to Underwater Acoustics
3.00 credits  
Spring  
Course topics include sound waves and pulses, harmonic analysis, sound propagation in the ocean, sonar systems, scattering and absorption, acoustic measurement of marine life and sea-floor properties, sound transmission in waveguides, ambient noise, transducers, and hydrophones.

AMP542 PHYSICS OF REMOTE SENSING ii - ACTIVE SYSTEMS
3.00 credits  
Spring  
This course discusses basic physical principles of remote sensing. The main topics are (1) Introduction, (2) Sampling issues, (3) Fundamental laws of electromagnetic waves, (4) Passive sensing, (5) Active sensing, and (6) Brief survey of satellite sensors.

AMP551 Special Topics
1.00 - 3.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

AMP553 Special Topics
1.00 - 3.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

AMP554 Special Topics
1.00 - 3.00 credits  
Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

AMP575 Applied Ocean Hydrodynamics
3.00 credits  
Fall  
The equations governing the dynamics of homogeneous fluids are derived. The concepts of deformation rates, vorticity, stream function, and ideal fluid flow are introduced and demonstrated in applications describing flows in the marine environment. Semi-empirical methods for analyzing viscous flows, boundary layers, and turbulence are presented. Eddy viscosity and more advanced turbulence closure schemes are discussed in the context of coastal circulation, bottom boundary layers and sediment transport.
AMP576 Wave Propagation in the Ocean Environment
3.00 credits  Fall
Wave equation models, acoustic and other elastic waves, surface gravity waves, boundary conditions, ray tracing, dispersion, diffraction, reflection attenuation, and radiation transport laws are discussed.

AMP590 Sustainable Fisheries - Assessment and Conservation
3.00 credits  Spring
This is the second of a three course series. This course will focus on advanced stock assessment techniques using acoustics and optics. It will cover, for example:
- History of sampling fish stocks - from catching to measuring fish - Measuring with underwater sound and light - Sounds and echoes in marine ecosystem - Survey of fish stocks and their habitat.

AMP601 Analytical Methods in Marine Physics
3.00 credits  Fall

AMP610 Environmental Optics and Electromagnetic Wave Propagation
3.00 credits  Spring
The course will allow students to understand the physical background of geophysical optical and microwave measurements, to learn how to carry out and interpret optical measurements, and how to work with microwave passive/active remote sensing platforms. The student will leave with a thorough understanding of existing physical background of optical instrumentation for underwater measurements as well as active/passive optical and microwave remote sensing.

AMP640 Numerical Modeling in Applied Marine Physics
3.00 credits  Spring
Techniques and applications of numerical modeling in one of the following topical areas: sound propagation and scattering in the ocean; surface gravity wave propagation and scattering in regions of shallow and intermediate depths; and hydrodynamics in the coastal ocean environment. Emphasis (sound propagation versus gravity wave propagation or hydrodynamics) alternates from one year to the other.

AMP650 Coastal Ocean Circulation
3.00 credits  Spring
Circulation and stratification in the coastal ocean, including the dynamics of wind-driven, tidally-driven, and buoyancy-driven mean and transient flows over variable topography with density stratification. Design of numerical models and observing systems for coastal ocean circulation is also included.
AMP672 Advanced Underwater Acoustics
3.00 credits Spring
Analysis and numerical modeling of sound propagation in the ocean: geometrical acoustics, normal mode theory, and the parabolic equation method. Recent advances in underwater acoustics: effects of oceanic variability, signal fluctuations, random medium propagation, ocean bottom interactions, and shallow water propagation are also examined.

AMP690 Mechanics and Thermodynamics of the Air-Sea Interface
3.00 credits Spring
This course deals with the theory and practice of air-sea interaction. Two hours of lectures and one hour in the wind-wave laboratory provide an appropriate mix of theory and experiment. The topics covered include: thermodynamics of the interface; conservation equations; wave generation, propagation, and dissipation; boundary layer turbulence; heat, mass, and momentum transfer; energy dissipation, intermittency; turbulence closure; and wave prediction models.

AMP691 Sustainable Fisheries - Advanced Acoustic Surveying
3.00 credits Spring
This is the third and final course in the three course series. It addresses graduate students with a strong research interest in measuring fish and their habitat on the stock and population level. This course will focus on advanced stock assessment techniques using acoustics and optics. It will cover, for example: - A critical review of classical and current research papers - Signal processing and laboratory experiments - Field surveys and stock assessment reports.

AMP694 Advanced Studies
1.00 - 3.00 credits Offered By Announcement Only
Supervised study in areas of special interest to graduate students.

AMP698 Advanced Studies
1.00 - 3.00 credits Offered By Announcement Only
Supervised study in areas of special interest to graduate students.

AMP705 Special Project
1.00 - 6.00 credits Fall, Spring & Summer
Supervised project for students pursuing the Master of Arts degree. Consists of a paper which is researched and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

AMP710 Master's Thesis
1.00 - 6.00 credits Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

AMP720 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in AMP 710 (usually six credits). Credit not granted. May be regarded as full time residence.
AMP730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of AMP 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

AMP750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Marine Affairs and Policy

MAF501 Political Ecology of Marine Management
3.00 credits  Spring
Course provides a grounding in political ecology as an important theoretical approach to resource policy and management. The social analysis of resource use, social change, and development are discussed. Models of development and concepts of nature relate to resource use and policy formation are also included. Within this framework, ethnicity, class, and the politics of conservation are explored.

MAF502 Economics of Natural Resources
3.00 credits  Fall
Course brings together the approaches of natural resource and environmental economics to provide a comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout the course is the concept of sustainable development, defined as maximizing the net benefit to economic development while maintaining the services and quality of natural resources over time. Economic reasoning is used to examine the causes and consequences of environmental and resource problems and measures for dealing with them.

MAF504 Fieldwork in Coastal Management
3.00 credits  Spring
The field portion of this course will occur in Bocas del Toro, Panama, on the northwest Caribbean coast of Panama where the University of Miami has been involved in the development of a Coastal Management plan since 2004. The Bocas del Toro Archipelago of over 20 nearshore islands boasts a rich diversity of cultures, as well as high quality coastal environments. The region is currently experiencing rapid tourist growth, as well as residential development projects for foreigners. The cultural and biological diversities of the region, as well as the development pressures they face, provide an excellent opportunity to study the socio-economic and environmental impacts of tourist development; regional attempts to create land use and coastal plans; conflicts among different uses and users; and various cultural perspectives on the current and evolving situation. The course allows students to develop projects tailored to their interests and skills.
MAF505 Fieldwork in Coastal Cultures
3.00 credits
Spring
Field course in which the student participates in a social and economic analysis of a coastal culture (i.e., stone crab fishermen in Everglades City, spiny lobster fishermen in Key West, boat builders and commercial divers in the Abacos, Bahamas). Preliminary lectures and reading introduce the theory and method which the student then practices during a week-long field trip.

MAF506 Advance Fieldwork in Coastal Cultures
3.00 credits
Spring
Advanced field course in which the students participate in the social and economic analysis of a coastal culture (e.g. Louisiana bayou fishermen, Abacos boat builders, Tarpon Spring spongers). Students utilize field research techniques learned in MAF 505 and develop skills in framing a research problem. Students examine a coastal issue from an anthropological perspective, structuring a field research paper.

MAF510 Environmental Planning and the Environmental Impact Statement
3.00 credits
Spring
Course takes a broad view of environmental planning and analysis while focusing specifically on the preparation of environmental impact statements. Statutory requirements and procedures at the federal level are examined. Judicial opinions are studied that reflect environmental disputes and controversies. The course also considers some of the substantive requirements of environmental impact analyses such as the assessment of physical and biological environment and socioeconomic impacts.

MAF512 Aquaculture Management
3.00 credits
Fall
Course examines the various strategies of resource exploitation and utilization in developing aquaculture projects. Resources include environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture development. The course covers all stages of planning and development, with emphasis on determining the technical and economic feasibility of aquaculture projects.

MAF513 Aquaculture Management II
3.00 credits
Spring
Course is a complement to Aquaculture Management (MAF 512) and examines advanced aquaculture management techniques and strategies with emphasis on commercial operations. Course requires a background in either aquaculture or business. PREREQUISITE: MAF 512 or permission of instructor.

MAF514 Field Techniques in Prehistoric Underwater Archaeological Excavation
3.00 credits
Summer
An introduction to specialized techniques of underwater excavation applicable to the excavation of Little Salt Spring (LSS), a prehistoric site owned and operated by Rosenstiel School of Marine and Atmospheric Science. All students participate in a one-week intensive lecture course in the prehistory of Florida and general techniques of underwater excavation. The field course begins after that. All students must be present for all of the field course in order to complete the basic requirements. Activities include daily underwater excavation in depths of 10-30 feet of water, as well as surface support activities relating to diving and the recording and basic conservation of recovered ecofacts and artifacts dating before 9,000 radiocarbon years before present.
MAF515 Techniques of Marine Archaeological Survey and Recording

3.00 credits Offered By Announcement Only
The location and study of underwater archaeological sites is undergoing fundamental changes because of application of advanced technologies developed for other fields, notably remote sensing, and the general availability of computer power for individual users. This course introduces the student to the latest techniques of survey and recording, focusing on hardware and software that can greatly increase the efficiency of any underwater excavation.

MAF516 Ocean Policy and Development and Analysis

3.00 credits Fall
Ocean policy development and analysis of issues such as: offshore oil drilling, fisheries resource conflicts, marine mammal protection, ocean dumping and incineration, multiple use conflicts in marine protected areas, pollution from land based sources, and oil spill contingency planning.

MAF517 LEGAL ENVIRONMENT AND BUSINESS PLANNING IN AQUACULTURE

3.00 credits Offered By Announcement Only
This course examines the substantive legal issues concerning Aquaculture and the Coastal Zone. Legal aspects of Aquaculture related to ownership and boundaries in the coastal zone, legal and regulatory constraints, international consideration private and public rights, risks and incentives. Fish and shellfish as personal property and conservation laws affecting the fish farmer.

MAF518 Coastal Zone Management

3.00 credits Fall
Development of a framework for formulation and assessment of coastal zone policy. Analysis of issues and conflicts in coastal zone management (CZM), such as: zoning and planning, coastal and beach protection, ecosystem protection, the federal flood insurance program, adaptations to sea level rise, coastal pollution from land-based sources, and tourism impacts.

MAF519 Aquaculture Management III (Fieldwork)

3.00 credits Summer
Students will conduct fieldwork on environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture operations. This field course will complement Aquaculture Management I and II. Students will be able to apply most of the topics taught in MAF 512 and MAF 513. They will participate in all stages of the production process, including maturation, spawning, larval husbandry, nursery and grow out techniques, as well as harvesting, processing and exporting. Students will visit several large commercial hatcheries, farms and processing plants currently producing processing, packing and exporting shrimp and fish (both marine and freshwater) for US and European and Asian markets.

MAF520 Environmental Law

3.00 credits Fall
An introductory course focusing on environmental problems. The study of Regulatory legislation, common law, and administrative law. Topics include toxic substances, air and water pollution, and habitat and species protection.
MAF525 Fisheries Socioeconomics and Management
3.00 credits Fall
This course applies microeconomic theory to fisheries resource problems and policies. Economic models with the value of production as their objective, will contrast economists' and biologists' definitions of maximum yield and show why an unregulated fishery will not operate at either level. We will use economic reasoning to examine causes and consequences of fisheries problems and measures for dealing with them.

MAF526 Marine Cultural Resource Management
3.00 credits Spring
Submerged archaeological sites as exhaustible resources of a country's cultural heritage. Policies and procedures for their protection or mitigation will be surveyed using as examples the statutes and regulations of foreign states, the federal government, and the US states.

MAF530 Port Operations and Policy
3.00 credits Offered By Announcement Only
The course will include: Introduction to ports; port geography; port operations; port administration; Federal port policy; free ports/free zones; port investment/tariffs; port marketing; Coastal Zone Management and ports; case studies, CZM; fostering economic development; and Port planning and development.

MAF560 Introduction to Marine Geographic Information Systems
3.00 credits Fall
Marine Geographic Information Systems are emerging as a distinct subset of GIS, due to fundamental differences between terrestrial and underwater spatial information (2-D vs. 3-D, multiresolution, synoptic data collection, time depth (4-D) modeling). Approximately the first half of this course is a brief review of basic GIS, and the second half concentrates on aspects of marine data acquisition and manipulation in the GIS context.

MAF561 Introduction to Marine Geographic Information Systems - Laboratory
0.00 credit Fall & Summer
Introduction to Marine Geographic Information Systems - Laboratory introduces students the basic methods and technology in Marine Geographic Information Systems. The course is taught with hands-on laboratory exercises following the evolution of Marine Geographic Information Systems, from basic cartography to topological and network modeling to internet access and application.

MAF562 Spatial Analysis: Intermediate Course in Marine GIS
3.00 credits Spring
Course provides a general survey of available quantitative methods for spatial analysis using Geographic Information Systems (GIS). Although GIS has been widely used for mapping and database management, this course is focused on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships. Quantitative methods suitable for analyzing different features types are discussed. Applications for such methods are also presented.

MAF570 Conservation and Management of Marine Mammals
3.00 credits Spring
This course emphasizes on the notion that proper conservation and management of large marine vertebrates (i.e., marine mammals, sea turtles, sharks and rays) require the understanding and integration of some important aspects of the (comparative) biology and ecology of these groups of animals with the multifaceted nature (e.g., social, economical, ethical and cultural dimensions) of these concerns.
MAF576 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to marine affairs.

MAF577 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to marine affairs. PREREQUISITE: Permission of instructor.

MAF578 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to marine affairs.

MAF579 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to marine affairs.

MAF580 Special Topics
1.00 - 4.00 credits
Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to marine affairs.

MAF610 INTERNATIONAL OCEAN LAW AND GOVERNANCE
3.00 credits
Offered By Announcement Only
This course shall track the history and development of international ocean law, from a series of bi-lateral and multi-lateral treaties, the evolving customary law framework, and coastal and maritime state claims to the codification and proliferation of international legal agreements addressing the panoply of ocean use and management issues. Applying a chronological approach, the course shall identify and discuss key developments in international ocean law, leading to the drafting of the Third United Nations Law of the Sea Convention (UNCLOS III). By evaluating the multifold themes addressed under the convention, the course will analyze the effects of convention in a post UNCLOS III world, especially in the fields of environmental protection, the management of marine fisheries and living resources, the allocation of seabed and subsoil resources, issues affecting the high seas, and polar regions.

MAF620 Coastal Law and Policy
3.00 credits
Fall
Course examines the authority of different levels and agencies of government to make decisions affecting the coastal zone. Course also explores the coastal problems of shoreline use and development, uses of water areas and the seabed, and the related questions of environmental protection.

MAF705 M.A. Internship
1.00 - 6.00 credits
Fall, Spring & Summer
The M.A. student must complete an approved six credit internship with an organization engaged in activities associated with marine affairs. Credits are not awarded until the internship has been successfully completed, a written report approved and a formal letter of evaluation received from the cooperating institution.
MAF710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MAF720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAF 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MAF725 Continuous Registration--Master's Study
0.00 credit  Fall, Spring & Summer
To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Marine Biology and Fisherie

MBF504 Biology of Marine Mammals
3.00 credits  Fall
The purpose of this class is to introduce students to the biology, evolution, taxonomy, physiology, natural history, behavior, conservation, and management of marine mammals.

MBF505 Marine Mammal Disease and Medicine
3.00 credits  Spring
This course will cover the basics (theory and application) of marine mammal disease and medicine. Applications will focus on the medical management of managed care and wild populations.

MBF507 Marine Mammal Applied Behavior Analysis and Managed Care
3.00 credits  Fall
This course involves a thorough examination of specific aspects of marine mammal managed care and conservation programs, with an emphasis on behavior management, analysis, and modification as a basis for adaptive response to changing environments both in-situ and ex-situ. Coursework will also focus on health management and assessment, emergency handling and transportation, government regulations, and wildlife conservation.

MBF508 Biometrics in Marine Science
3.00 credits  Fall
Applied statistical analysis in marine biology and biological oceanography. Descriptive statistics, probability distributions, and hypothesis testing are discussed. Concepts of analysis of variance, simple linear regression, and computer statistical distribution-free methods are also included as well as principles and procedures with computer statistical packages for data analysis. Lecture and laboratory.

MBF514 Tropical Marine Biology: A Field Course
3.00 credits  Spring
General survey of marine flora and fauna of tropical marine ecosystems. Inhabitants and communities of the sandy shore, rocky shore, seagrass meadows, mangrove shoreline, coral and artificial reefs are collected, identified, maintained. Life histories of representatives are presented. Concepts of island biology and geology such as shore zonation local reef formation and the geological history of the lagoon are also discussed. The 10 day course involves 90 contact hours and approximately 40 hours of formal lectures. Grades are based on a laboratory practicum and written final exam. The course is given in its entirety at the University's field station at Bimini, Bahamas.
MBF515 Tropical Marine Ecology
3.00 credits Offered By Announcement Only
Marine ecology with emphasis on tropical ecosystems and local habitats. Physical environmental and biotic adaptations, population, and community ecology are discussed. Field exercises in mangrove, sea grass, and coral reef ecosystems are also included.

MBF518 Ecology and Physiology of Coral Reef Systems
3.00 credits Offered By Announcement Only
Coral reefs as integrated systems are examined from geological, ecological, and biological perspectives. The roles of global and local environmental fluctuations, physical disturbance, and biotic interactions in controlling reef formation and community structure is emphasized. The physiology of scleractinian corals and their algal symbionts is described and the prevalence of algal-invertebrate symbiosis on coral reefs related to nutrient cycling, productivity, and food webs on coral reefs.

MBF521 Field Techniques and Instrumentation in Tropical Marine Ecology
3.00 credits Spring
This course covers the instrumentation and field techniques commonly used to characterize the structure and function of the three dominant ecosystems in the tropics and subtropics, i.e. coral reefs, seagrass beds and mangroves.

MBF539 Oceanic Productivity
3.00 credits Spring
History, methods, and current topics relevant to studies of marine primary production. Magnitude and fate of primary production in the sea is essential to understand secondary production, the success of fisheries recruitment, and global climate.

MBF542 Oceans and Human Health
3.00 credits Fall
The objective of this interdisciplinary course is to provide students with introductory knowledge of the broad and relatively young field of Oceans and Human Health. The focus is the present, future, and potential effects of oceanic processes and aquatic organisms on human health, and vice versa. These diverse factors reflect the physical, chemical, biotic and social processes which require an integration of information and knowledge from the medical, marine and social sciences. The course covers harmful algal blooms, marine microbes, and global climate change as well as an overview of coastal impacts and remedies (e.g. drugs from the sea and marine models) through a series of coordinated lectures and case studies on human health, physical environment, and oceanographic processes. PREREQUISITE: Permission of instructor.

MBF545 Fisheries Sampling and Analysis
3.00 credits Spring
Students will learn about experimental sampling concepts and designs, instrumentation, survey implementation and statistical methods to assess fishery-independent size-structured population abundance of exploited and non-target species.

MBF546 FISHERIES POPULATION BIOLOGY
3.00 credits Spring
Students will learn conceptual aspects and estimation methods for the main population processes such as growth, survival, reproduction and feeding. There will be an emphasis on data requirements and statistical validation of the data and model fitting, such that students will develop an ability to integrate and summarize complex biological knowledge under a set of well defined protocols.
MBF550 Analytical Techniques in Marine Biology
2.00 credits Offered By Announcement Only
Theory and applications of selected analytical techniques necessary to conduct quantitative research in marine biology (e.g., electrophoresis, metabolite assays, enzyme assays, radioisotope methodology). One hour lecture followed by three hour laboratory per week.

MBF555 Graduate Physiology.
3.00 credits Spring
Broad overview of concepts important for physiology. Topics include discussions of genomes, molecular evolution and functional genetics (metabolism), cell biology and cell communication, and organismal -environmental interactions. Readings from the primary literature are included with an emphasis on seminal papers.

MBF570 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF571 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF572 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF573 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF574 Special Topics
1.00 - 4.00 credits Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

MBF576 Diseases of Marine Organisms
3.00 credits Offered By Announcement Only
Infectious, genetic, and environmentally induced diseases of marine fishes and invertebrates as well as diagnostic methods, cellular, and molecular pathology. Lecture, 3 hours.

MBF578 Evolutionary Genetics
3.00 credits Fall
A Graduate course that presents an overview from New Evolutionary Synthesis (1900) to Evolutionary Genomics. The critical points to emphasize is the importance of standing genetic variation, the role of neutral evolutionary process versus evolution by natural selection and how a evolution perspective provides meaning insights into the biology.
MBF586 Environmental Biology of Fishes

3.00 credits

Offered By Announcement Only

Ecology, dispersal, and modes of life of fishes. Adaptations by larvae and adults to various habitats are covered as well as the effects of man on fish faunas and the importance of fishes to various ecological systems. Lecture, 3 hours.

MBF590 Acoustic Measurement of Nekton, Plankton and Underwater Habitat.

3.00 credits

Fall

MBF 590 is an introductory course on the theory, history and applications of acoustics to measure nekton, plankton and underwater habitat. It was designed for those students who wish to learn how to make quantitative measures of organisms and structure underwater. It is a prerequisite for MBF 690, Advance Measurement of Nekton, Plankton and Underwater Habitat, which focuses on data acquisition in the field and laboratory signal processing. This course is essential for students who need to make precise and accurate underwater measurements for their research.

MBF602 Biological Oceanography Seminar

1.00 credit

Fall, Spring

Participation is required of all students in Marine Biology and Fisheries department every semester they are in residence whether or not they are registered for the course. Students past their second semester must give one 20-minute presentation per year, on their research or other acceptable topic. Dates are be assigned by lottery. Course may be taken for credit only once.

MBF604 Biological Oceanography

3.00 credits

Fall

A comprehensive course in Biological Oceanography, including energy flow, biogeochemical cycles, planktonic and benthic ecosystem structure, evolutionary ecology, adaptations of marine organisms, and paleoceanography. Course is required of all MBF students and should be taken in sequence with Oceanography I (MPO 501), Oceanography II (MAC 502), and Oceanography IV (MGG 504).

MBF607 Biochemical Toxicology

3.00 credits

Offered By Announcement Only

Biochemical mechanisms of absorption, distribution, metabolism, and excretion of natural and synthetic environmental toxicants. Methods for evaluation of acute and chronic toxicity, carcinogenesis, mutagenesis, and teratogenesis including in vivo, isolated organ, tissue culture, and subcellular approaches to toxicity testing are included.

MBF610 The Physical Environment of Marine Organisms

3.00 credits

Spring

The fluid environment of the sea influences the growth, distribution, and survival of marine organisms. The physical processes that affect organisms occur in space and time, ranging from the molecular properties of water to basin-wide linkages between oceanic regime and climate shifts are discussed. Course emphasis is placed on how physical processes affect the life of plankton to nekton. Students are required to present reviews based on the literature.
MBF613 Marine Population Dynamics  
3.00 credits  
*Spring*  
The concepts of stocks, sub-populations, and populations as biological systems in the marine environment. Quantitative studies of growth, mortality, recruitment, and abundance of marine populations are discussed. Data requirements, experimental design, sampling, and mathematical procedures for estimating population parameters are included. Lecture and laboratory.

MBF614 Population Modeling and Management  
3.00 credits  
*Fall*  
Mathematical and computer-intensive models of exploited populations fish, shell fish, marine mammals, and sea turtles. Stock production (surplus production), structured analytical yield (yield-per-recruit and age-size structured assessments), stock and recruitment, simulation modeling, adaptive control theory, risk assessments, and decision theoretic analyses are discussed. Techniques of management, concepts of resource allocation, and fishery management institutions with case studies are also included. Lecture and computer-based laboratory.

MBF615 Advanced Biometrics in Marine Science  
3.00 credits  
*Spring*  
An introduction to advanced statistical analysis of multivariate empirical observations with primary emphasis on applications in the assessment and interpretation of the dynamics of marine populations and communities in marine biology, biomedical sciences, fisheries, and biological oceanography. Advanced methods in linear, multiple and nonlinear regression analysis, probability and estimation theory, multiple partial correlation, ANCOVA, GLIM, general additive models, nonlinear optimization, multivariate statistics (classification and ordination), and sampling techniques. Exploratory data analysis and modeling are emphasized using the software SAS, S-PLUS, and MATLAB.

MBF671 Advanced Studies  
1.00 - 4.00 credits  
*Offered By Announcement Only*  
Supervised study in areas of special interest to graduate students.

MBF672 Advanced Studies  
1.00 - 4.00 credits  
*Offered By Announcement Only*  
Supervised study in areas of special interest to graduate students.

MBF673 Advanced Studies  
1.00 - 4.00 credits  
*Offered By Announcement Only*  
Supervised study in areas of special interest to graduate students.

MBF675 Advanced Studies  
1.00 - 4.00 credits  
*Offered By Announcement Only*  
Supervised study in areas of special interest to graduate students.

MBF687 Biology and Systematics of Fishes  
3.00 credits  
*Offered By Announcement Only*  
Lectures and laboratories on comparative evolution, morphology, physiology, and ecology of fishes. Laboratory emphasis is placed on family level taxonomy and systematics of marine and estuarine fishes.
MBF690 Advance Measurement on Nekton, Plankton, and Underwater habitat.
3.00 credits  Spring
MBF 690 is the second course in a series on the acoustic measurement of nekton, plankton and underwater habitat. It follows in the introductory course MBF 590. In this course, we will focus more on the acquisition and processing of plankton, nekton and marine habitat data using sonar hydrophones. We will also spend time reviewing and discussing the classic papers that have been published on this topic. This class was designed for those students who wish to learn how to make quantitative measures of organisms and underwater habitat structure for their research.

MBF705 Special Project
1.00 - 6.00 credits  Fall, Spring & Summer
Supervised project for students pursuing the Master of Arts degree in Marine Studies. Consists of a paper, researched, and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

MBF710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MBF720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MBF 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MBF730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MBF 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MBF750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Marine Geology/Geophysics
MGG501 Oceanography I (Geological)
2.00 credits  Fall
The first section of the core course curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography II - Physical (MPO 502), Oceanography III - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MGG majors only.
MGG511 Earth Surface Systems
3.00 credits Fall
An introduction to the elements of the earth surface environment and their interactions with an emphasis on the application to understanding the geologic record. Course includes discussions of the processes and agents that influence and shape the character of the earth's surface, the attributes of the resultant sedimentary features, and the use of these features to unravel geologic and geomorphic history. Focus is placed on systems dynamics and interactions among sedimentologic, geomorphic, biotic, and hydrologic processes.

MGG513 Introductory Geochemistry
3.00 credits Fall
Fundamentals of atomic structure and quantum mechanics applied to Chemistry. Topics include origin and distribution of the elements, chemical bonding and substitution, basic thermodynamics of solids, liquids, and gases. Applications of these concepts to such geochemical processes as magmatic differentiation, rock-water interactions, low temperature aqueous geochemistry, and the geochemical cycling of the elements is also included.

MGG514 Geophysics
3.00 credits Fall
Course topics include seismology, gravity, heat flow, thermal history, geomagnetism, plate tectonics, and their importance in understanding the Earth's crust, mantle, and core.

MGG525 Applied Environmental Geophysics
3.00 credits Offered By Announcement Only
Application of subsurface geophysical tools to environmental problems. Course includes the theory and application of shallow refraction and reflection seismology, conducting field experiments and processing both marine and land seismic data, other marine survey techniques such as side-scan sonar surveying, potential field techniques (gravity, magnetics, EM), ground penetrating radar, and borehole geophysics.

MGG541 Field Evaluation of Fossil Platforms, Margins, and Basins
2.00 credits Offered By Announcement Only
Field investigation of classic rock sequences formed within ancient platform, margin, and basin environments. The use of ancient exposures as a guide to the interpretation of modern marine environments.

MGG550 Mathematical Methods for Geoscientists
3.00 credits Fall
Background mathematics needed to solve problems in the geosciences. Applications in tectonics, geodynamics, structural geology, seismology, and hydrology. Topics include linear inverse problems, least squares, linear algebra, matrix theory, vectors, dimensional analysis, probability and scientific inference, continuum mechanics, transform and numerical methods to solve differential, and partial differential equations.
MGG570 Continental Tectonics
3.00 credits  Spring
Reviews major research techniques used in the study of the structure and evolution
of continental crust and topical discoveries, with an emphasis on the Neogene to
Recent time. The course begins with brief introductions to the fields of structural
geology, seismology, and geodesy as they relate to continental tectonics. New research
in areas such as the rheology of the lithosphere, plate motion models, deformation
of continental crust in plate boundary zones, oblique subduction, and earthquake
hazard assessment are also discussed.

MGG579 Plate Tectonics
3.00 credits  Fall, Spring
The theory of plate tectonics, sea floor spreading, and continental drift. Mathematical
description of plate motions, finite and instantaneous rotation poles, consequences
of plate tectonics, mountain building, rifting, erosion, and recycling of continental
materials are also discussed.

MGG580 Geological and Environmental Remote Sensing
3.00 credits  Spring
This one semester course will cover major remote sensing techniques used in the
geological and environmental sciences. The course will begin with an introduction
to the basic physics of remote sensing, followed by a review of major remote sensing
techniques used in aircraft and satellite platforms, including IR and near IR,
optical and microwave systems. We will then discuss specific terrestrial and coastal
applications using a case history approach, including geologic, soil and biomass
mapping, environmental monitoring, and natural hazard assessment. The course is
aimed at graduate students and senior undergraduates with some background in math
and physics. Grades are based on problems sets (a minimum of three), a mid-term
test, and a report or lab exercise involving image processing, due at the end
of the semester.

MGG583 Scanning Electron Microscopy
2.00 credits  Spring
Theory and practical application of the SEM and the electron probe to research
problems. Lectures and laboratory with emphasis on independent operation of the
SEM, special preparation techniques, and interpretation of results are included.
Course is designed to provide students with a broad and thorough background in
scanning electron microscopy.

MGG584 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine
Geology and Geophysics.

MGG585 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Marine
Geology and Geophysics.

MGG601 Seminar in Marine Geology and Geophysics
1.00 credit  Fall, Spring
Oral presentation and discussion of research and special topics by students, faculty,
and visiting scientists. Students receiving credit are required to present a seminar.
MGG622 Geophysical Onverse Theory
3.00 credits Spring
This course covers the principles of geophysical inverse theory as applies to problems in the Earth Sciences. Inverse theory is a set of mathematical techniques used to obtain inferences about the Earth from physical measurements. The focus of this class will be on formulating and solving inverse problems, and understanding the non-uniqueness and resolution associated with inversions. The emphasis will be on geodetic data (obtained from GPS and InSAR measurements).

MGG650 Stable Isotopes in Biogeochemical Processes
3.00 credits Offered By Announcement Only
Theory of stable isotope fractionation, methods of measurement, and application of results to geological, biological, and oceanographic processes. Hands-on experience in the stable isotope laboratory is provided utilizing a range of techniques. A project chosen either by the student or instructor is required. All students who wish to use the stable isotope facility should take this course. Lecture, 2 hours; laboratory, 3 hours. PREREQUISITE: Permission of instructor.

MGG661 Sedimentary Petrology
3.00 credits Fall
Composition, texture, fabric, and structures of sediments and sedimentary rocks. The occurrence and properties of the major clans of detrital and chemical sediments from a petrologic and historical perspective is discussed.

MGG662 Comparative Sedimentology
3.00 credits Spring
The use of modern sediments to decipher processes of origin, accumulation, and early diagenesis as the basis for interpreting environments and architecture of ancient deposits in outcrop and in the subsurface. Evaluation of the sedimentary record of climate and sea level changes is included as well as the application of facies models for interpretation of seismic and log data.

MGG668 Isotopic Processes in Earth Sciences
3.00 credits Offered By Announcement Only
The use of isotopic methods in geology, geochemistry, and geophysics, including oceanography and meteorology. General laws governing isotopic effects in chemical and physical processes are discussed. Specific problems in dating, tracing, and paleotemperatures are also included.

MGG671 Diagenesis of Carbonate Sediments
3.00 credits Spring
Application of geochemical, mineralogical, and petrological principles to the behavior of carbonate minerals in sediments. Physical and chemical conditions responsible for cementation, dolomitization, and aragonite-calcite phase transitions are emphasized. Types of depositional and diagenetic information which may be preserved in carbonate sediments. Laboratory studies of sediments are included.

MGG672 Basin Analysis and Seismic Interpretation
3.00 credits Spring
The processes of basin formation and filling. The principles of seismic facies analysis, seismic sequence stratigraphy, and their applications in basin analysis, groundwater management, and exploration for hydrocarbons are discussed.
MGG676 Paleoclimatology
3.00 credits  Fall
Climatic variables and their effects on geological and biological processes. The development of the paleoclimatic record, modeling of present climate, and the extrapolation to past and future climates are discussed.

MGG677 Submarine Volcanism and Its Products
3.00 credits  Fall
Course topics include classification of volcanoes, their activity and products, submarine versus subaerial volcanoes, historical submarine eruptions, and hydrothermal activities, origin and differentiation of magmas, petrology of submarine, volcanic rocks, geographic distribution of volcanoes, and their tectonic setting are also discussed.

MGG681 Advanced Studies
1.00 - 4.00 credits  Offered By Announcement Only
Special study in areas of special interest to graduate students.

MGG682 Advanced Studies
1.00 - 4.00 credits  Offered By Announcement Only
Special study in areas of special interest to graduate students.

MGG683 Advanced Studies
1.00 - 4.00 credits  Offered By Announcement Only
Special study in areas of special interest to graduate students.

MGG700 Practical Training and Internship
1.00 - 6.00 credits  Offered By Announcement Only
Supervised internship or off-campus employment for students pursuing the M.A., M.S., or Ph.D. degree. Consists of work related to research in progress.

MGG705 Special Report
1.00 - 6.00 credits  Fall, Spring & Summer
Supervised project for students pursuing the Master of Arts degree in Marine Studies. Course consists of a research paper, researched, and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

MGG710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MGG720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MGG 710 (usually six credits). Credit not granted. May be regarded as full time residence.
**MGG730 Doctoral Dissertation**

1.00 - 12.00 credits  
*Fall, Spring & Summer*

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MGG 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

**MGG750 Research in Residence**

0.00 credit  
*Fall, Spring & Summer*

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

**Marine/Atmospheric Chemistry**

**MAC503 Principles of Marine and Atmospheric Chemistry**

3.00 credits  
*Fall*

Introduction to the chemical aspects of the sea and atmosphere chemical composition, physico-chemical properties and relationships, methodology of study, fundamental aspects of marine and atmospheric chemistry.

**MAC510 Biogeochemical Exploration of the Major Ocean Basins**

3.00 credits  
*Fall*

This course will have students explore the basic hydrography and biochemistry of the major ocean basins through use of several publicly available global ocean data sets. Each ocean basin will be assessed for biogeochemical features that are unique to that system. By the end of the course, students will have the skills necessary to investigate and interpret marine biogeochemical processes throughout the global ocean.

**MAC560 Tropospheric Chemistry I**

3.00 credits  
*Spring*

Process-Oriented lower atmospheric chemistry. Topics include photochemical oxidant formation, nighttime chemistry, air-sea exchange, cloud droplet and aerosol reactions, physical properties of aerosols, and transport properties of the troposphere.

**MAC581 Special Topics in Marine and Atmospheric Chemistry**

1.00 - 4.00 credits  
*Offered By Announcement Only*

Lectures, research projects or direct readings in special topics of marine and atmospheric chemistry.

**MAC584 Special Topics**

1.00 - 4.00 credits  
*Offered By Announcement Only*

Lectures, research projects or directed readings in special topics of Marine and Atmospheric Chemistry.

**MAC605 Chemical Oceanography**

3.00 credits  
*Spring*

Course consists of lecture and discussions with renowned experts in the major disciplinary foci and topical issues dominating the field of Chemical Oceanography. Topics include the chemistry and biogeochemical processes of the carbon cycle, ocean tracers, photochemistry, and specific marine environments (geothermal vents, anoxic waters, sediments, air/sea interface).
MAC620 Marine Physical Chemistry  
3.00 credits  
Spring  
Physical-chemical principles applied to the marine environment, based on thermodynamics and the study of rate processes.

MAC625 Marine Biochemical Cycles  
3.00 credits  
Spring  
Course discusses the roles of bacteria in the transformation of compounds in the marine environment, their functions in the carbon, nitrogen, sulfur, and phosphorus cycles, and transformation of metals. Bacterial activities in the deep-sea environment and their involvement in corrosion and fouling is also discussed.

MAC650 Reaction Kinetics and Molecular Dynamics  
3.00 credits  
Spring  
Theories and experimental techniques for studying kinetics in the gas-phase, association, unimolecular and bimolecular reactions, chain reactions, flames, statistical theories, potential energy surfaces, collision dynamics, kinetics in solution and the solid-state, experimental methods, diffusion-controlled processes, transition state theory, thermal decomposition, and nucleation are discussed.

MAC661 Tropospheric Chemistry II  
3.00 credits  
Fall  
Chemical and physical properties of tropospheric aerosols. Topics include properties of aerosols, dynamics of single aerosol particles, thermodynamics of aerosols, nucleation theory, aerosol growth, heterogeneous processes, dynamics of aerosol populations, and radioactive properties of atmospheric aerosols.

MAC662 Environmental Photochemistry  
3.00 credits  
Offered By Announcement Only  
Introduction to the principles of photochemistry and their application to understanding sunlight initiated processes in the region of the ocean-atmosphere interface. Organic and inorganic photochemical reactions and subsequent thermal reactions in solution, gas, and solid media are discussed.

MAC667 Marine Trace Element Geochemistry  
3.00 credits  
Spring  

MAC670 Seminar in Marine and Atmospheric Chemistry  
0.00 - 1.00 credit  
Fall, Spring  
Oral presentation of research and special topics by students, faculty, and visiting scientists.

MAC681 Advanced Studies  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study in areas of special interest to graduate students.

MAC705 Special Report  
1.00 - 6.00 credits  
Fall, Spring & Summer  
Supervised project for students pursuing the Master of Arts degree in Marine Studies. Consists of a paper, researched, and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.
MAC710 Master's Thesis
1.00 - 6.00 credits          Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MAC720 Research in Residence
0.00 credit                   Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MAC730 Doctoral Dissertation
1.00 - 12.00 credits          Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MAC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MAC750 Research in Residence
0.00 credit                   Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Meteorology/Phys Oceanograpp
MPO502 Oceanography II (Physical)
2.00 credits                  Fall
The second section of the course core curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography I - Geological (MGG 501), Oceanography I II - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MPO majors only.

MPO503 Physical Oceanography
3.00 credits                  Fall
Introduction to properties of seawater, instruments and methods, heat budget, general ocean circulation, formation of water masses, dynamics of circulation, regional oceanography, waves, tides, and sea level. A mathematical and problem solving course for majors in MPO.

MPO511 Geophysical Fluid Dynamics I
3.00 credits                  Fall
The basic equations of state, continuity, and motion. Topics include wave motions, group velocity, theory of stratified fluids and internal waves turbulence.

MPO524 APPLIED DATA ANALYSIS
3.00 credits                  Offered By Announcement Only
MPO531 Physical Meteorology  
3.00 credits  Offered By Announcement Only  
Electromagnetic and acoustic wave propagation, absorption, and emission. Application to remote sensing, basic physics of dry aerosols, clouds and precipitation, fundamentals of atmospheric electricity, charge separation processes, and electrical field effects are also discussed. Other topics include air pollution physics, dispersal, and removal of particulate and gaseous materials from natural and anthropogenic sources.

MPO532 Broadcast Meteorology  
3.00 credits  Spring  
Students will learn the proper techniques involved in preparing and presenting a complete and professional weathercast with a heavy emphasis on communication skills, computer graphics, and on-camera delivery.

MPO542 Physics of Remote Sensing I - Passive Systems  
3.00 credits  Fall  
Course discusses basic physical principles of remote sensing. Topics include an introduction, sampling issues, fundamental laws of electromagnetic waves, passive sensing, active sensing, and a brief survey of satellite sensors.

MPO551 Introduction to Atmospheric Science  
3.00 credits  Fall  
Thermodynamics of dry and moist processes; elementary dynamical meteorology; description of weather systems and phenomena on all scales; structure and mechanics of the general circulation. Corequisite: MPO 552.

MPO561 Tropical Atmosphere and Ocean  
3.00 credits  Spring  
Observed structure of large-scale tropical circulations, including the Trades, the intertropical Convergence Zone, the Walker circulation, and equatorial wave disturbances. An overview of tropical climate, including El Nino/Southern Oscillation, and tropical monsoons is included as well as the formation, structure, and dynamics of tropical cyclone interactions between tropical convection and large-scale circulations, equatorial waves, and flow instabilities.

MPO563 Mesoscale Meteorology and Severe Storms  
3.00 credits  Offered By Announcement Only  
Course topics include the structure and dynamics of clouds, thunderstorms, and mesoscale convective systems, radar and satellite observations of clouds and precipitation, severe storm forecasting, mesoscale disturbances, frontal and orographic clouds, and precipitation.

MPO581 Special Topics  
1.00 - 4.00 credits  Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO582 Special Topics  
1.00 - 4.00 credits  Offered By Announcement Only  
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.
MPO583 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO584 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO585 Special Topics
1.00 - 4.00 credits  Offered By Announcement Only
Lectures, research projects or directed readings in special topics related to Meteorology and Physical Oceanography.

MPO601 Seminars in Meteorology and Physical Oceanography
1.00 credit  Fall, Spring

MPO611 Geophysical Fluid Dynamics II
3.00 credits  Spring
The focus of this course is on the effects of stratification, on time variable phenomena, and on the interaction between large-scale circulation and mesoscale eddies. Course topics include quasi-geostrophic scale analysis, Rossby waves, barotropic and baroclinic instability, wave-mean flow interaction and non-geostrophic waves.

MPO612 Large Scale Ocean Circulation: Models and Observations
3.00 credits  Spring
Course topics include theoretical models of the oceanic current systems, wind-driven and thermohaline circulation, effects of bottom topography, and lateral bounding.

MPO615 Numerical Weather Prediction
3.00 credits  Offered By Announcement Only
Review of fundamental equations and principal wave solutions. Course topics include finite differences, the filtering problem, the equivalent-barotropic model, multi-level primitive equation models, model initialization and verification, and models currently used by the weather service.

MPO621 Waves and Tides I
3.00 credits  Fall
Systematic development of equations governing long waves in the ocean. Course topics include tidal dynamics and tide-generating forces, inertio-gravity, planetary, and longs, presurface waves, waves trapped and scattered by topography, and equatorial waves.

MPO623 Statistical Analysis of Geophysical Data
3.00 credits  Spring
Review of statistical methods. Course topics include statistical description of wave fields, especially inertio-gravity waves, processing methods for general and hydrodynamically conditioned signals, time series analysis, objective analysis, and empirical spectral analysis.
MPO624 Statistical Modeling of Geophysical Fields
3.00 credits Spring
An advanced course in statistical modeling, analysis, and assimilation of geophysical data. Emphasis is placed on practical applications, computer software, and new nonstandard techniques.

MPO631 Air-Sea Interaction
3.00 credits Spring

MPO632 Climate Dynamics
3.00 credits Offered By Announcement Only
Basic understanding of the Earth's Climate System and its variability on time scales ranging from weeks to millennia. Topics include internal atmospheric variability, coupled ocean-atmosphere interactions, and the theory, observations and modeling of climate change.

MPO633 The Marine Atmospheric Boundary Layer
3.00 credits Spring
The marine atmospheric boundary layer plays a key role in the two-way interaction between the atmosphere and the ocean. This course will focus on describing and explaining marine atmospheric boundary layer structure and its evolution. This will include an emphasis on the cloud-topped boundary layer (marine stratocumulus) and the trade-wind boundary layer. Thus, in addition to turbulence, the physical processes considered in this treatment of the marine boundary layer will include shallow moist convection and radiation. The course will start with a basic description of the atmospheric boundary layer that will include a review of the relevant dynamics and thermodynamics. More advance topics will be covered in the second half of the course. Although the course will be a series of formal lectures, students will independently research selected topics, prepare a short review paper, and give an oral summary class.

MPO650 Coastal Ocean Circulation
3.00 credits Spring
Circulation and stratification in the coastal ocean, including the dynamics of wind-driven, tidally-driven, and buoyancy-driven mean and transit flows over variable topography with density stratification are discussed. Design of numerical models and observing systems for coastal ocean circulation are also included. (AMP 650).

MPO662 Computer Models in Fluid Dynamics
3.00 credits Spring
Course topics include numerical techniques of dealing with dynamic problems in meteorology and oceanography. Dynamic prediction models, initial data conditioning, computational stability, and error estimates are also included.

MPO663 Convective and Mesoscale Meteorology
3.00 credits Spring
This course begins by establishing the dynamics, thermodynamics, and cloud microphysics fundamentals needed to understand convective clouds and storms. We also review the types of observations, both in situ and remote sensing, available for studying these storms. Observations of both tropical convection and more-vigorous midlatitude severe storms are presented and compared to numerical modeling results, with an emphasis on scientific understanding.
MPO664 Atmospheric and Oceanic Turbulence  
3.00 credits  
Spring  
Structure and dynamics of planetary boundary layers, turbulent transport processes, Fickian and statistical theories of turbulence, influence of stratification, and rotation on turbulent motion are discussed.

MPO665 General Circulation of the Atmosphere  
3.00 credits  
Spring  
Course topics include structure and behavior of planetary scale motions, energy, momentum, and moisture budgets of the general circulation, and models of the general circulation and climatic change.

MPO668 ENSO Dynamics, Prediction and Predictability  
3.00 credits  
Fall  
This course will provide students with a comprehensive observational and mechanistic understanding of the El Nino and the Southern Oscillation (ENSO) phenomena and how ENSO impacts the natural variability of the global climate system. Topics will include: Observations and theories of the seasonal and interannual changes in the ocean circulation and temperature, and interactions with the atmosphere; equations of motion and theories of tropical ocean and atmosphere circulation; tropical wave dynamics; large scale air-sea coupling; mechanisms for ENSO: delayed oscillator theory, recharge oscillator theory, slow SST modes; ENSO prediction and predictability; ENSO-monsoon-Indian Ocean interactions; Global climate response to ENSO; decadal ENSO variability; ENSO in a changing climate. This course has a phenomenological focus, which complements current MPO course offerings. In particular, students who have taken dynamic and physical meteorology, ocean general circulation or geophysical fluid dynamics will be exposed to how general theory (e.g., wave dynamics) relates to particular phenomena and current research foci. In addition, student will have the opportunity to design and implement numerical hypothesis testing experiments.

MPO671 Advanced Studies in Meteorology and Physical Oceanography  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study in areas of special interest to graduate students.

MPO672 Advanced Studies  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study of special interest to graduate students.

MPO673 Advanced Studies in Meteorology and Physical Oceanography  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study in areas of special interest to graduate students.

MPO674 Advanced Studies  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study of special interest to graduate students.

MPO675 Advanced Studies  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study of special interest to graduate students.

MPO700 Practical Training and Internship  
1.00 - 6.00 credits  
Offered By Announcement Only  
Supervised internship or off-campus employment for students pursuing the M.A., M.S., or Ph.D. degree. Consists of work related to research in progress.
MPO705 Special Project
1.00 - 6.00 credits  Fall, Spring & Summer
Supervised project for students pursuing the Master of Arts degree. Consists of a paper, researched and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

MPO710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MPO720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MPO 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MPO730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MPO 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MPO750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
MPO652 Vortex Dynamics

3.00 credits

Offered By Announcement Only

This course will cover fundamental to advanced topics in vortex dynamics. A review of fluid dynamics and vorticity in two dimensions will be followed by studies of vortex dynamics in three-dimensional, incompressible flow and in three-dimensional, stratified flow.
BMB501 SENIOR SEMINARS
1.00 credit Fall, Spring
Students attend seminars of their own choice, presented by either visiting/residing faculty or graduate/postdoctoral students on recent research topics in BMB or any other discipline in the basic biomedical sciences. Students write short reports on these seminars and critically evaluate the presentations. This course can be taken more than once.

BMB506 BIOMEDICAL CASE STUDIES
1.00 credit Fall
Students explore topics in BMB in the context of solving problems presented in a clinical/biomedical framework. Students work in small groups and independently to acquire, critically evaluate, synthesize and present information.

BMB507 PROTEIN STRUCTURE, FUNCTION, & BIOLOGY
3.00 credits Fall
The physical characteristics and behavior of proteins are described, including structure, folding, dynamics, modifications, and interactions. In addition, experimental approaches to protein structure and function are addressed. Readings include both textbook assignments and current research articles, and a term paper is written and submitted for writing credit.

BMB509 MOLECULAR BIOLOGY OF THE GENE
3.00 credits Spring
Biochemical processes involved in the flow of genetic information in both prokaryotes and eukaryotes are described, including DNA replication, repair, genetic recombination, RNA transcription and processing, protein synthesis, control of gene expression, cell differentiation, and recombinant DNA technology. Extensive classroom discussion is mandatory. Reading includes BMB primary research papers, course notes and a textbook.

BMB511 TOPICS IN BMB
2.00 - 3.00 credits Fall, Spring & Summer
Students independently explore the literature in BMB with guidance by a BMB Faculty mentor. BMB primary research literature in an area of mutual interest to the student and the Faculty mentor (usually a content expert in that area) is discussed. Students prepare a paper or other appropriate product (e.g. computer software, a structural model, a dynamic simulation) for evaluation. Writing credit is available for papers.

BMB545 RESEARCH PROBLEMS IN BMB
2.00 - 3.00 credits Fall, Spring & Summer
Students actively participate in the research laboratory of a faculty mentor to work on an independent research project. Students develop abilities to formulate good questions and sound hypotheses, design practical experiments, collect and analyze useful data, and make justifiable conclusions. Students maintain a weekly online journal, write a paper, and present their research in the lab. Two semesters of BMB545 is required to write a thesis (pre-requisite for graduating with honors in BMB). Writing credit is available for papers.

BMB601 Research Journal Club.
1.00 credit Fall, Spring
All registered BMB students must participate in the Journal Club/Seminar. Students are required to critically review published paper(s) of their choice and describe in detail the findings described therein. Senior students will present their own research.
BMB609 Advanced Biochemistry and Molecular Biology
3.00 credits                                                                      Fall
This course is a continuation course for BMB 616. It covers essentially the same topics as BMB 616 but at a more advanced level. It brings the student to the forefront of research in Molecular Biology. The course material is discussed exclusively in the form of original research papers. Based on this experience, students are required to propose experimental approaches to biological problems and defend them.

BMB610 Advanced Topics in Biochemistry
1.00 - 5.00 credits                                                    Fall, Spring
Senior seminars designed to cover in depth recent developments in the field of biochemistry with the purpose of keeping advanced graduate students abreast with new theoretical and experimental findings. General subjects such as mechanisms of enzyme action, oxidative phosphorylation, active transport, metabolic controls and disorders, steroid biochemistry, and biochemical genetics are discussed. The detailed program is announced annually. Majors in Biochemistry and Molecular Biology are expected to take this course each semester in their second and third years.

BMB614 Molecular Genetics
2.00 credits                                                                 Spring
This course deals with mechanisms and fundamental concepts of genetic inheritance. The first part of the course is devoted to the genetics of bacteria and bacteriophages. Topics include genetic complementation, recombination, suppression, transposition, conjugation, transformation, transduction, and regulation of prokaryotic gene expression. The second part of the course covers selected topics in eukaryotic genetics (including molecular genetics of yeast, mitochondria, Drosphila, mice and humans). Problem solving is emphasized in homework and exams. The objective of the course is to provide students with an appreciation of the value of molecular genetics as a tool they can use to solve a wide variety of problems in biomedical research.

BMB615 Structuralbiology and applications to drug discovery
2.00 credits                                                                 Spring
This course focuses on the relationships between structure and function in biological macromolecules, and how this knowledge has led to the discoveries of new drugs.

BMB616 Macromolecular Biophysics and Drug Design
4.00 credits                                                                 Spring
This course will introduce to a diverse array of biophysical methods employed to study macromolecular interactions at structural, thermodynamic, hydrodynamic and kinetic level.

BMB617 Readings in Molecular Biology
1.00 credit                                                                    Fall
Discussion of classical papers in molecular biology beginning with the concept of the gene and continuing into modern studies. Format consists of student presentations and group discussions.

BMB631 Special Work
1.00 - 3.00 credits                                                                Fall, Spring & Summer
Special work, lecture, or laboratory or a combination of these, as determined by advisor in accord with student's individual interest.
BMB645 Research Problems in Biochemistry, Cell and Molecular Biology
2.00 - 3.00 credits  Fall, Spring & Summer
Laboratory research problems in various areas of biochemistry, cell biology, and molecular biology, including literature search, experimental design, data gathering, and evaluation of results. This course is the mechanism by which graduate laboratory rotations are done in preparation for selection of Ph.D. mentor.

BMB680 Research Ethics
0.00 credit  Fall
The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and will be given in two sessions of three hours each.

BMB710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

BMB720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in BMB 710 (usually six credits). Credit not granted. May be regarded as full time residence.

BMB730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BMB 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

BMB750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
RSM500 Research Diving Techniques

3.00 credits

Offered By Announcement Only

This course is designed to introduce students to the practices and policies of scientific diving. The object is to prepare students to use SCUBA as a research tool for the marine sciences. The course content will qualify students as RESEARCH DIVERS under the UM/RSMAS Scientific Diving Program and will meet the standards set by the American Academy of Underwater Sciences (AAUS).

RSM512 Statistics for Environmental Management

3.00 credits

Fall

This course covers the statistical theory, tools, and methods required for management analysis and improvement, emphasizing marine science applications.

RSM520 Climate and Society

3.00 credits

Spring

This course is designed to provide students from different disciplinary backgrounds with an overview of physical processes, general concepts and policy debates surrounding climate issues.

RSM545 SCIENTIFIC COMMUNICATION

0.00 credit

Spring

RSM560 Investigating Nature through Science Teacher Active Research (INSTAR) in Phys Sci

2.00 credits

Summer

This is a graduate level marine science course that provides a hands-on approach to education focused on geological and meteorological research in South Florida environment. The course provides training in marine science content, field techniques, state-of-the-art field, computer technology, and science educational reform measures. Participants work collaboratively with marine and atmospheric scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: geology, hydrology and meteorology. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

RSM561 INSTAR for Physical Sciences Follow-up

1.00 credit

Summer

This is a follow-up course for participants in MGG 560 and is designed to test the application of the methods learned in MGG 560 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in MGG 560.

RSM562 Investigating Nature through Science Teacher Active Research in Biological Sci

2.00 credits

Summer

This is a graduate level marine science course that provides a hands-on approach to education focused on marine science research and technology in South Florida coastal environments. The course provides training in marine science content, field techniques, state-of-the-art field and computer technology, and science educational reform measures. Participants work collaboratively with marine scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: coral reefs and marine fisheries. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.
RSM563 INSTAR Biological Sciences Follow-up  
1.00 credit  
**Summer**  
This is a follow-up course for participants in RSM 562 and is designed to test the application of the methods learned in RSM 562 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in RSM 562.

RSM565 Fish Ecology and Oceanography  
3.00 credits  
**Fall**  
This course is intended to introduce students to key biological, ecological, oceanographic, and climatic processes of direct relevance to fishery species, with a view toward development of an ecosystem perspective.

RSM567 Motorboat Operator Certificate Course  
1.00 credit  
**Fall, Spring**

RSM570 Carbon and Climate  
3.00 credits  
Offered By Announcement Only  
This course is designed to provide students from different disciplinary backgrounds with an overview of the underlying processes, concepts, and policy debates surrounding the issue of carbon emissions and climate change. Individual faculty from RSMAS and elsewhere will lecture on cutting-edge research areas. Topics covered include: climate modeling; and climate policy.

RSM571 Special Topics  
1.00 - 4.00 credits  
Offered By Announcement Only  
Lectures and research projects in special topics related to Marine and Atmospheric Science.

RSM572 Special Topics  
1.00 - 4.00 credits  
Fall, Spring & Summer  
Lectures and research projects in special topics related to Marine and Atmospheric Science.

RSM600 Research Ethics  
0.00 credit  
**Fall**  
The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific University of Miami Rosenstiel School has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and will be given in two sessions of three hours each.

RSM620 Object-oriented Programming and Agent-based Modeling  
3.00 credits  
**Spring**  
Basics of object-oriented programming using Java, including Java statistical packages, and hands-on development of agent-based simulation models for social, economic, biological and physical sciences. Includes introductions to automaton and individual-based models.

RSM671 Advanced Studies  
1.00 - 4.00 credits  
Offered By Announcement Only  
Supervised study or advanced special topics.
BST510 Introduction to Statistical Collaboration  
4.00 credits  
Fall, Spring  
This course will introduce students to the art of statistical collaboration. The class will be highly interactive and will include an orientation to the process of statistical collaboration, individual and group assessment of the same consulting projects, and the completion of an individual live statistical collaboration project. For the final, live collaboration project, students will meet with the faculty and/or staff of the University of Miami who contributed their particular assigned consulting project(s). Students will need to research different statistical methods to find the best, feasible approach to address the particular consulting project. Students will present their plans for their own consulting projects in class and also help in the discussion/exploration of approaches for other student's consulting projects during class time. After finalization of the analysis plan the student will complete the statistical analyses described within the plan and create a final report.

BST525 Survey of Statistical Computing  
3.00 credits  
Spring  
This three credit course aims to familiarize students with the basic use of SAS and R for routine statistical analysis and prepare them for more advanced courses and/or thesis research. Statistical computation will be illustrated with examples in medical research, biological study and business. The focus of the course is on the computing environment, therefore a thorough discussion of statistical theories will not be provided. It is expected that students will already be prepared statistically.

BST575 Introduction to Generalized Linear Models  
3.00 credits  
Spring  
GLM's are an extension of the standard linear model to permit more general outcomes. In this class, we will study GLM's in detail. By the end of the course, we will examine recent extensions of GLMs. We will provide a unifying framework for formulation, estimation and inference. Throughout the course, real data applications from medicine will be used and extensive use of the R programming language will be made to implement ideas discussed.

BST630 Longitudinal and Multilevel Data  
3.00 credits  
Fall  

BST640 Modern Numerical Multivariate Methods  
3.00 credits  
Spring  
This course covers multivariate topics from both a classical as well as modern perspective. Topics to include: Multivariate Normal Distribution; Spectral Decomposition; Principal Component Analysis; Canonical Correlation Analysis; Newton's Method; Steepest Descent; Gradient Boosting; Coordinate Descent Algorithms; Trees; Forests; Discriminant Analysis. The R programming language (http://www.r-project.org) will be used extensively throughout the course for computation and statistical analysis.

BST649 Advanced Individual Study  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Individual work on a special project under faculty guidance.

BST650 Topics in Biostatistical Research  
1.00 credit  
Fall, Spring  

BST660 Spatial Statistics  
3.00 credits  
Fall
BST665 DESIGN AND ANALYSIS OF CLINICAL TRAILS
3.00 credits Fall
This first part of this course is an advanced treatment of the key ideas undergirding the design and analysis of contemporary clinical trials. By the end of the course, students will have learned the statistical foundations of Phase I, II, and III trials from the standpoint of classical Frequentist, Bayesian, and adaptive designs. In addition, students will learn the usual mechanisms for preparing a clinical trial protocol, data safety and monitoring, interim analysis, and proper close out of a trial.

BST670 BAYES DATA ANALYSIS: THEORY AND COMPUTING
3.00 credits Spring
This first part of this course is an advanced and comprehensive treatment of the foundations of Bayesian theory. Beginning with the Bayesian alternative to sampling theory, the course covers Savage’s axioms, the standard Bayesian inference procedure, subjective Bayes interpretation and prior selection, the minimax and complete class theorems, a variety of Bayesian principles (likelihood, stopping time etc.), and a selection of standard parametric and non-parametric examples. The second part focuses on the computational implementation of Bayesian inference, namely Gibbs sampling, Metropolis-Hastings, and other Markov-Chain-Monte Carlo techniques for obtaining the posterior and posterior quantities. Computational examples will be illustrated using R and WinBUGS. Special topics will include approximate Bayes computing (ABC) and particle methods.

BST695 SPECIAL TOPICS
3.00 credits Fall, Spring
The course is designed to allow the listing of special topics within the Division of Biostatistics degree programs and cross list topics with other department's offerings.

BST698 MAJOR PAPER
3.00 credits Fall, Spring & Summer
The student is working on their culminating project for the degree. The student is expected to explain a collection of related methods in some branch of statistics, use several of them to solve a motivated problem, explaining and contrasting the results. A faculty advisor and second reader are required.

BST699 THESIS PROJECT
1.00 - 6.00 credits Fall, Spring & Summer

BST730 Doctoral Dissertation (pre-candidacy)
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BST 730 may be taken in regular semester, nor more than six in a summer session.

BST740 Doctoral Dissertation (Post-Candidacy)
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the PhD. The student will enroll for credits as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BST 740 may be taken in regular semester, nor more than six in a summer session.
**BST750 Research in Residence**  
*0.00 credit  Fall, Spring & Summer*  
Used to establish research in residence for the PhD. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

**Sylvester Comp Cancer Biolo**  
**CAB601 CAB Student Seminar**  
*1.00 credit  Fall*  
This course (required of 2nd and 3rd year students) offers instruction on the fundamental elements of scientific speaking. The ability to communicate effectively is essential for scientists. All CAB students are required to present their research each year as a 25 min (2nd year students) or 55 min seminar (3rd year and above). Students who are 4th year+ give seminars but are not enrolled.

**CAB602 Approaches to Understanding Cancer**  
*2.00 credits  Fall*  
This interactive lecture course will teach students specific methodologies used to solve problems in cancer research. By using specific examples of basic and clinical avenues of research students will be taught the use of various approaches to address problems in cancer biology, i.e., reasoning and logic. The overall goal is to expose students to how different approaches are used and integrated to solve specific research questions and the critically interpret experimental design and data. The use and advantages of various approaches, e.g., biochemical, molecular, genetic, immunological, epidemiology, and the use of model systems e.g., cell and animal models will be discussed. Methods used in clinical trials will be presented. Emphasis will be placed on research strategy and design, limitations and strengths of various techniques.

**CAB603 CAB Clinical Oncology**  
*2.00 credits  Fall*  
Year 1: During the first year students will attend a series of lectures by CAB physician mentors that will discuss clinical aspects of cancer treatment for specific patients with an emphasis on continuity of care of newly diagnosed patients between disciplines. Students will attend existing Sylvester Cancer Center tumor boards on a rotating monthly basis to understand how the treatment of cancers varies depending on histology.

**CAB604 Scientific Reasoning and Logic in Cancer Biology: Bench to Bedside**  
*3.00 credits  Spring*  
One aspect of the Cancer Biology PhD Program is to train students in the application of basic research to clinical problems i.e., translational research. The goal of this course is to expose students to the scientific reasoning the logic behind solving problems in clinical cancer research. The philosophy of this course is to teach students how knowledge obtained from basic research laboratories is applied to clinical problems including prevention, diagnosis, prognosis and therapeutic treatment of cancer. This course has 11 weekly segments, each of which has a different theme plus student presentations.
CAB605 Tumor Boards
1.00 credit  
In the Fall of their second year, students attend Tumor Boards at the Sylvester Comprehensive Cancer Center. During these meetings, clinicians with expertise in different disciplines, review and discuss the medical conditions and treatment options of patients. These meetings provide an opportunity for students to interact with physicians and learn how pathologists, surgeons, medical oncologists and radiation oncologists review specific cases, create and coordinate customized treatment plans. Examples of cases include patients with solid tumors (i.e., breast, colon, liver, prostate), hematologic tumors (i.e., leukemia, lymphoma), and sarcomas (i.e., osteosarcoma, soft tissue). Students are expected to attend 10 different tumor board or site disease group meetings, a minimum of 5 must be attended during the Fall semester.

CAB606 Seminar Courses I
1.00 credit  
FIRST YEAR students must attend the Program seminars and will be graded pass/ fail based on their attendance.

CAB610 Cancer Biochemistry & Molecular Biology
3.00 credits  
This is an entry-level lecture course designed to introduce students to the major concepts and principles of cell growth deregulation in cancer with a major emphasis on molecular mechanisms. Topics include: oncogenes, tumor suppressors, mechanisms of uncontrolled cell growth, receptors and intracellular signal transduction pathways.

CAB611 Accelerated Basic Science Medical Curriculum
1.00 - 18.00 credits  
Beginning in the latter part of June each year, extending to the middle of February of the ensuing year, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. Single grade will be entered on the graduate transcript for this course.

CAB612 Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module
2.00 credits  
This module emphasized state of the art knowledge of each discipline, student participation in a problem based learning context. Topics include viral carcinogenesis and epidemiology, Hepatitis, Herpes, Epstein Barr and Human Papilloma Viruses, Kaposi's Sarcoma, viral induced lymphomas, viral oncolysis, and mechanisms of anti-tumor immunity.

CAB613 Special Topics in Cancer Research - Molecular Cancer Therapeutics Module
2.00 credits  
This module explores the signal transduction pathways critical for cancer cell proliferation and survival that may provide new therapeutic targets, approaches for identification and validation of molecular targets within these pathways. Students are introduced to the strategies used in the discovery and design of biological and drug based therapies, and the implementation of clinical trials.
CAB614 Special Topics in Cancer Research - Cancer Epidemiology, Prevention & Behaviora
2.00 credits
Spring
This module explains the goals and techniques of researchers in the fields of cancer epidemiology and biobehavioral oncology. These include understanding the social, environmental, and biological reasons for cancer disparities among different populations. Cancer epidemiologists seek to define the molecular and genetic mechanisms of cancer risk and progression with the aim of developing predictive models in treatment response. The following themes in biobehavioral oncology are explored: psychosocial intervention, biobehavioral and psychosocial intervention to the community; health behavior change and biobehavioral mechanisms in persons at risk for and diagnosed with cancer; predictors of QOL and late effects of cancer treatment and development of preventative interventions.

CAB615 Special Topics in Cancer Research - Breast and Genitourinary Cancers Module
2.00 credits
Spring
This module highlights key aspects of the cellular and molecular mechanisms of breast, prostate, renal and bladder cancers as well as providing an overview of cancer detection, diagnosis, and therapy. Emerging research opportunities are identified. Topics include estrogen receptor and androgen receptor signaling, cancer progression, endocrine therapies and resistance. Key signaling pathways and the biology of metastasis will be discussed.

CAB617 Advance Course on Viruses, Immunity, and Cancer
3.00 credits
Spring
This is an advanced course on Viral Oncology and Tumor Immunology and Immunotherapy that emphasizes state of the art knowledge of each discipline, student active participation in a problem based learning-like context, and national expert visitor teaching. The structure of the classes is based on the concept of Problem Based Learning.

CAB620 Dialogues with Cancer Clinicians (PIBS Module)
1.00 credit
Fall, Spring
This module features physician mentors of the Cancer Biology Graduate Program who will discuss clinical aspects of cancer treatment with an emphasis on continuity of care of newly diagnosed patients between disciplines and will articulate unmet clinical needs and questions. Mentors will provide clinical perspectives on their areas of specialization as it relates to patient care including diagnosis, staging, therapy, and outcomes.

CAB630 Colloquia in Clinical Cancer Research
2.00 credits
Fall
Students will attend Colloquia at which faculty members present seminars on their current clinical research topics and methods of investigation. Here students will learn the rationale and methodologies that researchers are using to approach a problem in clinical cancer research. Topics will cover the areas of prevention, control, diagnosis (molecular and microscopic pathology), prognosis and therapeutics.
CAB631 Lab Rotations
1.00 - 6.00 credits  Fall
During the first year students will be required to carry out three research rotations. The students will then select their PhD advisor in June of their first year. The evaluation will be based on an oral presentation (20 minutes and 10 minutes for questions) by the student to a committee consisting of three faculty members, other than the rotation advisor. The rotation mentor will submit a confidential written evaluation of the student in a standard format to be designed by the Curriculum committee. It will include a statement regarding the willingness of the mentor to accept the student into the lab for their thesis research.

CAB650 Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1
3.00 credits  Spring
An important facet of the Cancer Biology Ph.D. Program is the training of students in the interrelationships between basic research and clinical medicine, i.e., translational research. The goal of this advanced course is to expose students to the scientific reasoning and logic underlying problem solving in clinical cancer research. This course is designed to help students integrate information and develop the thought processes necessary to critically evaluate information in the literature and experimental approaches, conceptualize problems in the field and identify areas for scientific exploration. Students learn how the knowledge obtained from basic research laboratories is applied to clinical problems including prevention, diagnosis, prognosis, and therapeutic treatment of cancer. Specific examples of translational research, i.e., laboratory to clinic are emphasized. Students also learn the key role of clinical observation in identifying basic research problems.

CAB710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceeds six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

CAB720 Master's Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in CAB 710 (usually six credits). Credit not granted. May be regarded as full time residence.

CAB730 Dissertation Research
1.00 - 12.00 credits  Fall
Required of all candidates for the Ph.D. The student will enroll for credits as determined by the Office of Graduate Studies but not less than a total of 24. Not more than six in the summer. If a student has a) passed qualifying exam(s) and (b) is engaged in an assistantship, he/she may still take the maximum allowable credits.

CAB740 Doctoral Dissertation- Post Candidacy
1.00 - 12.00 credits  Fall, Spring & Summer
Required for all Ph.D. candidates. Grade will remain IP until student dissertation is accepted by Graduate School.
CAB750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit is not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Epidemiology/Public Health

EPH500 Introduction to Public Health
3.00 credits  Fall

EPH501 Medical Biostatistics I
3.00 credits  Fall
Introduction to probability and statistics including descriptive statistics, tests of hypothesis, regression analysis, contingency tables, nonparametric tests, and life tables. Students gain hands-on experience in the analysis of medical data using several computer systems and at least one of the different statistical packages such as: BMDP, SAS, PSTAT, SYSTAT, and Minitab.

EPH502 Biostatistics II
3.00 credits  Spring
Continuation and elaboration of EPH 501. Topics include design of factorial experiments, analysis of variance and variance components, multiple linear regression, and life tables.

EPH503 Applied Data Management and Analysis
3.00 credits  Summer
The course is designed to introduce students to applied quantitative methods through both lecture-based and experimental strategies. Emphasis will be placed on data collection, data management, and conceptual use of various analytic techniques.

EPH512 Global Health
3.00 credits  Fall
This seminar examines current global public health issues, governance and decision-making challenges for the 21st Century across developing, transitioning, and developed countries. Topics of discussion include new actors for world health in the era of globalization; linking human development, poverty and health inequities; social, cultural and ethical considerations for health planning; role of industry, trade and public health; evidence based research for improved global health initiatives; foreign policy and health security challenges associated with emergence and re-emergence of infectious diseases and public and private partnerships in global health. Open only to EPH majors.

EPH513 International Health Systems
3.00 credits  Spring
Students will study international health from a broad prospective of global health issues and international health systems. This course will include a critical analysis of health systems in both developing and developed countries through comparison with the World Health Organization's model and the health system in the United States. A variety of health factors will be examined including the role of public health and public health funding.
EPH520 Health Education and Behavior
3.00 credits  
Spring
Educational processes with special emphasis on the social and cultural determinants of health behavior, health education as a process of social change, and community based health education organizations. Open only to EPH majors.

EPH521 Fundamentals of Epidemiology
3.00 credits  
Fall
Principles and methods of epidemiology. Descriptive epidemiology, environmental and other risk factors, detection of outbreaks, basic demography, and etiologic studies.

EPH522 OBESITY AND PUBLIC HEALTH
3.00 credits  
Fall
Nearly two thirds of the United States is now considered overweight or obese and the associated medical costs are placing an unsustainable burden on our health care system. However, the issue of overweight/obesity extends beyond behavioral choices and medical costs. This course will take a deeper look at the complex interactions between our environment, behaviors, and policies, and how they jointly contribute to the obesity epidemic. This course will provide an interdisciplinary perspective of the biological, psychosocial, ecological, and economic determinants that contribute to obesity and the resulting pathways to chronic disease and disability. Finally, current evidence-based public health programs currently will be discussed to stimulate critical thinking necessary to implement effective obesity prevention and control programs.

EPH525 Ethical Issues in Epidemiology
3.00 credits  
Fall
The course identifies and analyzes ethical issues in epidemiologic practice and research. Issues include data acquisition and management, confidentiality, valid consent, advocacy, public policy, subgroup stigma, research sponsorship, conflicts of interest, communication of risk, and international and intercultural difference.

EPH540 Urban Environment and Public Health
3.00 credits  
Spring
Where we live, where we work, where we go, and how we get there may all impact our behaviors and ultimately our health and well-being. This course examines the urban environment - in particular, those aspects of urban/suburban/semi-rural environments created by humans. This includes how homes, neighborhoods, cities and regions impact public health challenges such as obesity, chronic disease, mental health, infectious disease, and injuries. This course will teach students to translate scientific findings to design healthy communities, and develop interventions to promote urban health. Students will learn how to map neighborhood characteristics such as food outlets, parks and walkability, and to develop recommendations for policymakers.

EPH541 Integrated Aspects of Environmental Health
3.00 credits  
Spring
Interdisciplinary scope of environmental health problems. Development of a practical, dynamic model for integrating fundamental concepts from a variety of environmental disciplines. Open only to EPH majors.
EPH542 Oceans and Human Health
3.00 credits
Fall
This course provides students with introductory knowledge of the broad and relatively young field of Oceans and Human Health. The focus is the present, future, and potential effects of oceanic processes and marine organisms on human health and wellbeing. These diverse factors reflect the physical, chemical, biological, and social processes which require an integration of information and knowledge from the medical, marine, and social sciences. Of growing concern in this rapidly-developing area of study is the human health effects from exposure to substances that occur widely in marine ecosystems including synthetic organic chemicals, polycyclic aromatic hydrocarbons (PHAs), metals (both introduced and anthropogenic), marine toxins, and pathogens.

EPH561 Public Health Nutrition
3.00 credits
Spring
This course provides a dynamic, interactive approach to public health designed to prepare students in basic policy, epidemiology, and health education related to nutrition. Recognizing the multiple social, cultural, environmental, and physiological factors leading to nutritional disease. The course includes experts from a variety of disciplines. Public health nutrition addresses issues germane to the public's health by elucidating their extent, determinants and consequences, and the policies and programs to address them. Open only to EPH majors.

EPH562 Child Policy
3.00 credits
Spring
This course will focus on U.S. federal child policy. This course has been designed to provide a comprehensive, multi-disciplinary (e.g., public health, public policy and social work), and cross-sector perspective (e.g., government, private and philanthropic sectors) on child and family policies. Sessions will cover varying approaches and include presentations from a wide range of experts.

EPH571 Maternal and Child Health
3.00 credits
Spring
Preventative and therapeutic concepts pertinent to the reduction of morbidity and mortality among mothers and their children.

EPH572 Public Health Law
3.00 credits
Fall, Spring
This course is designed for non-law students studying in epidemiology and public health. The course will begin with a general overview of the fundamental principles and processes of the US legal system, focusing on public health law and ethics. Topics will include privacy, communications, screening and vaccinations, economic regulations and public health reform.
EPH580 Ecology and Control of Vector-Borne Diseases
3.00 credits
Spring
The course will provide students with an overview of the epidemiology of major vector-borne diseases in the U.S. (e.g., Lyme Disease, West Nile Virus) and globally (e.g., malaria, dengue, filariasis, leishmaniasis, and other arboviruses), field and lab-based methodologies for vector studies to incriminate vector species and assess transmission dynamics, vector and disease surveillance, and cutting-edge vector control technology. A major focus will be on the ecology of vectors in their local environments and how transmission dynamics are affected by changes in land use, urbanization, and climate. Students will learn about new WHO-approved strategies for integrated Vector Management (IVM) and how they are applicable for the prevention and control of all vector-borne diseases.

EPH584 Special Topics
3.00 credits
Fall, Spring & Summer
This course is designed to allow the listing of special topics within the Department of Epidemiology and Public Health and cross-list topics with other departments' offerings.

EPH600 Research Seminar
1.00 - 3.00 credits
Fall, Spring & Summer
Course consists of bi-weekly research seminars. Seminar format is individual student-led presentations and discussions with faculty supervision. Topics may include epidemiologic methods, analytic strategies, study design, conduct of human subjects research, bio-ethics, and other pertinent topics. Ph.D. students are required to complete 3 credit hours of EPH 600 prior to graduation.

EPH603 Statistical Methods in Epidemiology
3.00 credits
Fall
Advanced statistical methods used in analyzing data from epidemiologic investigations. Topics include Mantel-Haenszel chi-square, interaction, standardization of rates, incidence density, logistics regression, and other special topics.

EPH604 Clinical Trials
3.00 credits
Spring
Planning, design, analysis, and data management for clinical therapeutic and prophylactic trials. Illustrations are provided through case examples.

EPH605 Statistical Methods in Epidemiology II
3.00 credits
Spring
Continuation and elaboration of EPH 603. Advanced statistical methods used in analyzing data from epidemiologic investigations. Topics include Kappa statistics, life tables, survival analyses, logistic regression, Poisson regression, log linear models, clusters, meta-analysis, and other special topics.

EPH609 Tobacco Control and Health: Consumption, Health Effects and Policy
3.00 credits
Spring
This course will provide students with an overview of the research in the field of tobacco control, enable students to have an understanding of the patterns, determinants, and consequences of tobacco use, as well as understand how public health policies have worked to reduce tobacco related morbidity and mortality.
EPH610 Public Health Surveillance Systems
3.00 credits Fall
The goal of this course is to make students aware of all aspects that must be considered when designing or working with a Public Health Surveillance System (PHSS). The lectures will concentrate on the different types of PHSS, data base structures, practical design elements, data gathering strategies, quality control and evaluation considerations and the role of PHSS within the public health community. Additionally, students will be given the opportunity to utilize their analytical skills and demonstrate their mastery of statistical software packages by performing three preliminary analysis of a real PHSS data set.

EPH611 Cancer Epidemiology
3.00 credits Spring
This course covers the basic epidemiology of cancer. Major sites and exposures are stressed, highlighting descriptive, etiologic and preventive aspects. A major course project and one final exam are included.

EPH612 Energy Balance I: Foundations of Nutrition and Physical Activity
3.00 credits Fall
This course will examine the foundations of Nutrition and Physical Activity Epidemiology, including population patterns and trends, epidemiological theories, assessment and research methods, bio-psychosocial and ecological determinants, major epidemiological studies, and interventions to promote healthy eating and physical activity. The course pre-requisite is successful completion of EPH 521 Fundamentals of Epidemiology or an equivalent course determined by the instructor.

EPH613 Energy Balance II: Energy Balance and Health
3.00 credits Spring
This course will build upon the Energy Balance I course content (EPH 612), focusing on health outcomes associated with positive and negative energy balance, including obesity, chronic diseases, and other related topics, such as energy balance across the lifespan (children, younger adults, and older adults). As in Energy Balance I, major epidemiological studies and theories will be examined throughout the course. The course pre-requisites include successful completion of EPH 521 Fundamentals of Epidemiology (or an equivalent course) and successful completion of EPH 612 Energy Balance I.

EPH614 Introduction to Disease Prevention and Health Promotion
3.00 credits Fall, Spring
This course will introduce students to the science of prevention and health promotion. More specifically, through didactic presentations, group discussions, article readings and critiques, and a term project, this course will focus on providing students with an overview of: the top preventable causes of disease in the U.S., the etiology of disease (with a focus on the top preventable causes of disease in the U.S.) across the lifespan, the role of prevention theories in the development of preventive interventions, and the role of methodology in prevention science. The course will also provide an overview of efficacious/effective preventive interventions, including (but not limited to): family community, and school level interventions. Examples from the fields of obesity, drug use, smoking, and HIV will be used to illustrate the course learning objectives detailed below.
EPH615 Determinants of Health and Health Disparities Across the Life Course
3.00 credits
Spring
This course builds on the concepts and methods examined in EPH 614, delving further into risk and protective processes related to health outcomes across the life course, from the prenatal period to older adulthood. Class readings and discussions will examine examples of common risk pathways contributing to various diseases, including pathways hypothesized to be related to health inequities and disparities, such as: economic and educational disadvantage, stress, sedentary behavior and poor behavioral regulation, social isolation. Common protective pathways that promote health are also reviewed, such as: positive parenting and family relations, and social support.

EPH620 Cardiovascular Disease Epidemiology and Prevention
3.00 credits
Fall, Spring
Course aims to teach and train MPH students in the epidemiology and prevention of cardiovascular and cerebrovascular diseases which are the leading causes of morbidity and mortality among the adult U.S. population. Essential knowledge for those working in the area of public health is emphasized.

EPH621 Chronic Disease Epidemiology
3.00 credits
Spring
The major chronic diseases (e.g. Heart Disease, Cancer, diabetes) their population impact and methods of prevention. Specialized problems associated with chronic disease studies are also included.

EPH622 Common Pathways: Infectious Diseases
3.00 credits
Fall
This course emphasizes surveillance, investigation, control and global health problems related to infectious diseases. Emphasis will be on the biology of infectious disease systems, development of study designs, epidemiological and biostatistical methods, and the employment of epidemiological methods for addressing major public health issues in international research.

EPH624 Advanced Applied Epidemiology
3.00 credits
Spring
Principles and methods of analytical studies including case-control, cohort, and clinical trials. Emphasis is placed on quantitation of influences of change, bias, and confounding in design, conduct, analyses, and interpretation of epidemiologic studies. Evaluation of cause-effect relationships is included.

EPH625 Molecular and Genetic Epidemiology
3.00 credits
Spring
The course is the study of demography in relation to epidemiology, health and illness, including basic population structure, composition and trends and population methods and measures. The implications of demographic trends and policies for delivery of public health services are explored. Topics include population growth, emigration (especially to and from Florida), fertility, and the relation of demography to health and illness. PREREQUISITE: EPH 501 and 521 or permission of instructor.
EPH628 Social Epidemiology of Drug Abuse
3.00 credits  
Spring
This intersession course will provide students with a systematic and selective overview of conceptual approaches and research findings related to the impact of social context on substance use behavior. We will consider the social factors that shape the population distribution of drug use, abuse, and addiction and the related consequences. Each session will highlight a different area of research on the frontier of this nascent field. Through a combination of lectures and discussions, the course will focus on describing and understanding the association between social class, race and ethnicity, psychosocial factors, neighborhood and community characteristics, place, and life-course processes to the incidence and progression of drug use, abuse, and addiction and related health consequences.

EPH630 Drug Abuse Epidemiology
3.00 credits  
Fall
The purpose of this course is to educate students how to design, implement, and conduct studies of drug abuse epidemiology and its related scientific disciplines.

EPH631 Public Health Administration
3.00 credits  
Fall
An overview of the historical background, philosophy, and purpose of public health. Relationship between government, law, and public health. Organization, management, and intergovernmental relationships of public health agencies in the United States at the federal, state, and local level. Basic principles of management, decision making, and prioritizing in public health are discussed. Overview of programs and services provided by public health organizations with emphasis on current public health issues and problems are also included. Open only to EPH majors.

EPH640 Basic Pathology and Patho-physiology
3.00 credits  
Fall
The course emphasizes basic patho-physiological mechanisms and diseases of particular interest to students of public health. Students obtain an understanding of basic pathological processes, nomenclature of pathological findings, and common natural and unnatural diseases affecting various body systems. Observations of autopsies and the gross pathology of selected organs are also incorporated in the course.

EPH641 Research Methods
3.00 credits  
Fall
Purpose of the course is to provide students with a sound understanding of the fundamental concepts and methods for conducting public health research. After a brief introduction to the philosophy of science, the major emphasis in the early portion of the course is on research conceptualization, design and measurement, with a particular focus on the logic of minimizing rival alternative explanations of finding for experimental and quasi-experimental studies.

EPH642 Survey Methods: Planning and Conducting Health Surveys
3.00 credits  
Spring
The purpose of this class is to introduce students to theories, principles, methods, and best practices of survey design, measurement, and sampling as applied to health surveys. Students develop an understanding of the survey research process including problem definition, strengths and limitations of survey research, survey design, survey sampling techniques, data entry and management, data analysis, and proper reporting of results.
EPH644 Fundamentals of Program Evaluation
3.00 credits  
Spring
Fundamentals of Program Evaluation was developed as a survey course directed specifically at providing an overview of the broad area of program evaluation. At its base, program evaluation is the investigator of a program's characteristics and merits. In context of health care, the purpose of program evaluation is to provide information in the effectiveness of programs or interventions so as to optimize the outcomes, efficiency and quality of health care. Evaluation of a program is an essential part of the successful implementation and conduct of any health care project or intervention, and should ideally be designed along with the project itself. Program evaluation activities can use a wide range of methodologies (e.g., qualitative, quantitative), analyze different aspects of a program (e.g., structure, activities, organization), and have a large number of intended outcomes (e.g., achievement or program's goals objectives, extent of program impact, program cost).

EPH645 Behavioral Epidemiology
3.00 credits  
Fall
A sub-discipline of epidemiology with a principal focus on lifestyle behaviors that are health-enhancing or health-compromising. With a focus on health behavior rather than disease endpoints, behavioral epidemiology has a primary prevention orientation. This course explores epidemiologic approaches to description/intervention upon dietary behaviors, exercise, substance use behaviors (cigarettes, alcohol, illicit drugs), and sexual behaviors.

EPH646 HEALTH SERVICES RESEARCH METHODS
3.00 credits  
Fall
Health services research examines how people get access to health care, how much care costs, and what happens to patients as a result of care. It produces knowledge about the resources, organization, financing, provisions, and policies of health services; and is an applied multidisciplinary field. This course will be a survey course of methods in health services research studies.

EPH647 Community-based Participatory Research
3.00 credits  
Fall
Community-based participatory research (CBPR) is methodology, increasingly popular in public health and other disciplines, which invites community collaboration throughout the research process from conceptualization of study focus to dissemination of findings. This course will provide an opportunity for medical and graduate students to better understand the process by which community members and academic researchers work collectively to address health disparities and influence social change.

EPH650 Health Economics for Evaluation and Policy
3.00 credits  
Spring
This course centers on a discussion of the criteria used to evaluate the allocation of resources and analyze the behavior of two of the principal actors-consumers and firms. The principles of microeconomics are presented in the context of health care systems and markets. Numerous real-world issues and case studies are used to demonstrate economic decision-making techniques, especially for health care organizations and consumers.

EPH651 Survival Analysis in Clinical Trials
3.00 credits  
Fall
Statistical methods for analysis and interpretation of survival data arising from clinical trials. Topics include survival curves, estimation of sample size, survival curves, proportional-hazard models, time dependent variables, and prognostic indices.
EPH652 Health Policy
3.00 credits  
Spring  
Part I will examine seven models encompassing different perspectives on public health: philosophy, political theory and politics, law, economic, science and information culture and religion, and organization and management, including how they relate and their relevance in formulating, implementing, and evaluating public policy. Part II will examine the policy making process including how issues reach the government agenda, how laws are formulated, and how the process affects substance. Part III describes the core elements of policy analysis including: problem definition; background; political, economic, and social landscape; development of policy options; and recommendation. It will also include discussions of how to find and analyze documents and data as well as discuss the financing of health care.

EPH653 LEADING CHANGE IN PUBLIC HEALTH
3.00 credits  
Summer  
This new "transition" course at the end of the second year will prepare students for their more advanced experiences in community and public health in the third and fourth years. The objective of this course is to provide students with an opportunity develop essential skills in leading change in public health while linking their academic work in epidemiology and public health for real world application in public health practice. Students will receive didactic presentations on topics such as leading change, interest based negotiation, and leading from the middle as well as lectures on the health disparities and the social determinants of health. These lectures will be integrated with interactive discussions and hands-on small group exercises to explore how practitioners can translate public health and community knowledge into sustainable solutions. "Leading Change in Public Health? Moving From Talk to Action? will provide students with 21st century leadership skills that prepare them to tackle public health issues in our society from the most simple to very complex. Participants will be challenged to think differently on many levels and prepare them to be agents of change for future generations.

EPH674 Advanced Epidemiologic Methods I  
3.00 credits  
Fall  
The fundamental concepts, principles, and methods of epidemiologic study designs will be presented at an advanced level. In addition, the practical issues in the design, conduct and analysis of epidemiologic studies and interpretation of research findings will be discussed. The emphasis will also include on application of the epidemiologic methods in the forms of journal article critique and research proposal development. The goal of this course is to present the advanced epidemiologic methods and their theoretical backgrounds to PhD students in fulfilling part of the PhD in Epidemiology degree.

EPH676 Advanced Epidemiological Methods II
3.00 credits  
Spring  
This is the second course of a 2-part course in advance epidemiologic methods. The fundamental concepts, principles, and methods of epidemiologic study designs will be presented at an advanced level. In addition, the practical issues in the design, conduct and analysis of epidemiologic studies and interpretation of research findings will be discussed. The emphasis will also include on application of the epidemiologic methods in the forms of journal article critique and research proposal development. The goal of this course is to present the advanced epidemiologic methods and their theoretical backgrounds to PhD students in fulfilling part of the PhD in Epidemiology degree.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
Graduate Medical
Epidemiology/Public Health

EPH680 Practical Field Experience
3.00 credits
Fall, Spring & Summer

EPH681 Capstone Experience Project
3.00 credits
Fall, Spring & Summer
The capstone project is intended to build upon EPH 680 field work and will provide students with an opportunity to apply public health academic theory and acquired skills to community health problems.

EPH682 Advanced Individual Study
1.00 - 3.00 credits
Fall, Spring & Summer
Individual work on a special project under faculty guidance.

EPH699 Public Health Projects
1.00 - 6.00 credits
Fall, Spring & Summer
Research and/or design projects. Individual investigation of current public health problems. Required of all MPH students.

EPH725 Continuous Registration--Master's Study
0.00 credit
Fall, Spring & Summer
To establish residence for MPH students who are preparing for project presentation. Credit not granted. Regarded as full time residence.

EPH730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring & Summer
Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of EPH 730 may be taken in a regular semester, nor more than six in a summer session.

EPH740 Doctoral Dissertation- Post Candidacy
1.00 - 12.00 credits
Fall, Spring & Summer

EPH750 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Human Genetics and Genomics
HGG601 Seminar/Journal Club
1.00 credit
Fall, Spring
All registered students must participate in the Seminar/Journal Club. Students are required to review published papers and discuss in detail the findings described therein.

HGG620 Fundamentals of Human Genomics
2.00 credits
Spring
This course offers a survey of topics in human genomics, with an emphasis on the diversity of genetic variation, both normal and pathological, that is observed within modern populations. An overview of key molecular processes, mechanisms of mutation, and primate genome architecture is provided. Students are also introduced to select topics in microevolution and population genetics that are relevant to the study of human genetic disorders. The course is primarily lecture-based, with some supplemental readings from primary literature.
HGG621 FUNDAMENTALS OF GENETIC EPIDEMIOLOGY
3.00 credits Spring
This class is a survey of introductory topics in genetic epidemiology and statistical genetics. Basic concepts and methods will be covered including introduction to genetic linkage and genetic association including candidate gene analysis and genome-wide studies, gene-environment interactions, quantitative trait analysis, and rare variant analysis. The course will consist of a combination of lectures and computational laboratory assignments, with some discussion from the primary scientific literature. There will be several lab assignments (requiring use of laptops), one exam, and two in-class paper discussions. Details on the assignments will be posted to BlackBoard.

HGG630 Variation and Disease
2.00 credits Spring
This course provides an overview of the science of genetics, including historical and modern approaches, with emphasis on the underlying mechanisms of human genomic variation and their relation to human disease. After taking this course the student will be able to list the different types of human genomic variation, explain the mechanism by which each occurs, and discuss the consequences of the variation. Where appropriate, specific examples of human disorders will be related to the variation. Topics include: chromosomal, biochemical, and DNA sequence variation, mitochondrial genome variation and epigenetic effects. The course structure consists of a combination of lectures and discussion of primary literature.

HGG631 Genes in Populations
3.00 credits Fall
The course explores the relevant history and principals governing the behavior of genes in human populations. Topics include Hardy-Weinberg equilibrium; Mendelian, complex and quantitative traits; principals of selection and change in populations, neutral theory; and molecular evolution of gene families. The course is lecture based with supplemental readings.

HGG640 Family Studies and Genetic Analysis
2.00 credits Spring
This course will cover the analysis of genetic data in family based data sets. Topics include: heritability, segregation analysis and linkage analysis. This course includes a computer lab component in which students will learn to use the relevant analytic programs.

HGG650 Advanced Topics in Molecular Genetics
3.00 credits Spring
Topics include human microRNAs, the neurobiology of aging, structural variation, modern genome technology, among others. The course structure consists of discussions and analysis of primary literature.

HGG660 PRACTICAL BIOINFORMATICS
1.00 credit Spring
This course covers a gradient of basic to advanced bioinformatics theory, data mining, and analysis. Each class will include a lecture to explain the concepts, followed by a hands-on lab session with worksheets and exercises. Early lectures will cover in-depth searching of the major databases, alignments, and motif discovery. These themes will recur with the applications of these and other algorithms to gene expression analysis, next generation sequencing data and its analysis, and analysis of variation. Freely available web resources will be used wherever possible, and the students will learn how to use perl for some bioinformatics applications.
HGG661 Advanced Topics in Bioinformatics  
1.00 credit  
Spring  
This course covers a range of bioinformatics methods and applications, with a particular focus on 2nd generation sequence data sets. It is taught in a laboratory setting and students will work directly with software applications. Topics covered include genomic annotation resources, detection of genomic variation, RNA expression analysis, ChIP-Seq data analysis, and functional genomic element prediction. The course is lecture-based, but will include readings from the text and primary literature. There will be homework assignments, one midterm exam, and one final exam. Details on the assignments will be posted to BlackBoard.

HGG680 Genome Ethics and Public Policy  
3.00 credits  
Fall, Spring  
This course explores current and future applications of human genetics as they pertain to the health and identity of individuals and society. Topics to be covered will include the science of genetic testing, the ethical, legal and social issues related to such testing, living with a genetic diagnosis, the factors influencing the use of human genetic information, and evolving direct-to-consumer genetic testing services. The emphasis will be on real life examples and experiences, with a primary goal of helping students explore how their life, and the society in which we live, will be affected by genetic information. Policy themes include: the role of society in regulating the use of genetic testing and genetic information, implications of genetic testing for people with disabilities, role of the media in public genetic education, legal issues associated with the use of genetic information (e.g. discrimination, duty to warn, wrongful birth), and the role of eugenics in today's society.

HGG681 Human Genetics Clinical Rotation  
1.00 credit  
Fall, Spring  
The HGG graduate students participate in medical genetics clinic post clinical rounds, metabolic-sign out and journal clubs. During clinic students observe clinical evaluations and counseling, and participate in weekly didactic sessions with faculty and residents.

HGG689 Human Genetics and Genomics Teaching Practicum  
1.00 credit  
Fall, Spring & Summer  
HGG students serve one semester as a teaching assistant for a core course. This experience will include giving at least one lecture, leading small group discussions, and holding regular office hours to discuss student questions. This will generally take place in the students third or fourth year, and will be graded as a one-credit pass-fail course.

HGG730 Doctoral Dissertation- Pre Candidacy.  
1.00 - 12.00 credits  
Fall, Spring  
1 - 12 credit course for Doctoral candidates working on pre-candidacy dissertation.

HGG740 Doctoral Dissertation - Post Candidacy  
1.00 - 12.00 credits  
Fall, Spring & Summer  
1-12 credit course for Doctoral Candidates working on dissertation post candidacy.

HGG750 Research in Residence  
0.00 credit  
Fall, Spring & Summer  
Used to establish research in residence for Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
IBS611 Accelerated Basic Science Medical Curriculum
1.00 - 18.00 credits Fall, Spring
The following accelerated and intensive basic science medical curriculum is offered: Biochemistry, Genetics and Cell Biology, Medical Microbiology and Immunobiology, Gross Anatomy, Histology and Pathology, Physiology and Pharmacology, Neuroscience and Behavioral Science, and the Cardiovascular System. A single grade will be entered on the graduate transcript for this course.

IBS612 Accelerated Basic Science Medical Curriculum II
1.00 - 18.00 credits Fall, Spring & Summer
Beginning in the latter part of June each year, extending to the middle of May of the ensuing year, the following accelerated and intensive medical curriculum is offered: Respiratory System, Renal System, Dermatology and Ophthalmology, Gastrointestinal System and Human Nutrition, Human Anatomy, Problem based learning/Rheumatology, Hematology and Oncology. A single grade will be entered on the graduate transcript for this course.

IBS620 Scientific Writing I
2.00 credits Fall, Spring
This course will help students to strengthen their scientific writing skills. We will review the standards and expectations of scientific discourse, focusing on the scientific paper as a refined tool for conveying research findings in a clear, objective fashion and positioning the author/s within a specific research community. Sequenced writing assignments will address the functions and conventions of the various forms of scientific communication, from short correspondences to full research reports to review articles. The proper use and presentation of graphs and illustrations will also be covered.

IBS631 Laboratory Research
1.00 - 6.00 credits Fall, Spring & Summer
Laboratory rotations to gain experience with a variety of modern techniques in molecular and cellular biology.

IBS680 Research Ethics
0.00 credit Fall
0 Credits. The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the department or program. This is a six-hour course and will be given in two sessions of three hours each.

IBS683 Professional Skills and Ethics I
1.00 - 3.00 credits Fall, Spring & Summer
Two-day intensive workshop involves a combination of lectures, discussions, readings and writing to enhance the professional development of beginning graduate students. Topics include strategies for selecting mentors, professional writing, giving oral presentations and research ethics.
IBS684 Professional Skills and Ethics II
1.00 - 3.00 credits Fall, Spring & Summer
Two-day intensive workshop involves a combination of lectures, discussions, readings
and writing exercises, and practical experiences to enhance the professional development
of advanced graduate students, postdoctoral fellows and junior faculty. Topics
include career choices, job search strategies and skills, fellowship/grant applications
and research ethics.

Microbiology/Immunology
MIC523 Mechanisms of Microbial Virulence
2.00 credits Spring
This course will focus on the mechanisms employed by bacterial and viral pathogens
to produce disease in animals and humans. The course is divided into two 3 week
modules. The first module will cover bacterial pathogens with an emphasis on the
bacteria-host cell interaction. Specific topics will include: bacterial attachment
and invasion of eukaryotic cells, virulence gene regulation, secretion of virulence
factors, bacterial toxins and obligate intracellular bacterial pathogens. The
second module will cover viruses and human viral diseases with an emphasis on viral
replication, gene expression, virus-host cell interactions and viral oncology.
Classes will consist of a mixture of lectures and discussions of recent or classic
papers. There will be 2 exams.

MIC605 Faculty Research and Discussions
1.00 credit Fall
Forum for the discussion of the current research projects and interests of the
faculty. This course provides students with the opportunity to exchange ideas about
important scientific questions and the technologies being applied to experimentally
address the hypotheses being tested.

MIC611 Accelerated Basic Science Medical Curriculum
1.00 - 18.00 credits Fall, Spring
Beginning in the latter part of June each year, extending to the middle of February
of the ensuing year, the following accelerated and intensive complete basic science
medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry,
Neuroanatomy, Biophysics and Neuropsychology, Systemic Physiology, Pathology, Medical
Microbiology, and Pharmacology. single grade will be entered on the graduate transcript
for this course.

MIC626 Laboratory Experimentation
4.00 credits Fall
One or two laboratory training sessions of 6-12 weeks each. Each student rotates
through faculty research laboratories in the areas of immunology, molecular biology,
and microbiology, (bacteriology, virology, parasitology) where they receive hands
on experience by participating in ongoing research projects.

MIC627 Laboratory Experimentation
6.00 credits Spring
Two or three laboratory training sessions of 6-12 weeks each. Each student rotates
through faculty research laboratories in the areas of immunology, molecular biology
and microbiology, (bacteriology, virology, parasitology) where they receive hands
on experience by participating in ongoing research projects.
MIC628 Principles of Immunology
3.00 credits Spring
This team-taught course will present immunological concepts and reasoning in immunological research. The course is divided into 7 weekly modules. Each module has a common theme and consists of 3 lectures on immunological concepts and one session where students present and discuss a research paper related to the theme of each module. The paper discussion session will include use of disease models as a portal to understand the function of immune system in health and disease. The module topics are (a) lymphoid cell development, (b) antigen recognition, (3) initiation of immune responses, (4) T-lymphocyte effector development and function, (5) T cell immunity versus tolerance, (6) B cell immunity, and (7) innate immunity. There will be one exam following the first 4 modules and the second exam after the remaining 3 modules.

MIC631 Special Work
1.00 - 5.00 credits Fall
Special work, lecture, laboratory or a combination of these, as determined by advisor in accord with student's individual interest. Course is offered only on demand.

MIC651 Advanced Molecular Immunology
3.00 credits Fall
The molecular mechanisms for generation of antigen specific receptor diversity and the specific gene activation during lymphocyte differentiation.

MIC655 Infectious Agents and the Immune System
3.00 credits Spring
This course is intended to explore, at an advanced level, the dynamic equilibrium that exists between microbial pathogens and host immune systems with emphasis on factors that influence progression to disease or sterilizing immunity. Mechanisms employed by the host and pathogen to shift that equilibrium in their favor will be discussed taking into account interactions at the cell system, cellular, and sub-cellular levels. To facilitate interaction between the two fields, both an immunological and a microbial/viral faculty member will be present at all classes.

MIC675 Advanced Microbiology and Immunology
3.00 credits Fall
This course will explore in depth the current and advanced concepts and topics in selected areas of Microbiology and Immunology. The classes will consist of a mixture of lectures and discussions of recent papers. Besides covering recent advances and cutting edge experimental approaches in cellular and molecular immunology and microbiology, this course will also expose students to breakthrough concepts and themes that link the disciplines of immunology, microbiology and virology.

MIC680 Research Ethics
0.00 credit Fall
The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and is given in two sessions of three hours each.
MIC699 Advanced Topics
1.00 - 3.00 credits Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty.
Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Advanced Topics.

MIC710 Master's Thesis
1.00 - 6.00 credits Offered By Announcement Only
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MIC720 Research in Residence
0.00 credit Offered By Announcement Only
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MIC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MIC730 Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MIC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MIC750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Molecular/Cellular Pharmaco
MCP601 Seminar
1.00 credit Fall, Spring
Review of the literature and discussion of specific topics. Course may be repeated for a total of four credits.

MCP604 Mechanisms of Drug Action
2.00 credits Fall
Mechanisms underlying the therapeutical and pharmacodynamic properties of pharmacological agents. Emphasis is placed on cellular and molecular aspects and the quantitative factors governing equilibration within multicompartiment systems and drug control of nervous and muscular function in relation to therapeutic action.
MCP605 Eukaryotic Model Systems of Human Disease and Drug Development
3.00 credits \( Spring \)
This course provides the students with a comprehensive overview of the eukaryotic model systems used in biomedical research with a specific focus on human disease and drug design. The lecture sessions discuss in detail the advantages of yeast, C. elegans, Drosophila, Xenopus oocytes, zebra fish, chick and mice, the unique biological processes that each of these models are able to tackle, and their technical application. The problem solving sessions discuss specific examples where each of the models is utilized to address a biological question and/or a specific drug development.

MCP611 Accelerated Basic Science Medical Curriculum
1.00 - 18.00 credits \( Fall, Spring \)
Beginning in the latter part of June each year, extending to the middle of February of the ensuing year, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. A single grade will be entered on the graduate transcript for this course.

MCP631 Special Topics
1.00 - 6.00 credits \( Spring \)
Directed readings on subjects not ordinarily treated in depth in specific courses. Course may also consist of special laboratory problems.

MCP632 Cardiovascular Pharmacology
2.00 - 3.00 credits \( Spring \)
A course for advanced students covering the mechanism of action of drugs on the cardiovascular system.

MCP643 Methods in Membrane Research
3.00 credits \( Fall \)
Introduction to research and laboratory techniques. Molecular and membrane pharmacology, radio-tracers, cardiovascular, and neuropharmacology are covered.

MCP644 Methods in Membrane Research
3.00 credits \( Spring \)
Introduction to research and laboratory techniques. Molecular and membrane pharmacology, radio-tracers, cardiovascular, and neuropharmacology are covered.

MCP652 Cell Signaling I: Intracellular Signal Transduction.
3.00 credits \( Fall \)
Most therapeutic drugs exert their action by influencing cellular signal transduction processes. This course provides an in-depth molecular level review of the fundamental signal transduction mechanisms that regulate cell growth, cell proliferation, checkpoint response to cell stressors, cell morphogenesis and differentiation, and their role in the onset of disease.

MCP653 Cell Signaling 2: Cell-to-Cell Communication and Development.
3.00 credits \( Spring \)
This course focuses on receptors and signaling pathways that govern cellular responses to extrinsic signals. It concentrates on specifics of signaling events in selected biological systems such as CNS, endocrine system, cardiac and hematopoetic stem cells.
MCP668 Neuropharmacology
2.00 - 3.00 credits  Fall
A course for advanced students covering the mechanism of action of drugs on neural processes, including action potentials, neurotransmission (storage, release, reception, and metabolism of transmitters), and central nervous system activity.

MCP710 Master's Thesis
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MCP720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MCP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MCP730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MCP 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MCP740 Doctoral Dissertation- Post Candidacy
1.00 - 12.00 credits  Fall, Spring & Summer

MCP750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Molecular Cell and Dev Biology
MDB601 Seminar
1.00 - 2.00 credits  Fall, Spring & Summer
For graduate students in Cell Biology and Anatomy, Graduate Program in Molecular Cell and Developmental Biology. Departmental Faculty and graduate student research seminars.

MDB610 Readings in Cell Biology
1.00 - 6.00 credits  Fall, Spring
Current and classical research papers in cell, developmental, and molecular biology. Critical evaluation of papers and the methodologies used is included.

MDB613 Topics in Cell Biology
1.00 - 6.00 credits  Fall, Spring & Summer
Formal seminar course in which each student presents a lecture relating to a specific theme. Topic areas include cell, developmental, and molecular biology with the subject changing each term.
MDB617 Advanced Techniques in Molecular Biology
2.00 - 3.00 credits  
Method/techniques type course.  

Fall

MDB620 Introduction to Research in Cell Biology
1.00 - 6.00 credits  
Direct laboratory experience as determined by the Departmental Graduate Committee.  

Fall, Spring

MDB645 Research Problems in Biochemistry, Cell and Molecular Biology
2.00 - 3.00 credits  
Laboratory research problems in various areas of biochemistry, cell biology, and molecular biology. A literature search, experimental design, data gathering, and evaluation of results is included. Course is the mechanism by which graduate laboratory rotations are done in preparation for selection of Ph.D. mentor.  

Fall, Spring & Summer

MDB651 Advanced Cell Biology Approaches to Molecular Medicine
2.00 - 3.00 credits  
Structure, function, biogenesis of cellular organelles, and the cytoskeleton including its regulation and dynamic interactions are discussed.  

Spring

MDB652 Current Topics in Mammalian Development
2.00 - 3.00 credits  
The course will cover central emerging topics in mammalian development today including embryonic stem cells, micro RNA gene regulation, and organogenesis. The class will have an interactive format, starting with basic lecture in mammalian development; subsequent sessions will include an overview of the selected topic by faculty, followed by round table discussions of current paper(s) in the field.  

Fall

MDB653 Histology
1.00 credit  
This course will offer the student a virtual slide collection of histology with interactive lectures to support image-based learning. The course covers basic tissues, organs, and systems (vascular; heart; pancreas; eyes; brain; spinal cord; liver; lung; mouse embryo; GI track). The course will meet once a week for one hour.  

Fall

MDB663 Development and Regeneration of the Nervous System
3.00 credits  
Development of the nervous system in all its aspects: origins of neurons and glia; nerve cell differentiation; cellular interactions during neurogenesis; formation of synaptic connections and neuronal circuits; development of nervous functions and ontogeny of behavior; mechanisms of repair and reorganization in the nervous systems; and theories of neuronal plasticity.  

Fall

MDB665 Tumor Biology
2.00 - 3.00 credits  
This course, comprised of lectures and student-led literature discussion, is intended to provide broad-based instruction on the modern molecular and cellular aspects of cancer biology, basic and translational research. The course highlights multiple areas including cell cycle, apoptosis, epidemiology, angiogenesis, and meets two times weekly (Tues, Thurs 4-5:15pm).  

Fall
MDB666 Advanced Microscopy and Image Analysis
2.00 credits Fall
This course will cover the acquisition, use and maintenance of advanced research microscopes including data analysis using the equipment and software already available in the instructors' labs. Topics to be covered include types, function and choice of optical and electron microscopes; sample preparation and synthesis of fluorescent and particle-labeled probes; transmitted light microscopy; fluorescent microscopy; confocal microscopy; real time cell and particle tracking; digital image analysis and quantitative fluorescence analysis; transmission and scanning electron microscopy, and digital image data interpretation. The course will meet twice a week for one hour, with one lecture and one hands-on laboratory session per week. Class registration is limited to 4-6 students.

MDB710 Master's Thesis
1.00 - 6.00 credits Offered By Announcement Only
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MDB720 Research in Residence
0.00 credit Offered By Announcement Only
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MDB 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MDB730 Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MDB 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MDB740 Doctoral Dissertation- Post Candidacy
1.00 - 12.00 credits Fall, Spring & Summer

MDB750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as has determined by the Dean of the Graduate School.

Neuroscience Program
NEU600 Seminar in Neuroscience
1.00 credit Fall, Spring
Students are required to present a short talk on a research area of interest. All students in the Neuroscience Program are required to register for this seminar, which also includes journal presentations. For other registrants, permission of the Departmental Graduate Studies Committee is required.
NEU601 Introduction to Neuroscience Techniques  
1.00 credit  
*Fall, Spring*  
Hands-on exercises in research laboratories introduce first-year Neuroscience students to methodologies commonly used in the Neurosciences. The course includes selected techniques from electrophysiology, immunocytochemistry, fluorescence microscopy, recombinant DNA, protein immunoblotting, and functional imaging. Students are required to complete a lab notebook of each exercise. There is also a segment on database searches.

NEU609 Research  
1.00 - 5.00 credits  
*Fall, Spring & Summer*  
Students work with individual members of the program faculty on research problems. Provides orientation as to the areas of research in the field and the techniques used.

NEU611 Accelerated Basic Science Medical Curriculum  
1.00 - 18.00 credits  
*Fall, Spring*  
From late June to mid-February, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. A single grade will be entered on the graduate transcript for this course.

NEU631 Advanced Topics in Neuroscience  
1.00 - 5.00 credits  
*Fall, Spring & Summer*  
Special work, lecture, laboratory, reading, seminar, or a combination of these as determined by advisor in accordance with student's interest.

NEU641 Statistics in Neuroscience  
1.00 credit  
*Offered By Announcement Only*  
This course will provide basic information necessary to appropriately design experiments and analyze and interpret data in the behavioral and biological sciences. A lecture/discussion format will be used. The course will cover research methodology, basic statistical concepts, and an in-depth discussion of descriptive (measures of central tendency, variability and correlation) and inferential statistics (both parametric and non-parametric tests of significance). In addition, various statistical computer programs will be reviewed. Specific topics include: 1. Statistical terminology; 2. Measurement scales; 3. Plotting your data for initial interpretation; 4. Measures of central tendency and variability; 5. Type I and Type II errors and controlling power; 6. Which statistical test do I use for my data? 7. What can I conclude from my data and does it mean anything? Students will be evaluated based on their understanding of statistical design and data interpretation.

NEU650 Modeling CNS injury and Repair  
1.00 credit  
*Fall, Spring*  
This course provides an overview of a number of complex modeling systems using in CNS injury and Repair biomedical research. The course examines models, such as spinal cord injury, traumatic brain injury, ischemic/stroke injury, experimental autoimmune encephalomyelitis (EAE) model of multiple sclerosis, axon regeneration in retinal nerve and spinal cord, and drosophila models of degeneration. The course will consist of both lectures and hands-on laboratory components.
NEU661 Neuroscience I
2.00 credits Spring
An introduction to neuronal physiology, including synaptic transmission and integration, sensory neurobiology, and cellular learning and memory. 2 credits.

NEU662 Neuroscience II--Neural Systems
4.00 credits Fall
This course is designed to teach Neuroscience to individuals engaged in basic neuroscience research. The course provides comprehensive coverage of Neuroscience. Neuroscience II covers Network Neurobiology and Higher Nervous System Function. The course concentrates on the experimental basis for our understanding of nervous system function. Course utilizes both didactic lectures and discussions of current research literature.

NEU663 Developmental Neuroscience.
2.00 credits Spring
This course will explore nervous system development from early neural induction and neurogenesis to the construction of neural circuits. Cellular and molecular mechanisms of neural migration, neurite growth and guidance, and synaptogenesis will be covered.

NEU697 Neuroanatomy
3.00 credits Fall
This course is designed to teach functional neuroanatomy to individuals engaged in basic neuroscience research. Therefore, most of the emphasis will be placed upon gross anatomy, identification of pathways and circuits, and a description of the physiological functions of neuroanatomical systems. To the extent that it may help to explain functional aspects of the nervous system, each lecture will contain some clinical examples and/or case histories. An important feature of each class period will be a laboratory segment in which the student will study human and sheep brains, examine models of the brain, and use internet neuroanatomy websites containing pictures, text, clinical examples, and 3-dimensional rotations of the nervous system.

NEU710 Master’s Thesis
1.00 - 12.00 credits Offered By Announcement Only

NEU720 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in Master's Thesis (usually six credits). Credit not granted. May be regarded as full time residence.

NEU730 Doctoral Dissertation
1.00 - 12.00 credits Offered By Announcement Only
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of NEU 730 may be taken in regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.
Graduate Medical Neuroscience Program

NEU750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Physical Therapy

PTS504 REHABILITATION TECHNOLOGY FOR PHYSICAL THERAPISTS
1.00 credit  Offered By Announcement Only
This course will introduce current advancements in diagnostic and therapeutic equipment used by physical therapists in clinical practice. The emphasis will be on latest rehabilitation technology such as virtual reality, neural stimulation and rehabilitation robotics. Students will observe the equipment being used on patients, get a basic understanding of its operation and have an opportunity for hands-on learning.

PTS505 Physical Therapy Private Practice Management
1.00 credit  Fall
Course focuses on establishing a private physical therapy practice, including initial development through marketing and management. PREREQUISITE: Open to Physical Therapy majors only.

PTS506 Issues in Women's Health: Gynecology
1.00 credit  Summer
Introduction to physical therapy practice for evaluation and treatment of pelvic floor dysfunction. PREREQUISITE: Open to Physical Therapy majors only.

PTS507 Issues in Women's Health: Obstetrics, Osteoporosis and Breast Health
1.00 credit  Fall
Introduction to physical therapy practice for evaluation and treatment of problems related to pregnancy, osteoporosis, and other disorders specific to women. PREREQUISITE: Open to Physical Therapy majors only.

PTS509 Exercise for Persons with Spinal Cord Injuries
1.00 credit  Summer
Course provides a review of etiology and pathology of spinal cord injury as well as current methods of exercise and electrical stimulation systems and their physiological effects on the individual. PREREQUISITE: Open to Physical Therapy majors only.

PTS510 INTRODUCTION TO PILATES - GATEWAY
1.00 credit  Summer
This course provides in-depth instruction in the use of Pilates Mat to supplement physical therapy practice. This course covers the history of Pilates and Polestar education, biomechanics, and the many uses of Pilates in physical practices, as well as instruction in 18 Pilates mat exercises. Students learn to perform and teach the exercises and 4 unique class sequences.

PTS511 Advanced Clinical Practice: Topics in Pediatrics
1.00 credit  Fall
The course will focus on advanced topics in pediatric physical therapy. Through lecture, seminar discuss and lab experiences, topics will include: typical and atypical development over the first year, and both motor and sensory integration examination and intervention strategies. PREREQUISITE: Open to Physical Therapy majors only.
PTS512 Sports Physical Therapy
1.00 credit
An overview of the general aspects of sports physical therapy practice will be provided. Topics will include the various settings, evaluations, interventions, and techniques involved in Sports physical therapy practice. PREREQUISITE: Open to Physical Therapy majors only.

PTS513 ADVANCED CLINICAL PRACTICE: EVALUATION AND TREATMENT OF THE FOOT AND ANKLE
1.00 credit
Offered By Announcement Only
This course will review the anatomy, normal and abnormal kinesiology/biomechanics, pathology, imaging, of the foot and ankle and discuss Physical Therapy evaluation and intervention based on evidence based practice. It will include an introduction to evaluation and negative casting for orthotics and cadaver prosection review.

PTS514 Certified Strength and Conditioning Specialist Preparation (NSCA)
1.00 credit
Summer
Evaluation and exercise planning of athletes to help them achieve their maximum physical performance without incurring injury. Case studies, a problem-solving approach, and integration of previously learned material are emphasized. Classroom instruction, exercise performance, video analysis, and case studies are utilized. PREREQUISITE: Open to Physical Therapy majors only.

PTS515 Advance Clinical Practice: Taping for the Orthopedic Population.
1.00 credit
Fall
This seminar course is designed to introduce the participant to the concepts of taping for various musculoskeletal pathologies commonly seen in the athletic population. Athletic taping and kinesiotaping principles and uses in rehabilitation will be introduced. A lab component will allow participants to practice the various taping techniques demonstrated. PREREQUISITE: Open to Physical Therapy majors only.

PTS516 Clinical Research I
3.00 credits
Fall
Principles, concepts, and basic skills required to conduct clinical research in physical therapy. Topics include research design, sampling, bias, reliability and validity, questionnaire design, statistical computing, conceptual review of literature, and the preparation of a research proposal. PREREQUISITE: Open to Physical Therapy majors only.

PTS517 Abdominal Anatomy
1.00 credit
Summer
Course analyzes abdominal anatomy emphasizing structure and function. Cadaver dissection is included. PREREQUISITE: Open to Physical Therapy majors only.

PTS519 Pelvic Anatomy
1.00 credit
Summer
Course analyzes the anatomy of the human pelvic area. Cadaver dissection is included. PREREQUISITE: Open to Physical Therapy majors only.
PTS520 SPANISH FOR PHYSICAL THERAPISTS I  
1.00 credit  
Summer  
This course is designed to familiarize the physical therapy student with Hispanic cultures and assist the physical therapy student with developing basic communication skills with this population. Emphasis will be on using basic Spanish language to teach skills to or interview the Spanish speaking patient in a health care setting. In addition, knowledge of Hispanic cultures will be integrated into the development of verbal and nonverbal communication skills with this population.

PTS522 Introduction to Functional Capacity Evaluations  
1.00 credit  
Spring  
This course introduces essential components of functional capacity evaluations and establishes entry-level proficiency. The emphasis will be on cardiovascular clearance and testing, material handling testing, positional tolerance testing, spinal inclinometry, and isometric reliability measures as identified through evidence-based practice and current research. PREREQUISITE: Open to Physical Therapy majors only.

PTS523 Myofascial Release  
1.00 credit  
Fall  
Introduction to Myofascial Release technique in rehabilitation. PREREQUISITE: Open to Physical Therapy majors only.

PTS524 Myofascial Release II.  
1.00 credit  
Spring  
A follow up to the introductory course MFR I. This course focuses on a review of bioenergy followed by practice of release techniques for trunk, extremities and head and neck. Cranial techniques and rebounding are also taught. PREREQUISITE: Open to Physical Therapy majors only.

PTS525 Introduction to dry needing theory and technique  
1.00 credit  
Fall  
Course introduces the participant to the concepts of dry needling, its neuro-functional principles, and its use in a physical therapy setting. Emphasis on comparing and contrasting dry needling to acupuncture, as well as the safety, indications and contraindications of dry needling. A lab component will allow participants to practice various introductory dry needling techniques. PREREQUISITE: Open to Physical Therapy majors only.

PTS526 INTRODUCTION TO PILATES REHABILITATION I  
1.00 credit  
Fall  
This non-apparatus course introduces current research in movement science, motor learning, bioenergetics, and communication science to instructional practice through six basic movement principles which are used throughout the Polestar Pilates curriculum. This course introduces Polestar Pilates Screening?, which includes postural evaluation and functional testing, to prepare the student to properly design a plan to implement Pilates exercises for clients.

PTS527 INTRODUCTION TO PILATES REHABILITATION II  
1.00 credit  
Spring  
This course teaches the practical skills needed to become proficient with the assessment techniques, movement sequences, and selection and principles of movement learned in Pilates 1 (Polestar Principles). Exercise lab themes include basic hip disassociation, basic core stabilization, thoracic spine mobility and lower extremity alignment.
PTS528 INTRODUCTION IN PILATES REHABILITATION III
1.00 credit  
Summer
This course teaches the practical skills needed to become proficient with the assessment techniques, movement sequences, and selection and principles of movement learned in the Pilates 1 and 2 (Polestar Principles and R1). Experiential lecture and lab will address Polestar Pilates Program Design and Sequencing. Exercise labs address basic shoulder organization, spine mobility in flexion and sidebending, core strength, spine extension strength and lower extremity stretching.

PTS529 EVALUATION AND TREATMENT OF SPINAL DYSFUNCTIONS 1
3.00 credits  
Summer
This course provides an in-depth exploration of the evaluation and treatment of various dysfunctions of the spins. The lumbar and sacro-iliac regions will be explored. Thorough evaluation procedures will be emphasized as they relate to specific diagnosis. Treatment for the respective diagnoses will include therapeutic exercise, soft tissue stretching, and postural re-education.

PTS530 Foundations of Physical Therapy
3.00 credits  
Summer
Historical development, philosophical foundations and contemporary practice of physical therapist as educator, consultant, administrator, and model of healthy behaviors. Health as indicated by global fitness measures will be demonstrated and experienced. Medical terminology mastered. PREREQUISITE: Open to Physical Therapy majors only.

PTS531 Gross Anatomy for Physical Therapy
3.00 credits  
Summer
Gross anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection. PREREQUISITE: Open to Physical Therapy majors only.

PTS532 Gross Anatomy for Physical Therapy
3.00 credits  
Spring
Gross Anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection. PREREQUISITE: Open to Physical Therapy majors only.

PTS533 Communication in Physical Therapy Practice
2.00 credits  
Summer
Course provides an analysis of communication skills in physical therapy clinical practice. Emphasis is placed on instruction of patients and their families, supportive staff, and health care team members. In-depth examination of patient-therapist interactions is included. PREREQUISITE: Open to Physical Therapy majors only.

PTS540 Neuroscience I
3.00 credits  
Fall
The human central nervous system with emphasis on structure-function relationships, and clinical applications. The brain, spinal cord, cranial nerves, tracts, and nuclei of major systems. Central nervous systems lesions and their clinical significance are discussed. Lecture and human dissection are included. PREREQUISITE: Open to Physical Therapy majors only.
PTS541 Neuroscience II
3.00 credits
Summer
The central, peripheral, and autonomic nervous systems and their physiological responses to environmental stimuli. Normal systems are contrasted with abnormal systems. The clinical significance of altered neurophysiological states is discussed. PREREQUISITE: Open to Physical Therapy majors only.

PTS542 ElectrotHERAPy
3.00 credits
Summer
This course presents the physiological rationale, indications, contraindications and the application of electrical modalities, including electrical stimulation, thermal modalities, sound modalities, compressive devices, mechanical machinery, and light therapy.

PTS543 Medical Pathology Seminar I
1.00 credit
Fall
Lectures and seminar discussion of pathological conditions with particular emphasis on musculoskeletal disorders. PREREQUISITE: Open to Physical Therapy majors only.

PTS544 Medical Pathology Seminar II
1.00 credit
Spring
Lectures and seminar discussion of pathological conditions with particular emphasis on neuromuscular disorders. PREREQUISITE: Open to Physical Therapy majors only.

PTS545 Medical Pathology Seminar III
1.00 credit
Summer
Lectures and seminar discussion of pathology conditions with particular emphasis on integumentary disorders. PREREQUISITE: Open to Physical Therapy majors only.

PTS546 Medical Pathology Seminar IV
1.00 credit
Fall
Lectures and seminar discussion of pathological conditions with particular emphasis on cardiorespiratory disorders. PREREQUISITE: Open to Physical Therapy majors only.

PTS550 Pharmacology
2.00 credits
Fall
Basic principles of pharmacology and pharmacotherapeutics. Contemporary drug therapies and their effects on patients undergoing rehabilitation are discussed. PREREQUISITE: Open to Physical Therapy majors only.

PTS570 Clinical Skills in Physical Therapy
3.00 credits
Spring
Decision making, documentation and beginning treatment skills in functional mobility and basic exercise and massage. Indications and contraindications of massage, basic active, active assisted, active resisted range of motion and isometric exercises are learned. PREREQUISITE: Open to Physical Therapy majors only.

PTS571 Therapeutic Physiology
2.00 credits
Fall
Physiological effects of exercise and training for the healthy and diseased individual. The use of exercise for joint and muscle mobility, muscle strength, and cardiopulmonary function is included. PREREQUISITE: Open to Physical Therapy majors only.
PTS572 Clinical Kinesiology and Biomechanics
3.00 credits
Fall
A study of musculoskeletal structure and function, physiological and biomechanical factor, and principles underlying the kinematics and kinetic of normal and abnormal human motion. PREREQUISITE: Open to Physical Therapy majors only.

PTS574 Clinical Evaluation
3.00 credits
Fall
Basic evaluation skills for patients with various diseases and dysfunctions. Skills include clinical decision making, history taking, postural and functional assessment, surface palpation, manual muscle testing, and goniometric measurement. PREREQUISITE: Open to Physical Therapy majors only.

PTS575 Clinical Decision Making I
3.00 credits
Spring
Introduction to physical therapy diagnosis, the disablement model, measurement of function screening, and the Physical Therapy Guide to Practice. PREREQUISITE: Open to Physical Therapy majors only.

PTS595 Selected Topics in Physical Therapy
1.00 - 3.00 credits
Fall, Spring & Summer
Topics in contemporary physical therapy clinical practice with focus on specialty areas such as neonatal pulmonary care, balance/vestibular dysfunction, geriatrics, pediatrics, obstetrics, and gynecology. PREREQUISITE: Open to Physical Therapy majors only.

PTS606 Neurological Evaluation
2.00 credits
Fall
Comprehensive evaluation of the patient with neurological dysfunction. Emphasis is placed on decision making, differential diagnosis, selection, and interpretation of examination components. PREREQUISITE: Open to Physical Therapy majors only.

PTS608 Human Gait and Locomotion
2.00 credits
Fall
Principles of human gait and locomotion, including normal and pathological gait, analysis of deviations, causes and specific treatments to address movement dysfunctions. PREREQUISITE: Open to Physical Therapy majors only.

PTS610 CLINICAL INTERNSHIP I
2.00 credits
Fall
First in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

PTS611 CLINICAL INTERNSHIP II
2.00 credits
Fall
Second in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.
PTS614 Neurorehabilitation I
3.00 credits
Spring
Practice patterns and evidence-based practices in the treatment of individuals with neurological involvement are explored. Emphasis is placed upon the integration and application of theoretical constructs, prognostic indicators, examination and evaluation procedures, and therapeutic intervention strategies utilized by physical therapists in neurological rehabilitation.

PTS615 Rehabilitation of the Complex Patient
3.00 credits
Summer
Rehabilitation of the complex patient, including spinal cord injury, traumatic brain injury, multi-system, and multi-organ disease. PREREQUISITE: Open to Physical Therapy majors only.

PTS617 Clinical Research II
3.00 credits
Fall
This course is a continuation of Clinical Research I that provides the student with continued guidance in the completion of the faculty led research project begun as part of Clinical Research I. A series of lectures also provide exposure to additional topics relevant to clinical research in Physical Therapy. Potential lecture topics include data analysis, design, error, philosophy of science, and research reporting. PREREQUISITE: Open to Physical Therapy majors only.

PTS618 Physical Therapy Administration
3.00 credits
Summer
Course discusses physical therapy services, departmental policies and procedures, and personnel management. Issues relevant to clinical practice and the physical therapy profession are emphasized. PREREQUISITE: Open to Physical Therapy majors only.

PTS620 Biomechanical Basis of Human Movement
3.00 credits
Fall
A study of the basic biomechanical principles underlying the kinetics and kinematics of normal and abnormal human motion as well as the measurement of human movement. PREREQUISITE: Open to Physical Therapy PhD majors only.

PTS624 Cardio-Respiratory Physical Therapy
3.00 credits
Spring
The skills necessary for the evaluation and treatment of patients with various cardio-respiratory diseases and dysfunctions. Inpatient and outpatient cardiac and respiratory rehabilitation is included. Research on prevention of cardio-respiratory diseases and dysfunctions as it relates to evaluative, and therapeutic methods is also discussed. PREREQUISITE: Open to Physical Therapy majors only.

PTS626 Therapeutic Exercise
3.00 credits
Spring
A holistic approach to the evaluation, treatment, and management of patients with various neuromuscular diseases and dysfunctions. Appropriate therapeutic exercises interrelated with modalities and self-help devices as well as individual investigation of respective neuromuscular diseases and dysfunctions are emphasized. PREREQUISITE: Open to Physical Therapy majors only.
PTS627 Prosthetics and Orthotics
3.00 credits  Spring
A holistic approach to the evaluation and management of patients with amputations and spinal cord injuries. Appropriate therapeutic exercises interrelated with self-help appliances as well as individual investigation of respective amputation and spinal cord problems are emphasized. PREREQUISITE: Open to Physical Therapy majors only.

PTS628 Musculoskeletal Examination and Treatment I
3.00 credits  Spring
In-depth examination of differential diagnosis of various extremity dysfunctions with principles of examining soft tissue, bony and post-surgical problems relevant to the shoulder, elbow, wrist/hand, hip, knee, ankle, and foot. Manual therapy/joint mobilizations for each joint will also be introduced. PREREQUISITE: Open to Physical Therapy majors only.

PTS629 Management of the Spine
3.00 credits  Summer
The evaluation and treatment of various spinal dysfunctions. Review and investigation of the literature relevant to the sacro-iliac, lumbar, thoracic, cervical spines, and the head and neck. Clinical evaluation and treatment procedures is included. PREREQUISITE: Open to Physical Therapy majors only.

PTS630 Pediatric Physical Therapy
2.00 credits  Spring
An overview of factors and issues related to examination and treatment of children by physical therapists. PREREQUISITE: Open to Physical Therapy majors only.

PTS631 Geriatric Physical Therapy
2.00 credits  Spring
An overview of factors and issues related to examination and treatment of older individuals by physical therapists. PREREQUISITE: Open to Physical Therapy majors only.

PTS643 MEASURING HEALTH OUTCOMES
3.00 credits  Offered By Announcement Only
An in depth analysis of the use and construction of health outcome measures. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, responsiveness and methods of administration.

PTS644 Integrated Sports and Leisure
1.00 - 3.00 credits  Spring
Course promotes the integration of able-bodied students with the physically challenged by working together to learn common recreational activities. Sailing and camping activities are used as an educational tool for able-bodied students to learn the capabilities, physical resources, and assistance required by physically challenged individuals. PREREQUISITE: Open to Physical Therapy majors only.

PTS645 Integumentary Disorders and Treatment
2.00 credits  Fall
Basic and advanced principles regarding the integumentary system and related disorders, as well as principles of wound healing and wound care therapies. PREREQUISITE: Open to Physical Therapy majors only.
PTS648 Musculoskeletal Examination and Treatment II
3.00 credits Fall
Advanced examination, evaluation, functional assessment and treatment of patients in selected specialty areas of musculoskeletal physical therapy, with emphasis on functional outcomes and evidence based treatment throughout the life span. PREREQUISITE: Open to Physical Therapy majors only.

PTS660 Theories of Movement Science
3.00 credits Fall
An in-depth review of classical theories and recent research in the movement sciences, to include the study and analysis of system theory and neurobiological substrates. PREREQUISITE: For Physical Therapy PhD students only.

PTS664 Seminars in Neuroscience
3.00 credits Offered By Announcement Only
This course explores the role and organization of the key units of the central and peripheral nervous systems at the molecular and cellular levels. The integrated functional physiology of systems neuroscience and behavioral neuroscience will be studied with special emphasis on neural contributions to involuntary and voluntary motor functions, perception, cognition, and learning. PREREQUISITE: For Physical Therapy PhD students only.

PTS665 Health Promotion and Disease Prevention
2.00 credits Summer
The role of physical therapists in health promotion and disease prevention. PREREQUISITE: Open to Physical Therapy majors only.

PTS670 Education, Direction, and Supervision in Physical Therapy
2.00 credits Spring
Principles of education, direction and supervision pertaining to physical therapy patient care management. PREREQUISITE: Open to Physical Therapy majors only.

PTS671 Complementary Therapies in Rehabilitation
2.00 credits Fall
Historical development and evidence-based approach to complementary therapies in rehabilitation. PREREQUISITE: Open to Physical Therapy majors only.

PTS674 Educational Administration in Physical Therapy
3.00 credits Spring
Review of history and current issues in educational administration of physical therapy programs at the entry-level and post-graduate level. PREREQUISITE: For Physical Therapy PhD students only.

PTS675 Clinical Decision Making II
3.00 credits Fall
Integration of basic science and clinical science in developing a patient plan of care, with consideration of ethical, psychological, and economic factors. PREREQUISITE: Open to Physical Therapy majors only.

PTS677 Instructional Methods in Physical Therapy Education
3.00 credits Fall
Overview of research in the professional education field, with specific applications to physical therapy academic and clinical education. Emphasis is placed on curriculum development, competency-based instructional design, testing, and instructional evaluation methods. PREREQUISITE: For Physical Therapy PhD students only.
PTS678 Teaching Practicum
1.00 - 3.00 credits  
Fall, Spring & Summer
Supervised instructional design, teaching and evaluation of entry level physical therapy students. Students participate as course instructors in entry-level master's degree physical therapy curriculum. PREREQUISITE: For Physical Therapy PhD students only.

PTS679 Anatomy of back and limbs.
3.00 credits  
Offered By Announcement Only
Regional approach to the Musculoskeletal, neural, and vascular systems of the back, upper limbs and lower limbs. For Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students. PREREQUISITE: Open to Physical Therapy majors only.

PTS680 Anatomy of the Trunk
3.00 credits  
Offered By Announcement Only
Regional approach to the Musculoskeletal, organ, and circulatory systems of the thorax, abdomen, pelvis & perineum. For Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students. PREREQUISITE: Open to Physical Therapy majors only.

PTS681 Anatomy of the Head and Neck
3.00 credits  
Offered By Announcement Only
Regional approach to the Musculoskeletal, neural, and vascular systems of the head and neck. For the Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students. PREREQUISITE: Open to Physical Therapy majors only.

PTS682 Microscopic Anatomy.
3.00 credits  
Offered By Announcement Only
Study of the structure and function of cells, tissues, and organ systems utilizing light microscope, electron microscopic images, and electronic media. This course is designed for Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students. PREREQUISITE: Open to Physical Therapy majors only.

PTS683 Human Embryology
3.00 credits  
Spring
Study of embryologic events from fertilization to birth in the human. Consideration of the early formation of the various organ systems, on clinical problems associated with birth defects, and means of prevention. PREREQUISITE: Open to Physical Therapy majors only.

PTS685 Medical Diagnostic Tests
2.00 credits  
Fall
Basic principles of medical diagnostic tests commonly encountered in physical therapy. PREREQUISITE: Open to Physical Therapy majors only.
PTS690 Physical Therapy Diagnosis
3.00 credits
Spring
Study of the integration of didactic knowledge, clinical skills, and intuitive process into the formation of a clinical diagnosis which will direct treatment in physical therapy. Diagnosis as a process is compared to diagnosis in nursing, psychiatry, and medicine, and distinguished from assessment, examination, and screening. PREREQUISITE: For Physical Therapy PhD students only.

PTS691 ROLE SEMINAR 1: ACADEMIC LEADERSHIP
1.00 credit
Offered By Announcement Only
Introduction to the faculty roles in an institution of higher education, including faculty development and evaluation systems, educational leadership, and student advising.

PTS692 ROLE SEMINAR 2: RESEARCH
1.00 credit
Offered By Announcement Only
Initiation of a research career and dynamics of research role development within an institution. Focus is on grant writing, funding sources, and proposal development.

PTS695 Clinical Research Methods I
3.00 credits
Fall
An overview of measurement and sampling issues pertaining to clinical research in Physical Therapy. PREREQUISITE: For Physical Therapy PhD students only.

PTS696 Applied Statistics in Physical Therapy
3.00 credits
Fall
Basic Statistics taught from an applied perspective which includes statistical computing using SAS in a mainframe environment and interpretation of SAS output. PREREQUISITE: For Physical Therapy PhD students only.

PTS698 Research Practicum
3.00 credits
Fall, Spring & Summer
Practicum designed to familiarize the student with an area of research, to implement a pilot study in an area of interest, and to develop working relationship with a sponsoring faculty member. PREREQUISITE: For Physical Therapy PhD students only.

PTS699 Independent Study in Physical Therapy
1.00 - 3.00 credits
Fall, Spring & Summer
Each course is designed to meet the needs of graduate students for in-depth study in a particular area of special interest. PREREQUISITE: Open to Physical Therapy majors only.

PTS702 Special Internship
1.00 - 3.00 credits
Offered By Announcement Only
Supervised clinical education emphasizing clinical skills. PREREQUISITE: For Physical Therapy Majors Only.

PTS703 CLINICAL INTERNSHIP III
2.00 credits
Spring
Third in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.
PTS704 CLINICAL INTERNSHIP IV
2.00 credits Spring
Fourth in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

PTS730 Pre-candidacy Dissertation.
1.00 - 6.00 credits Fall, Spring & Summer
To be used for pre-candidacy PhD dissertation research. PREREQUISITE: For Physical Therapy PhD students only.

PTS740 Post-candidacy Dissertation.
1.00 - 12.00 credits Fall, Spring & Summer
The student will enroll for credits as determined by his/her advisor, but not for less than a total of 12. No more than six hours may be taken in a regular semester, nor more than three in a summer session. When a student has passed his/her qualifying exams and is engaged in an assistantship, he/she may still take the maximum allowable credit stated above. PREREQUISITE: For Physical Therapy PhD students only.

PTS750 Research in Residence
0.00 credit Fall, Spring & Summer
To establish residence for the PhD, or DPT, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research or clinical practice. Credit not granted, may be regarded as full-time residence as determined by the Dean of the Graduate School.

Physiology/Biophysics
PHS510 Cell Physiology Biophysics
2.00 credits Fall
This course is designed as preparation for the study of mammalian physiology. Course is usually intensive, adapted to the schedule of the medical curriculum and occupying the equivalent of two to three days per week for two-three weeks. The student is introduced to general principles of cell physiology, chemical and physical structure of membranes, membrane transport, and electrical membrane phenomena. Topics include excitation, contraction, energy transduction, nerve impulse conduction, and synaptic transmission. Course utilizes lecture and laboratory.

PHS511 Neurophysiology
3.00 credits Spring
Physiology of the mammalian nervous system. Course is intensive, adapted to the schedule of the medical curriculum and comprising roughly five hours of lecture and four hours of conference weekly for five to six weeks. A lecture course coordinated with neuroanatomy.

PHS512 Systemic Physiology
5.00 credits Spring
Physiology of the mammalian cardiovascular, respiratory, renal, digestive, endocrine, and reproductive systems. Course is intensive and adapted to the schedule of the medical curriculum, occupying the equivalent of about two days a week for most of semester. Lecture and laboratory are included.
PHS600 Research Seminar in Membrane Biophysics and Neurobiology
1.00 credit
Fall, Spring & Summer
The student may be required to present a short talk on a research area of interest. All students in the Department of Physiology and Biophysics are required to register for this seminar. For other students, permission of the Departmental Graduate Studies Committee is required.

PHS609 Research
1.00 - 5.00 credits
Fall, Spring & Summer
Students work with individual members of the department on research problems. Orientation to the areas of research in the field and the techniques used is included.

PHS620 Neurophysiology
3.00 credits
Spring
Physiology of the mammalian nervous system. The course will consist of both didactic lectures and discussions of current research literature.

PHS631 Special Work
1.00 - 5.00 credits
Fall, Spring & Summer
Special work, lecture, laboratory, reading, seminar, or a combination of these as determined by advisor in accordance with student’s interest.

PHS641 Principles of Membrane Physiology and Biophysics I
2.00 credits
Fall
Course discusses chemical and physical structure of membranes, model systems, permeability and transport, membrane potential, ionic channels, excitability in nerve and muscle, ionophores, active transport, and membrane receptors. Identical with MCP 641.

PHS642 Principles of Membrane Physiology and Biophysics II
2.00 credits
Fall
Course topics include osmosis and cell volume, tracer analysis of permeability and compartmentation, theory of channels and carriers, cable properties, Hodgkin-Huxley formalism, Na, K, and Ca ion channels, regulation of cellular Na, Ca activities, single-channel analysis, chemical synapses, membrane receptors, cell junctions, excitation and E-C coupling in muscle. Identical with MCP 642.

PHS669 Nerve and Synapse
2.00 credits
Fall
An advanced seminar course in the basic mechanisms underlying the propagated nerve impulse and synaptic transmission.

PHS710 Master's Thesis
1.00 - 6.00 credits
Offered By Announcement Only
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

PHS720 Research in Residence
0.00 credit
Offered By Announcement Only
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PHS 710 (usually six credits). Credit not granted. May be regarded as full time residence.
PHS730 Doctoral Dissertation
1.00 - 12.00 credits                                          Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as
determined by his/her advisor but not for less than a total of 24. Not more than
12 hours of PHS 730 may be taken in a regular semester, nor more than six in a
summer session. Where a student has passed his/her (a) qualifying examinations,
and (b) is engaged in an assistantship, he/she may still take the maximum allowable
credit stated above.

PHS740 Doctoral Dissertation- Post Candidacy
1.00 - 12.00 credits                                          Fall, Spring & Summer

PHS750 Research in Residence
0.00 credit                                            Offered By Announcement Only
Used to establish research in residence for the Ph.D., after the student has been
enrolled for the permissible cumulative total in appropriate doctoral research.
Credit not granted. May be regarded as full-time residence as determined by the
Dean of the Graduate School.

Program Biomedical Sciences
PIB600 Journal Club/Seminar
0.00 credit                                                            Fall, Spring
All PIBS students are required to attend one journal club or seminar each week.

PIB601 Advanced Biomedical Science Lectures
5.00 credits                                                                   Fall
An interdisciplinary survey of molecular and cellular biology. Topics include protein
structure and function, protein synthesis, nucleic acids, genetic code, gene technology,
genetic analysis, control of cellular activity, molecular anatomy of genes and
chromosomes, DNA replication, repair, and recombination, regulation of transcription,
RNA processing, and post-transcriptional control.

PIB602 Scientific Reasoning
3.00 credits                                                                   Fall
Students are taught with a combination of lectures, scientific reasoning and methods
classes, and small group sessions devoted to primary literature.

PIB631 PIB 631 Special Work
1.00 - 6.00 credits                                           Fall, Spring & Summer
1 - 6 credits Special work, lecture, laboratory or a combination of these, as determined
by advisor in accord with student's individual interest. Course is offered only
on demand.

PIB640 The Business of Science
3.00 credits                                                          Fall, Spring
This survey course will introduce graduate students in the biomedical sciences
and medical students to the basic principles of business to enhance their effectiveness
in being professional scientists. Topics will include: Project Management, Personnel
Management, Accounting and Budgeting Process, Invention Disclosures and Patents,
and Developing a Business Plan. Students will develop mock projects and business
plans and participate in workshops to develop practical skills.
PIB680 Research Ethics
0.00 credit Fall
The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the department or program. This is a six-hour course and will be given in two sessions of three hours each.

PIB682 Survival Skills I
0.00 credit Fall
In order to provide students with an excellent start to their graduate experience, this workshop will teach students the basics on how to: manage your career, choose a rotation lab/mentor, read a scientific paper, write a lab report, and present at lab meetings and journal club.

PIB683 Survival Skills II
0.00 credit Spring
In order to provide students with an excellent start to their graduate experience, this workshop will teach students the basics on how to write a fellowship and scientific paper, the dos and don'ts of handling data, and delivering research presentations.

PIB730 Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
DAN550 Women in Theatrical Dance
3.00 credits Offered By Announcement Only
Women in Dance; the most prominent dancers and choreographers from the 19th and 20th centuries who helped shape western theatrical dance art.

DAN585 Methods of Teaching Dance K-12 (Advanced)
3.00 credits Offered By Announcement Only
An advanced study of the Dance curriculum content in a variety of settings including public schools, grades K-12.

DAN593 Special Topics Dance
1.00 - 3.00 credits Fall, Spring & Summer
Supervised topics and other activities in specific areas of Dance

Instrumental Performance
MIPBAI Bassoon
1.00 - 4.00 credits Fall, Spring
Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPBAJ Bassoon
1.00 - 4.00 credits Fall, Spring
Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPBAK Bassoon
1.00 - 4.00 credits Fall, Spring & Summer
Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPBAL Bassoon
1.00 - 4.00 credits Fall, Spring
Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPBAM Bassoon
1.00 - 4.00 credits Fall, Spring
Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPBAN Bassoon
1.00 - 4.00 credits Fall, Spring
Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.
Instrumental Performance

MIPBAO Bassoon
1.00 - 4.00 credits
Fall, Spring
Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPBAP Bassoon
1.00 - 4.00 credits
Fall, Spring
Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPBAQ Bassoon
1.00 - 4.00 credits
Fall, Spring
Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPBAR Bassoon
1.00 - 4.00 credits
Fall, Spring
Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPBHI Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHZ Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHK Baritone Horn
1.00 - 4.00 credits
Fall, Spring & Summer

MIPBHL Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHM Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHN Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHO Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHP Baritone Horn
1.00 - 4.00 credits
Fall, Spring

MIPBHQ Baritone Horn
1.00 - 4.00 credits
Fall, Spring
MIPBHR Baritone Horn
1.00 - 4.00 credits  
Fall, Spring

MIPCDI Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDJ Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDK Conducting
1.00 - 4.00 credits  
Fall, Spring & Summer

MIPCDL Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDM Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDN Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDO Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDP Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDQ Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCDR Conducting
1.00 - 4.00 credits  
Fall, Spring

MIPCLI Clarinet
1.00 - 4.00 credits  
Fall, Spring

MIPCLJ Clarinet
1.00 - 4.00 credits  
Fall, Spring

MIPCLK Clarinet
1.00 - 4.00 credits  
PREREQUISITE: Master's level.  
Fall, Spring & Summer

MIPCLL Clarinet
1.00 - 4.00 credits  
Fall, Spring

MIPCLM Clarinet
1.00 - 4.00 credits  
Fall, Spring

MIPCLN Clarinet
1.00 - 4.00 credits  
Fall, Spring

MIPCLO Clarinet
1.00 - 4.00 credits  
Fall, Spring
MIPCLP Clarinet
1.00 - 4.00 credits
Fall, Spring

MIPCLQ Clarinet
1.00 - 4.00 credits
Fall, Spring

MIPCLR Clarinet
1.00 - 4.00 credits
Fall, Spring

MIPDBI Double Bass
1.00 - 4.00 credits
Fall, Spring
Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

MIPDBJ Double Bass
1.00 - 4.00 credits
Fall, Spring
Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

MIPDBK Double Bass
1.00 - 4.00 credits
Fall, Spring & Summer
Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

MIPDBL Double Bass
1.00 - 4.00 credits
Fall, Spring
Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

MIPDBM Double Bass
1.00 - 4.00 credits
Fall, Spring
Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

MIPDBN Double Bass
1.00 - 4.00 credits
Fall, Spring
Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

MIPDBO Double Bass
1.00 - 4.00 credits
Fall, Spring
Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

MIPDBP Double Bass
1.00 - 4.00 credits
Fall, Spring
Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

MIPDBQ Double Bass
1.00 - 4.00 credits
Fall, Spring
Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.
MIPDBR Double Bass
1.00 - 4.00 credits  Fall, Spring
Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

MIPFHI French Horn
1.00 - 4.00 credits  Fall, Spring
Emphasis will be on an assessment of students' skills, needs and repertoire experience. Materials will be explored from the standard etude and solo literature that is relevant to the students' level and skill needs. Exploration will begin to choose material for a solo recital in the Spring semester.

MIPFHM French Horn
1.00 - 4.00 credits  Fall, Spring
Students' skills needs will be assessed and a course of study developed for any remedial needs. An in-depth study of appropriate literature for both solo and chamber recitals will be undertaken in preparation for a long-term degree plan. Advanced study of Orchestral Literature will begin, including listening and score study. Repertoire for an initial recital and the Qualifying Recital will be chosen and prepared.

MIPFHN French Horn
1.00 - 4.00 credits  Fall, Spring
The initial Doctoral Recital and the Qualifying Recital will be presented. Repertoire for these recitals will be the main focus but the Study of Orchestral Literature will remain a constant.

MIPFHO French Horn
1.00 - 4.00 credits  Fall, Spring
Repertoire exploration for either the Solo recital or the Chamber Music recital along with continuing Orchestral Literature study.

MIPFHP French Horn
1.00 - 4.00 credits  Fall, Spring
Final preparation and presentation for either the Solo recital or Chamber Music recital. Preparation for Orchestral auditions will also continue.
MIPFHQ French Horn
1.00 - 4.00 credits  Fall, Spring
Repertoire exploration for the final recital along with Orchestral audition preparation. An overview of pedagogical materials will be explored and prepared as possible teaching tools.

MIPFHR French Horn
1.00 - 4.00 credits  Fall, Spring
Final preparation and presentation of remaining recital. Preparation for auditions should be advanced enough that the student can begin to take auditions. This will provide the opportunity for follow up work on audition skills and techniques.

MIPFLI Flute
1.00 - 4.00 credits  Fall, Spring
Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPFLJ Flute
1.00 - 4.00 credits  Fall, Spring
Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPFLK Flute
1.00 - 4.00 credits  Fall, Spring & Summer
Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPFLL Flute
1.00 - 4.00 credits  Fall, Spring
Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

MIPFLM Flute
1.00 - 4.00 credits  Fall, Spring
Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPFLN Flute
1.00 - 4.00 credits  Fall, Spring
Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.
MIPFLO Flute
1.00 - 4.00 credits 
Fall, Spring
Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPFLP Flute
1.00 - 4.00 credits 
Fall, Spring
Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPFLQ Flute
1.00 - 4.00 credits 
Fall, Spring
Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPFLR Flute
1.00 - 4.00 credits 
Fall, Spring
Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPGUI Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUJ Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUK Guitar
1.00 - 4.00 credits 
Fall, Spring & Summer

MIPGUL Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUM Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUN Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUO Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUP Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPGUQ Guitar
1.00 - 4.00 credits 
Fall, Spring
MIPGUR Guitar
1.00 - 4.00 credits 
Fall, Spring

MIPHAI Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAJ Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAJ Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring & Summer

MIPHAK Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAL Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAM Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAN Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAO Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAQ Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPHAR Harp
1.00 - 4.00 credits 
Advanced study of solo harp literature. 
Fall, Spring

MIPOBI Oboe
1.00 - 4.00 credits 
Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum. 
Fall, Spring
MIPOBJ Oboe
1.00 - 4.00 credits  Fall, Spring
Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum.

MIPOBK Oboe
1.00 - 4.00 credits  Fall, Spring & Summer
Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum.

MIPOBL Oboe
1.00 - 4.00 credits  Fall, Spring
Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum.

MIPOBM Oboe
1.00 - 4.00 credits  Fall, Spring
Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPOBN Oboe
1.00 - 4.00 credits  Fall, Spring
Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPOBO Oboe
1.00 - 4.00 credits  Fall, Spring
Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPOBP Oboe
1.00 - 4.00 credits  Fall, Spring
Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.
MIPOBQ Oboe  
1.00 - 4.00 credits  
Fall, Spring  
Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPOBR Oboe  
1.00 - 4.00 credits  
Fall, Spring  
Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

MIPPEI Percussion  
1.00 - 4.00 credits  
Fall, Spring  
First semester of the Master's Degree in percussion performance. Emphasis on assessment of students' skills needs and repertoire experience. Materials covered to include standard solo and ensemble repertoire and technical work. First recital repertoire chosen from works supplementing students' needs.

MIPPEJ Percussion  
1.00 - 4.00 credits  
Fall, Spring  
Second semester of the Masters Degree in percussion performance. The main area of focus is first recital; to be performed this semester. Exploration into solo and ensemble performance needs will continue through this semester.

MIPPEK Percussion  
1.00 - 4.00 credits  
Fall, Spring & Summer  

MIPPEL Percussion  
1.00 - 4.00 credits  
Fall, Spring  
Final semester of the Master's Degree in percussion performance. Main focus to be placed upon preparations for the final recital, which will be performed this semester.

MIPPEM Percussion  
1.00 - 4.00 credits  
Fall, Spring  
First of six semesters of study for a DMA in percussion performance. Students' needs assessed, and a course of study devised. Solo and ensemble works studied in-depth accordingly. Works for an initial and qualifying recital chosen.

MIPPEN Percussion  
1.00 - 4.00 credits  
Fall, Spring  
Second semester DMA. Main focus on initial and qualifying recitals, which are to be performed this semester. Ensemble and technical needs to be addressed.

MIPPEO Percussion  
1.00 - 4.00 credits  
Fall, Spring  
Third semester DMA. Repertoire for either solo or Chamber recital to be chosen.
Instrumental Performance

MIPPEP Percussion
1.00 - 4.00 credits Fall, Spring
Fourth semester DMA. Either solo or chamber recital to be presented, as well as continuing ensemble studies.

MIPPEQ Percussion
1.00 - 4.00 credits Fall, Spring
Fifth semester DMA. Repertoire for final recital will be the focus of the semester. Ensemble work to continue, as well as pedagogical studies.

MIPPER Percussion
1.00 - 4.00 credits Fall, Spring
Final semester DMA. Final preparation and presentation of the final recital to be the main focus of the semester. Any remaining pedagogical and ensemble concerns are addressed.

MIPSAI Saxophone
1.00 - 4.00 credits Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAJ Saxophone
1.00 - 4.00 credits Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAK Saxophone
1.00 - 4.00 credits Fall, Spring & Summer
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAL Saxophone
1.00 - 4.00 credits Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.
MIPSAM Saxophone
1.00 - 4.00 credits  
Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAN Saxophone
1.00 - 4.00 credits  
Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAO Saxophone
1.00 - 4.00 credits  
Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAP Saxophone
1.00 - 4.00 credits  
Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPSAQ Saxophone
1.00 - 4.00 credits  
Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.
MIPSAR Saxophone
1.00 - 4.00 credits  
Fall, Spring
Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

MIPTBI Trombone
1.00 - 4.00 credits  
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Kitsch 15 Rhythmical Studies, Roger Bounty 12 Etudes for High Perfection, and Bride Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTBJ Trombone
1.00 - 4.00 credits  
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Kitsch 15 Rhythmical Studies, Roger Bounty 12 Etudes for High Perfection, and Bride Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTBK Trombone
1.00 - 4.00 credits  
Fall, Spring & Summer
Advanced progressive study is chosen from the following etude books, Gabriell Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Bride Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style..

MIPTBL Trombone
1.00 - 4.00 credits  
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Bride Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.
MIPTBM Trombone
1.00 - 4.00 credits
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTBN Trombone
1.00 - 4.00 credits
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTBO Trombone
1.00 - 4.00 credits
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTBP Trombone
1.00 - 4.00 credits
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTBQ Trombone
1.00 - 4.00 credits
Fall, Spring
Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.
Instrumental Performance

MIPTBR Trombone
  1.00 - 4.00 credits  Fall, Spring
  Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

MIPTPI Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTPJ Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTPK Trumpet
  1.00 - 4.00 credits  Fall, Spring & Summer

MIPTPL Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTPM Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTPN Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTPO Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTPP Trumpet
  1.00 - 4.00 credits  Fall, Spring

MIPTUJ Tuba
  1.00 - 4.00 credits  Fall, Spring
  Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

MIPTUI Tuba
  1.00 - 4.00 credits  Fall, Spring
  Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

MIPTUK Tuba
  1.00 - 4.00 credits  Fall, Spring & Summer
  Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.
**Instrumental Performance**

**MIPTUL Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

**MIPTUM Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

**MIPTUN Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

**MIPTUO Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

**MIPTUP Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

**MIPTUQ Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

**MIPTUR Tuba**
1.00 - 4.00 credits  
Fall, Spring  
Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

**MIPVAI Viola**
1.00 - 4.00 credits  
Fall, Spring  
Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

**MIPVAJ Viola**
1.00 - 4.00 credits  
Fall, Spring  
Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

**MIPVAK Viola**
1.00 - 4.00 credits  
Fall, Spring & Summer  
Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.
MIPVAL Viola
1.00 - 4.00 credits  Fall, Spring
Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVAM Viola
1.00 - 4.00 credits  Fall, Spring
Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVAN Viola
1.00 - 4.00 credits  Fall, Spring
Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVAO Viola
1.00 - 4.00 credits  Fall, Spring
Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVAP Viola
1.00 - 4.00 credits  Fall, Spring
Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVAQ Viola
1.00 - 4.00 credits  Fall, Spring
Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVAR Viola
1.00 - 4.00 credits  Fall, Spring
Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

MIPVCI Violoncello
1.00 - 4.00 credits  Fall, Spring

MIPVCJ Violoncello
1.00 - 4.00 credits  Fall, Spring

MIPVCK Violoncello
1.00 - 4.00 credits  Fall, Spring & Summer

MIPVCL Violoncello
1.00 - 4.00 credits  Fall, Spring
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Graduate Course Listing  
Frost School of Music  
Instrumental Performance

MIPVCM Violoncello  
1.00 - 4.00 credits  
Fall, Spring

MIPVCN Violoncello  
1.00 - 4.00 credits  
Fall, Spring

MIPVCO Violoncello  
1.00 - 4.00 credits  
Fall, Spring

MIPVCP Violoncello  
1.00 - 4.00 credits  
Fall, Spring

MIPVCQ Violoncello  
1.00 - 4.00 credits  
Fall, Spring

MIPVCR Violoncello  
1.00 - 4.00 credits  
Fall, Spring

MIPVNI Violin  
1.00 - 4.00 credits  
Graduate Level

MIPVNJ Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNK Violin  
1.00 - 4.00 credits  
Fall, Spring & Summer

MIPVNL Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNM Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNN Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNO Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNP Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNZ Violin  
1.00 - 4.00 credits  
Fall, Spring

MIPVNR Violin  
1.00 - 4.00 credits  
Fall, Spring

MIP541 Bassoon Repertoire and Pedagogy  
1.00 - 2.00 credits  
Solo and small ensemble literature of the bassoon since 1600.
MIP542 Clarinet Repertoire and Pedagogy
1.00 - 2.00 credits
Fall
Solo and small ensemble literature of the clarinet since 1600.

MIP543 Flute Repertoire and Pedagogy
1.00 - 2.00 credits
Fall
Solo and small ensemble literature of the flute since 1600.

MIP544 Oboe Repertoire and Pedagogy
1.00 - 2.00 credits
Fall
Solo and small ensemble literature of the oboe since 1600.

MIP545 Brass Repertoire and Pedagogy
1.00 - 2.00 credits
Spring
Solo and small ensemble literature of brass instruments since 1600.

MIP546 Percussion Repertoire and Pedagogy
1.00 - 2.00 credits
Spring
Solo and small ensemble literature of percussion instruments since 1600.

MIP547 Saxophone Repertoire and Pedagogy
1.00 - 2.00 credits
Fall
Solo and small ensemble literature of the saxophone since 1600.

MIP548 Guitar Repertoire and Pedagogy
1.00 - 2.00 credits
Fall
Solo and small ensemble literature of the guitar since 1600.

MIP549 String Repertoire and Pedagogy
1.00 - 2.00 credits
Fall
An exploration of teaching string playing. Areas covered include problem-solving and communication techniques, and practical considerations in establishing a teaching studio. Students participate in hands-on teaching opportunities. PREREQUISITE: Advanced standing in Music and permission of instructor.

MIP550 Bach Cello Suites
1.00 credit
Spring
The study and performance of the six suites for unaccompanied cello of Johann Sebastian Bach.

MIP580 Orchestral Audition Preparation
1.00 credit
Fall, Spring
The study of the more difficult excerpts from the orchestral literature for violin, viola, violoncello, or double bass. Course may be repeated for credit.

MIP593 SPECIAL PROJECTS IN INSTRUMENTAL PERFORMANCE OR CONDUCTING
1.00 - 3.00 credits
Fall, Spring & Summer
Supervised topics and other activities in specific areas of Instrumental Performance.

MIP594 SPECIAL TOPICS IN INSTRUMENTAL PERFORMANCE AND CONDUCTING
1.00 - 3.00 credits
Fall, Spring & Summer
MIP601 MM Recital Program Notes Preparation
1.00 credit Fall
Students prepare extensive, original program notes, with bibliography. These notes will be made available to the audience of the second Masters recital. The notes may focus on the historical, analytical and performance aspects of the repertoire for this recital. Required in MM two-recital degree programs.

MIP610 Graduate Conducting Seminar
1.00 - 2.00 credits Fall, Spring
The graduate conducting seminar is an advanced study of conducting and rehearsal techniques combined with score and ensemble topics. Specific topics vary each semester. May be repeated for credit.

MIP620 Concepts and processes of Classical Improvisation
1.00 credit Spring
Concepts and processes of Improvisation in classical music

MIP630 Afro-Caribbean Hand Drumming, Level I
1.00 credit Fall, Spring
The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Class is taught as a workshop.

MIP631 Afro-Caribbean Hand Drumming, Level II
1.00 credit Fall, Spring
The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Level II is a performance ensemble.

MIP635 Percussion Contemporary Chamber Music
1.00 credit Fall, Spring
Mandatory for all classical percussionists, this course focuses on the contemporary unconduted chamber music repertoire. The goal is for students to develop and use an advanced listening/communicating skill set, while playing music with others. This course also targets to improve students' capabilities in contemporary music interpretation and performance.

MIP638 Trombone Choir
1.00 credit Fall, Spring
The study and performance of literature for small and large trombone ensembles.

MIP639 Brass Chamber Music
1.00 credit Fall, Spring
The study and performance of literature for small ensembles of similar or mixed brass instruments.

MIP640 Flute Choir
1.00 credit Fall, Spring
Reading, rehearsing, and performing the flute choir repertoire (duets, trios, quartets, quintets).

MIP641 Saxophone Ensemble
1.00 credit Fall, Spring
The study and performance of classical and jazz literature for small saxophone ensembles.
MIP643 Woodwind Chamber Music
1.00 credit                                                   Fall, Spring
Explore the woodwind chamber music repertoire as represented by various combinations of instruments.

MIP644 Woodwind Chamber Ensemble
1.00 credit                                                   Fall, Spring
Woodwind chamber ensemble is designed to give students knowledge of the most important literature for woodwinds through practice, rehearsal, and performance of major works for woodwind chamber ensemble.

MIP645 String-Keyboard Chamber Music
1.00 credit                                                   Fall, Spring
The study and performance of literature from the Baroque Period through the 20th Century for two or more players for string instrumentalists and strings with keyboard.

MIP655 Seminar in Baroque Performance
1.00 credit                                                   Fall
Students will present research on compositions representative of the Baroque period. Presentations will include interpretation, style, and historical context of both the composer and the work.

MIP656 Seminar in Classical Performance
1.00 credit                                                   Spring
Students will present research on compositions representative of the classical period. Presentations will include interpretation, style, and historical context of both the composer and the work.

MIP657 Seminar in Romantic Performance
1.00 credit                                                   Fall
Students will present research on compositions representative of the Romantic period. Presentations will include interpretation, style, and historical context of both the composer and the work.

MIP658 Seminar in Contemporary Performance
1.00 credit                                                   Spring
Students will present research on compositions representative of the Contemporary music. Presentations will include interpretation, style, and historical context of both the composer and the work.

MIP670 Marching Band
1.00 credit                                                   Fall
The Band of the Hour Marching Band is open to all qualified undergraduate and graduate students, regardless of major. The band performs at all home Miami Hurricane football games and selected away games.

MIP671 Symphonic Winds
1.00 credit                                                   Fall, Spring
Symphonic Band is a large wind band that performs significant repertoire for wind and percussion instruments. It is open to all qualified undergraduate and graduate students, regardless of major.
MIP674 Brass Choir  
1.00 credit  
Major works for Brass Choir are studied. Special emphasis is given to orchestral repertoire.  

MIP676 Wind Ensemble  
1.00 credit  
This course offers performance opportunities for qualified wind and percussion players. Repertoire includes significant literature written for the small and large wind band.  

MIP680 Symphony Orchestra  
1.00 credit  
The Symphony Orchestra performs significant repertoire for large orchestra. It is open to all qualified graduate students by audition.  

MIP681 Instrumental Conducting Workshop  
1.00 credit  
This course provides practical procedures and materials for beginning and advancing conducting students. Students enrolled in the four-semester sequence demonstrate basic conducting techniques, demonstration of instruments and instrumentation of the wind band and orchestra, and analyze scores for conception, interpretations, rehearsal, and performance.  

MIP682 Instrumental Conducting II  
1.00 credit  
This course provides practical procedures and materials for advancing instrumental conducting students. Students demonstrate refined skill in conducting musical styles and independence of gestures.  

MIP691 Tuba Ensemble  
1.00 credit  
The study and performance of compositions and/or transcriptions written for an ensemble of tubas and/or euphoniums.  

MIP692 Classical Guitar Ensemble  
1.00 credit  
This course focuses on sightreading, rhythm recognition, and ensemble performance through the study of exercise, scales, and diverse repertoire.  

MIP693 SPECIAL PROJECTS IN INSTRUMENTAL PERFORMANCE OR CONDUCTING  
1.00 - 3.00 credits  
Projects in any phase of instrumental performance in which the student is interested and qualified to work.  

MIP694 SPECIAL TOPICS IN INSTRUMENTAL PERFORMANCE OR CONDUCTING  
1.00 - 3.00 credits  
Projects in any phase of instrumental performance in which the student is interested and qualified to work.  

MIP711 Master's Recital Paper  
1.00 - 3.00 credits  
The student working on his/her master's recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.
Graduate Course Listing

Frost School of Music

Instrumental Performance

MIP712 Master's Recital
1.00 credit Fall, Spring
The student enrolls for recital credit during the semester in which he/she presents the master's recital.

MIP713 Master's Advanced Recital
2.00 credits Fall, Spring
The second recital for those taking the two-recital option in the Master of Music in Instrumental Performance degree.

MIP720 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MIP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MIP731 Doctoral Essay
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MIP 731 may be taken in a regular semester, nor more than six in a summer session.

MIP732 Doctoral Recital
1.00 - 2.00 credits Fall, Spring
Required of all candidates for the D.M.A.

MIP750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Keyboard Performance

MKPHCI Harpsichord
1.00 - 4.00 credits Fall, Spring

MKPHCJ Harpsichord
1.00 - 4.00 credits Fall, Spring

MKPHCK Harpsichord
1.00 - 4.00 credits Fall, Spring & Summer

MKPHCL Harpsichord
1.00 - 4.00 credits Fall, Spring

MKPHCM Harpsichord
1.00 - 4.00 credits Fall, Spring

MKPHCN Harpsichord
1.00 - 4.00 credits Fall, Spring

MKPHCO Harpsichord
1.00 - 4.00 credits Fall, Spring
MKPHCP Harpsichord  
1.00 - 4.00 credits  
Fall, Spring

MKPHCQ Harpsichord  
1.00 - 4.00 credits  
Fall, Spring

MKPHCR Harpsichord  
1.00 - 4.00 credits  
Fall, Spring

MKPORI Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORJ Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORK Organ  
1.00 - 4.00 credits  
Fall, Spring & Summer

MKPORL Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORM Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORN Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORO Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORP Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORQ Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPORR Organ  
1.00 - 4.00 credits  
Fall, Spring

MKPII Piano  
1.00 - 4.00 credits  
Fall, Spring

MKPIJ Piano  
1.00 - 4.00 credits  
Fall, Spring

MKPIK Piano  
1.00 - 4.00 credits  
Fall, Spring & Summer

MKPIIL Piano  
1.00 - 4.00 credits  
Fall, Spring

MKPIIM Piano  
1.00 - 4.00 credits  
Fall, Spring
MKPPIN Piano
1.00 - 4.00 credits Fall, Spring

MKPPIO Piano
1.00 - 4.00 credits Fall, Spring

MKPPIP Piano
1.00 - 4.00 credits Fall, Spring
PREREQUISITE: Doctoral level.

MKPPIR Piano
1.00 - 4.00 credits Fall, Spring

MKP547 Keyboard Pedagogy
3.00 credits Fall
Methods and materials for teaching keyboard instruments with a focus on private lesson instruction. Topics include teacher profile, general teaching considerations, the business of teaching, the beginning student, second- and third-year students, teaching materials, and an introduction to new technology in piano teaching.

MKP548 Intermediate to Advanced Repertoire
3.00 credits Spring
A class dedicated to a survey and discussion of a wide range of teaching materials including teaching exercises, etudes, and performance literature both well known and under appreciated. Topics include reference literature and web resources, piece assigning considerations and leveling, and detailed discussion of selected materials with specific teaching and remedial strategies. Annotated bibliography with MIDI-file attachments of incipits to be submitted at the end of the semester for a grade.

MKP549 Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics
3.00 credits Fall
1st class of each week: round-table discussion of private teaching strategies using video taped performance excerpts of students at various levels. 2nd class of each week: a focus on a wide range of teaching repertoire covering intermediate to advanced levels with an emphasis on problem prevention and solving.

MKP550 Keyboard Pedagogy III: Practice Strategies
3.00 credits Fall, Spring
Focus on practice strategy at the keyboard using Philip Johnston's Practice Revolution as a springboard for discussion. Topics also include recent findings and leading researchers in cognitive neuroscience and brain-based learning, as well as resources available for musician wellness and injury prevention.

MKP589 Keyboard Accompanying Program in Salzburg, Austria
2.00 - 4.00 credits Spring
Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive coaching in piano and accompanying from Dr. Posnak and other internationally acclaimed guest artists. Piano students study piano (2 cr.) and accompanying (1 cr.).

MKP593 SPECIAL PROJECTS IN KEYBOARD PERFORMANCE
1.00 - 3.00 credits Fall, Spring & Summer
Supervised topics and other activities in specific areas of Keyboard Performance.
MKP594 SPECIAL TOPICS IN Music Theory or Composition
1.00 - 3.00 credits  Fall, Spring & Summer

MKP610 Seminar in Baroque Performance
1.00 credit  Fall
This course is designed as a performance class for graduate DMA piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

MKP611 Seminar in Classical Performance
1.00 credit  Spring
This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

MKP612 Seminar in Romantic Performance
1.00 credit  Fall
This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

MKP613 Seminar in Contemporary Music
1.00 credit  Spring
This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

MKP647 Seminar in Keyboard Pedagogy
3.00 credits  Fall
Focus on college-level teaching and professional development for a pianist. Topics include group piano teaching materials and strategies, syllabi and exam-objective rubric creation, pedagogy curriculum building, pedagogy text survey, administrative duties overview, preparation for the job market including job search and interview process, and C. V. building avenues such as publication, workshop/lecture presentation, editing teaching repertoire, and training in music technology.

MKP650 Keyboard Pedagogy Research Seminar
1.00 credit  Fall, Spring
Research, reading and writing in keyboard pedagogy on topics either historical or current. An in-depth research or project on a topic as approved by KPED faculty culminates in a written paper with annotated bibliography. Course may be repeated for credit.
MKP680 Keyboard Pedagogy Internship
1.00 credit
Fall, Spring
The student team-teaches a piano class or a private student with an instructor. The Program Director observes and critiques the student, and the student videotapes lessons and offers critiques of their own teaching following a guideline.

MKP685 Musical Theatre Accompanying
1.00 credit
Fall, Spring
A class designed to improve the skills of pianists with a particular interest in musical theatre piano accompaniment. Students will study in a classroom setting.

MKP687 Vocal Accompanying II
1.00 credit
Fall, Spring
Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

MKP688 Graduate Seminar in Accompanying
1.00 credit
Fall, Spring
Study and performance of major vocal and chamber music literature as related to the accompanist and chamber musician. Course may be repeated for credit.

MKP689 Accompanying, Level I
1.00 credit
Fall, Spring
Development of sightreading skills and score preparation.

MKP690 Accompanying, Level II
1.00 credit
Fall, Spring
Progressive development of individual vocal/instrumental and ensemble accompanying, sightreading, score reading, and improvising from a lead sheet.

MKP691 Accompanying, Level III
1.00 credit
Fall, Spring
Progressive development of all types of accompaniment skills including clef and score reading, transposition, possible recital, opera theater, choral ensemble, and/or orchestral accompanying.

MKP693 SPECIAL PROJECTS IN KEYBOARD PERFORMANCE
1.00 - 3.00 credits
Fall, Spring & Summer
Projects in any phase of keyboard performance in which the student is interested and qualified to work.

MKP694 SPECIAL TOPICS IN KEYBOARD PERFORMANCE
1.00 - 3.00 credits
Fall, Spring & Summer
Projects in any phase of keyboard performance in which the student is interested and qualified to work.

MKP711 Master's Recital Paper
1.00 - 3.00 credits
Fall, Spring & Summer
The student working on his/her master's recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.
MKP712 Master's Recital
1.00 credit Fall, Spring
The student enrolls for recital credit during the semester in which he/she presents the master's recital.

MKP713 Master's Pedagogy Project
1.00 - 3.00 credits Fall, Spring
The student working on his/her master's pedagogy project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

MKP720 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MKP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MKP731 Doctoral Essay
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MKP 731 may be taken in a regular semester, nor more than six in a summer session.

MKP732 Doctoral Recital
1.00 - 2.00 credits Fall, Spring
Required of all candidates for the D.M.A.

MKP750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Music Education and Therapy
MED541 Musical Instrument Maintenance
0.00 credit Fall, Spring
Mechanical development, care, and maintenance of musical instruments. Separate sections for wind, percussion, string, and keyboard instruments.

MED542 Teaching Elementary General Music (K-5)
3.00 credits Fall
Curriculum, methods, and materials designed for elementary music, K-6. Observation, planning, and teaching experience are emphasized.

MED543 Teaching Elementary and Secondary Instrumental Music
3.00 credits Spring
A study of elementary and secondary instrumental music instruction including program organization, teaching techniques, materials, and field experiences of music instruction in schools.

MED544 Teaching Secondary General Music (7-12)
3.00 credits Spring
Curriculum, methods, and materials designed for junior/senior high school general music programs.
MED545 Music in Rehabilitation
3.00 credits  Spring
Review of development and functioning for neurologically-based sensorimotor behavior. Survey of disabilities and diseases that typically result in sensorimotor deficits is included. Demonstration and practice of therapeutic techniques for sensorimotor deficits are also covered.

MED546 Music Psychotherapy
3.00 credits  Spring
Survey and practical application of music as therapy in the treatment of psychiatric disorders and in promoting mental health.

MED548 Music for Special Learners
3.00 credits  Spring
This course is designed for music educators who will be working in schools with children and youth who have various disabilities. The purpose of MED 548 is to acquaint students with the characteristics of children and youth with disabilities, and introduce adaptive strategies in music education, K-12, for instructing children and youth with disabilities.

MED549 Teaching Secondary Choral Music
3.00 credits  Fall
Course covers curriculum, vocal/rehearsal techniques, and literature. Teaching music in secondary schools through the medium of choral performance.

MED555 Elementary Music Workshop
3.00 credits  Summer
Course is designed for in-service elementary school classroom teachers and music supervisors. Survey and experience with contemporary methodology and materials in elementary school music education is emphasized.

MED556 Secondary General Music Workshop
3.00 credits  Summer
Course is designed for teachers of general music classes in middle, junior high, and senior high schools. Practical experience with methods and materials designed for non-performance music classes, grades 7-12 is emphasized.

MED559 Internship in Music Therapy
3.00 credits  Summer
Course provides students with a six month opportunity as a music therapy intern in an approved training facility.

MED560 Internship in Music Therapy II
0.00 credit  Summer

MED562 Psychology of Music I
3.00 credits  Spring
Psychological foundations of music with an emphasis on problems of perception, experimental esthetics, functional music, and measurement and diagnosis of musical ability and achievement. Related literature of experimental investigation is reviewed.
MED575 Preschool Music Workshop
1.00 - 3.00 credits  Offered By Announcement Only
Workshop is designed to prepare class members to initiate, administer, and teach music programs for preschool children. Materials which address the teacher, the child, and the parent are used. The daily schedule includes demonstration classes with children, lectures, and active participation of and discussion with class members. Emphasis is placed on working with a planning guide for teachers which offers articles on the major areas of the curriculum and clear, succinct statements focusing on the central issues of each lesson.

MED576 Music and Development
3.00 credits  Fall
Review of development in cognitive, communication, and musical domains. Survey of developmental disabilities most commonly found in child populations is included as well as demonstration and practice of therapeutic techniques for cognitive and communication deficits.

MED581 Teaching Classroom Guitar I
2.00 credits  Summer
This class is designed for students and teachers, guitarist or non-guitarist, who wish to initiate, enhance, and teach guitar in a multi-level classroom setting. The course includes demonstration classes with elementary and secondary students. Topics include organization and teaching performance materials in a hands-on setting.

MED593 SPECIAL PROJECTS IN MUSIC EDUCATION AND MUSIC THERAPY
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised topics and other activities in specific areas of Music Education.

MED594 SPECIAL TOPICS IN MUSIC EDUCATION AND MUSIC THERAPY
1.00 - 3.00 credits  Fall, Spring & Summer

MED600 Psychoacoustical Foundations of Music
2.00 credits  Fall
Production, transmission, and reception of simple and complex tones. Examination of physical properties and psychoacoustical response to tonal stimuli is also included.

MED601 Recital Paper Preparation
1.00 credit  Fall, Spring
Supervised preparation of the recital paper required for the Master of Music degree in classical performance.

MED602 DMA Essay Proposal
1.00 credit  Spring
Supervised preparation of the DMA proposal for the Doctor of Musical Arts in Performance, Conducting, or Accompanying and Chamber Music.

MED610 Graduate Forum in Music Therapy
0.00 credit  Offered By Announcement Only
Forum for graduate students to discuss topics relevant to advanced music therapy practice, engage in experiential therapeutic techniques, and to share student efforts of scholarship in the field.
MED615 Graduate Forum
0.00 credit                                               Offered By Announcement Only
Forum for masters and doctoral students to discuss various topics of relevance to music education practice and to share efforts of scholarship in the field.

MED620 International Music Education
3.00 credits                                              Spring
Students study music instruction systems in other countries, including public and private school, community music programs, private music instruction, music conservatory instruction, informal instructional systems, and university work in music. Students compare music instruction systems in the United States and other countries through readings and presentations by native informants. An optional on-site field experience examining music education in another country may be arranged to coincide with this course.

MED625 CULTURAL DIVERSITY IN MUSIC EDUCATION
3.00 credits                                               Spring

MED629 Advanced Music Therapy Practice I
3.00 credits                                              Spring
Review of research literature in clinical topic areas, such as music and cognition, or music and affective processing. Presentation of research findings through writing and discussion is emphasized as well as the application of research findings through practice and demonstration of therapeutic techniques.

MED630 Advanced Music Therapy Practice II
3.00 credits                                             Fall, Spring
Review of research literature in clinical topic areas, such as music and sensorimotor processing or music in biofeedback. Presentation of research findings through writing and discussion is emphasized as well as the application of research findings through practice and demonstration of therapeutic techniques.

MED632 Vocal Methods and Materials in Music Education
2.00 credits                                               Spring
Survey of latest vocal methods and publications for use in public schools.

MED633 Seminar for Teaching Associates
1.00 credit                                             Fall, Spring
Discussion of teaching, rehearsal techniques, and the organization of music materials related to the internship experience. To be taken in conjunction with internship, MED 771.

MED635 SOCIAL ISSUES MUSIC LEARN
3.00 credits                                              Fall

MED640 COMMUNITY MUSIC PROGRAM
3.00 credits                                              Fall
Group instruction in woodwind instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.
MED641 Brass Techniques  
1.00 credit  
Group instruction in brass instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

MED642 Percussion Techniques  
1.00 credit  
Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drumset, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

MED643 String Techniques  
1.00 credit  
The study of stringed instruments (violin, viola, cello, bass) in a heterogeneous class with emphasis on general principles of string playing and teaching methods for use in beginning and intermediate instruction in the schools. Course may be repeated for credit.

MED644 Vocal Techniques  
1.00 credit  
Class instruction in fundamentals of singing, breath control, tone production, and solo singing for music majors.

MED645 Functional Music Techniques  
1.00 credit  
Group instruction in the functional use of guitar, autoharp, and recorder for classroom or music therapy uses. Functional skill, teaching methods, and materials are emphasized.

MED647 Seminar in Instrumental Music Education  
2.00 credits  
Practical study of the development of school band programs with special consideration given to the selection of training and concert materials, rehearsal techniques and administrative procedures.

MED650 COMMUNITY MUSIC PROGRAMS  
3.00 credits  
Study of contemporary philosophical, psychological and sociological bases of music education curriculum development appropriate to general, choral, and instrumental music instruction.

MED657 Music Therapy Graduate Practicum 1  
2.00 credits  
In a clinical setting, gain skill in observation and co-leading under the supervision of a music therapist.

MED658 Music Therapy Graduate Practicum 2  
2.00 credits  

MED659 Music Therapy Graduate Practicum 3  
2.00 credits  
In a clinical setting, independently design and apply therapeutic techniques based on scientific evidence.
MED660 History and Philosophy of Music Education
3.00 credits
Offered By Announcement Only
The history of Western music education beginning with the ancient Greeks is surveyed to the present. Incorporated in the survey is the evolution of philosophical thought about music and its role in educational practice. From this grounding, current philosophical views of music education are presented.

MED665 Seminar in Music Education
2.00 credits
Offered By Announcement Only
Survey of literature, bibliography, and contemporary trends in music education. Course may be repeated for credit by doctoral students with consent of instructor.

MED670 Seminar in Music Teacher Education
1.00 credit
Fall
Overview of current issues in music teacher education, teacher education research and scholarship, the study of intern supervision, music education methods course design, and undergraduate music education teaching strategies.

MED673 Music in Early Childhood
2.00 credits
Spring
Course provides theoretical foundations, curriculum, methods, and materials appropriate for the teaching of Early Childhood music.

MED674 Seminar in General Music
2.00 credits
Spring
Course provides curriculum, methods, and materials designed for instruction for the general music student, grades K-12.

MED675 Practicum in Music Education
7.00 credits
Fall, Spring
Students enrolled in the Master of Music with Certification Option Degree may complete the required internship with this course.

MED676 Practicum in Teaching College Students
1.00 - 3.00 credits
Fall, Spring
Supervised practicum for teaching music education courses at the college level.

MED680 Doctoral Seminar
1.00 credit
Offered By Announcement Only
A seminar designed to generate ideas about contemporary theory and practice in music. Students engage in discussion of general research topics, but from the perspective of their particular discipline. Enrollment is intended for those doctoral students who have satisfactorily completed the qualifying examinations through and until receiving approval of the doctoral paper proposal. The course is open to all majors, but is required of all music education doctoral students.

MED681 SEMINAR IN QUALITATIVE RESEARCH IN MUSIC
2.00 credits
Spring

MED682 SEMINAR IN QUANTITATIVE RESEARCH IN MUSIC
2.00 credits
Spring
MED684 Music Therapy Seminar  
1.00 credit  
Fall, Spring  
Doctoral seminar in music therapy to address practical and professional issues pertaining to teaching and research in music therapy. Possible topics include: Teaching and Clinical Supervision, Philosophical Research, and Historical Research.

MED690 Teaching Music in College  
1.00 credit  
Fall  
An overview of college music curriculum, patterns of administrative organization, traditional and innovative content, styles and resources used in teaching at the college level, evaluation and grading techniques used in classes, lessons, and ensembles.

MED693 SPECIAL PROJECTS IN MUSIC EDUCATION AND MUSIC THERAPY  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Projects in any phase of music education in which the student is interested and qualified to work.

MED694 SPECIAL TOPICS IN MUSIC EDUCATION OR MUSIC THERAPY  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Projects in any phase of music education in which the student is interested and qualified to work.

MED695 Doctoral Research Project  
1.00 credit  
Fall, Spring  
Small scale research project in music education or music therapy, suitable for publication. This project could serve as pilot work for the dissertation.

MED696 DOCTORAL RESEARCH PROJECT  
0.00 - 1.00 credit  
Fall, Spring  

MED705 Master's Project  
1.00 - 3.00 credits  
Fall  
Culminating project for Master of Music in music education students not completing a thesis or recital.

MED710 Master's Thesis  
1.00 - 6.00 credits  
Fall, Spring & Summer  
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MED720 Research in Residence  
0.00 credit  
Fall, Spring & Summer  
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MED 710 (usually six credits). Credit not granted. May be regarded as full time residence.
MED730 Doctoral Dissertation
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MED 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MED735 Research for Specialist Project
1.00 - 6.00 credits  Fall, Spring & Summer
The student working on a research project for the Music Specialist degree enrolls for credit, not to exceed six, as determined by the student's advisor. Credit is not awarded until the project is completed.

MED750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

MED771 Associate Teaching in Elementary School Music
6.00 credits  Fall, Spring
A comprehensive program in observation and supervised teaching in elementary school music. The student spends full time for one half a semester in an elementary school, participating in all activities of the music teacher under the guidance of school and university personnel.

MED773 Associate Teaching in Secondary School Music
6.00 credits  Fall, Spring
A comprehensive program in observation and supervised teaching in secondary school music. The student spends full time for one half a semester in a secondary school, participating in all activities of the music teacher under the guidance of school and university personnel.

Music, Media and Industry

MMI501 Transducer Theory
3.00 credits  Spring
Course covers the fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspension, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses. Open to MUE and EAN Majors only.

MMI502 Digital Audio I
0.00 - 3.00 credits  Fall
A study of the theory and practice of digital audio topics including discrete time sampling, quantization, dithering, PCM, A/D and D/A conversion, digital filtering, oversampling, modulation codes, time base, error correction codes, magnetic storage, DAT, and optical storage.
MMI503 Digital Audio II
3.00 credits  Spring
A study of the theory and practice of digital audio topics including fiber optics and networks, compact disc, interconnection, psychoacoustics, low bit-rate perceptual coding, MPEG, digital audio broadcasting, sigma-delta conversion, noise shaping, digital video, and emerging technologies. Open to MUE and EAN Majors only.

MMI504 Audio Analysis and Synthesis
3.00 credits  Offered By Announcement Only
Theory, design, and development of computer audio synthesizers and analyzers. Students implement software synthesizers including analog and physical modeling, wave-table, wave-shaping, and FM designs. Classical and modern theories of timbre and time-frequency analysis are included.

MMI505 Advanced Audio Signal Processing
3.00 credits  Spring
Theory, design and development of audio signal processing techniques. Topics include DSP architectures, systems design, algorithm development, and applications. DSP development tools used to write, debug, and test programs including time-domain based effects such as reverb, chorus, flanging, and digital delay as well as frequency-domain projects such as FIR, IIR, and FFT filters and vocoders.

MMI530 Entrepreneurship for Musicians
3.00 credits  Spring
Course explores a wide range of options for musicians who want to pursue music business careers in their regional music markets. Students examine opportunities in performance, recording, composition, education, and more. Emphasis is placed on the packaging of musical skills in the marketplace and on the financial management of a small proprietary music business. As a result, the student musician will be prepared to make career decisions with foresight and planning.

MMI537 RECORDED MUSIC OPERATIONS
3.00 credits  Fall
A study of the activities involved in commercially exploiting recorded music. Includes an analysis of activities involved in the production, manufacturing, distribution, and marketing of a recorded music product; as well as related royalty accounting, mechanical licensing and master-use licensing activities.

MMI541 TOUR MANAGEMENT AND PRODUCTION
3.00 credits  Spring
Students will become familiar with the responsibilities of a tour planner. Individual tour planning projects are assigned which will give the students insight into the management and production of a tour.

MMI543 MARKETING AND PROMOTION IN THE ENTERTAINMENT INDUSTRY
3.00 credits  Spring
Students learn how to fulfill demand and influence consumer behavior through effective marketing techniques. The course provides the students with information on the latest technologies being employed to reach and communicate with target consumers.

MMI545 MUSIC PLACEMENT AND EXPLOITATION
3.00 credits  Fall
MMI573 International Music Publishing
2.00 credits
An in-depth study of the international publishing industry with an emphasis on catalog development and exploitation.

MMI578 Royalties in the Recorded Music Industry
1.00 credit
A practical study of royalty payment formulas and procedures used in the recorded music industry.

MMI593 SPECIAL PROJECTS IN MUSIC, MEDIA, AND INDUSTRY
1.00 - 3.00 credits
Supervised topics and other activities in specific areas of Music Media and Industry.

MMI594 SPECIAL TOPICS IN MUSIC, MEDIA, AND INDUSTRY
1.00 - 3.00 credits

MMI601 Advanced Digital Audio Electronics
3.00 credits
Topics in digital audio including discrete time signals, digital filters, error digital audio processors, FFT, CIRC, and digital recorders are discussed.

MMI606 Current Topics in Audio Analysis and Signal Processing
3.00 credits
MMI 606 surveys recent topics related to audio analysis, synthesis, and signal processing with an emphasis in software programming and practical applications. Course material is drawn from several topics: current audio APIs and plug-in architectures, computational theories of musical timbre, machine listening, spatial audio, digital audio effects, new digital audio synthesis techniques, and machine-musician interaction modalities.

MMI614 Graduate Music Business and Entertainment Industries Forum
0.00 credit
Forum for all graduate Music Business and Entertainment Industries students, for the purpose of discussing the latest developments in the field with guest speakers from the industry and faculty members.

MMI622 Tour Management and Production
3.00 credits
An introductory course designed to give the students an overview of tour management and event production in the live entertainment industry. Special attention is given to arts presenting organizations and their role in the industry regionally, nationally and internationally.

MMI626 Performing Arts Center and Facility Management
3.00 credits
Students learn the many aspects of managing a live entertainment and performing arts center facility. Logistics, management, budgeting, marketing and programing within a live entertainment and performing arts facility are addressed.
MMI634 Sponsorship and Development in the Live entertainment Industry
3.00 credits  Spring
Students learn about the importance of sponsorship programs and how they are conceived, planned, negotiated and implemented tools, templates, and techniques provide a basis for creating a productive sponsorship program. The course also focuses on development and grants in the performing arts industry.

MMI636 Financial and Risk Aspects of the Arts Presenting Industry
3.00 credits  Fall
Students learn how to write and present a line-item budget for an arts presentation event, arts presenting organization, and an arts facility. Specific techniques and methods that are used to reduce event risk and safety are discussed.

MMI638 Legal Aspects of the Live Entertainment Industry
3.00 credits  Fall
Students become familiar with various Artist, Client, Production, Vendor and Facility Contracts and Agreements commonly used in the industry.

MMI640 Arts Presenting Project
3.00 credits  Offered By Announcement Only
Students develop and produce an Arts Presenting event. Students will be responsible for all aspects of budgeting, marketing, promotion and production of the event. This will be a semester long project requiring the knowledge and skills learned throughout the Arts Presenting Program.

MMI650 Music Industry Agreements
3.00 credits  Spring
A study of various music industry agreements and how they affect the artist and songwriter. Recording, music publishing, and personal management agreements are analyzed and discussed. Topics include negotiation considerations, dealings, record company economics, and profitability.

MMI651 Recording Studio Workshop
1.00 credit  Fall
Introduction to the multi track recording studio environment. Hands-on lectures and labs including tracking, overdub and mixdown session management, techniques, and philosophies are included. Topics also include audio routing, equalization, effects, and microphone technique.

MMI652 International Music Licensing
3.00 credits  Spring
Advanced music industry concepts and problems in music licensing. Personal rights and most varieties of music licenses and international licensing concepts are covered. Students acquire practical experience utilizing licensing parameters.

MMI653 Transducer Workshop
1.00 credit  Spring
Fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspensions, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
Frost School of Music
Music, Media and Industry

**MMI656 Entertainment Industry Practices**
3.00 credits  
Fall  
An overview of entertainment industry practices. Concentration on the legal, marketing and financial aspects of different areas of the industry focusing primarily on film, television, and book publishing, while also broadly exploring additional areas such as video games, sports, and performing arts.

**MMI674 Music Copyright Law**
3.00 credits  
Fall  
A study of the essential provisions of the 1976 Copyright Act and subsequent amendments and revisions. Students examine the unique complexities of copyright law as it relates to the music industry.

**MMI678 PUBLISHING AND RECORD INDUSTRY ROYALTIES**
1.00 credit  
Fall  
An in depth study of royalty payment procedures used in the music industry.

**MMI680 ADVANCED ANALYSIS OF CURRENT TOPICS IN THE MUSIC BUSINESS**
3.00 credits  
Fall

**MMI682 Industry Internship**
3.00 credits  
Spring  
The student's academic experience is enhanced by working in a professional arts presenting organization or arts facility.

**MMI693 SPECIAL PROJECTS IN MUSIC, MEDIA, AND INDUSTRY**
1.00 - 3.00 credits  
Fall, Spring & Summer  
Projects in any phase of music media and industry in which the student is interested and qualified to work.

**MMI694 SPECIAL TOPICS IN MUSIC, MEDIA, AND INDUSTRY**
1.00 - 3.00 credits  
Fall, Spring & Summer  
Projects in any phase of music media and industry in which the student is interested and qualified to work.

**MMI702 Internship in Music Industry**
2.00 - 3.00 credits  
Fall, Spring & Summer  
Practical experience in different areas of the music industry under supervision of professional firms. Open only to Music Industry majors.

**MMI704 MUSIC INDUSTRY INTERNSHIP**
3.00 credits  
Fall, Spring & Summer

**MMI713 Master's Research Project**
1.00 - 3.00 credits  
Fall, Spring & Summer  
The student working on his/her master's research project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

**MMI720 Research in Residence**
0.00 credit  
Fall, Spring & Summer  
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MMI 710 (usually six credits). Credit not granted. May be regarded as full time residence.
MTC501 The Aesthetics of Music
3.00 credits
Spring
Survey of thought and discourse about the nature, roles, values, experiences, and meanings of music. Variety of perspectives, including those of the listener, performer, and composer are addressed. Application to musical interpretation and criticism is included.

MTC505 Analysis and History of Electroacoustic and Acousmatic Music
2.00 credits
Fall
Course examines electroacoustic and acousmatic music from both a historical/literature and analytical perspective. Analytical techniques with a focus on an ecological analysis approach will be conducted as well as a survey of electroacoustic, acousmatic, and digital music.

MTC506 DIGITAL EDITING AND SEQUENCING
2.00 credits
Spring
Computers as control devices for music synthesis and digital manipulation of pre-recorded sounds. Topics include interfacing sequencing software with software synthesizers, performance techniques, and sound design using samples.

MTC507 STUDIO LICENSING
2.00 credits
Fall, Spring
Licensing for access to Digital Arts and Media Writing Studios. Topics covered include digital audio recording and editing, sound synthesis/design, audio signal processing, sound analysis and spatial placement of sound. Course includes studio-use qualifying exams.

MTC511 Film Scoring I
2.00 credits
Fall
Seminar in the aesthetics and psychology of mood music, sound-film synchronization, timing techniques, and scoring procedures. Analysis and performance of student projects is included.

MTC512 Film Scoring II
2.00 credits
Spring
Adaptation of previous semester's techniques to television scripts and performed music. Pre-recording, direct recording, and dubbing procedures are included as well as preparation and performance of complete film cues. Each student is required to conduct his/her project.

MTC515 Choral Arranging
3.00 credits
Spring
Arranging for choir and vocal groups with and without instrumental accompaniment in all styles.

MTC516 Advanced Orchestration
3.00 credits
Spring
Scoring for the symphonic orchestra with an emphasis on recent techniques.
MTC517 Analysis of Popular Music Since 1950
3.00 credits  Offered By Announcement Only
Course examines popular music in the second half of the Twentieth Century from a music analytical perspective. Critical skills needed for this analysis are identified and developed. Analytical techniques for understanding the determination and utilization of musical elements and structures in contemporary popular music are applied. Various contemporary genres and some precursors are examined and particular stylistic determinants of their compositional and performance models are discussed.

MTC518 Advanced Counterpoint
3.00 credits  Spring
Three-voice fugal writing in Bach's style, followed by compositional projects in a variety of twentieth-century contrapuntal styles.

MTC521 Multimedia for Musicians
3.00 credits  Offered By Announcement Only
Presents an overview and introduction to the creation of multimedia projects for presentation on the Web. Focus is placed on building websites, and the creation of multimedia content for online delivery. Software tools for the manipulation of digital media, including audio and video, are utilized in the realization of course projects.

MTC567 Electronic and Computer Music Seminar
1.00 - 3.00 credits  Fall, Spring
Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

MTC593 SPECIAL PROJECTS IN MUSIC THEORY OR COMPOSITION
1.00 - 3.00 credits  Fall, Spring & Summer
Supervised topics and other activities in specific areas of Music Theory-Composition.

MTC605 DIGITAL ART AND SOUND DESIGN
2.00 credits  Spring
Software-based techniques of sound synthesis. Topics will include synthesis using Ircam Tools, Max/Msp, Jitter, Csound, and PureData.

MTC611 Theory Pedagogy
3.00 credits  Fall
Seminar in methods and materials pertinent to the teaching of theory in high school and college.

MTC612 Advanced Comprehensive Theory
3.00 credits  Fall
Melodic, harmonic, and contrapuntal devices as revealed through analysis and applied in composition.

MTC613 Twentieth Century Idioms
3.00 credits  Spring
Relevant modes of perception, influences, and technical devices in 20th century music.
MTC615 Composition Seminar I
2.00 credits  Fall
Creative work in composition requiring a multi-movement work scored for full orchestra, symphonic band, or chorus with orchestra or band.

MTC616 Composition Seminar II
2.00 credits  Spring
Continuation of MTC 615.

MTC617 Analytical Techniques
3.00 credits  Fall, Spring & Summer
Examination and practice of various techniques used in the analysis of music.

MTC619 Introduction to Schenkerian Analysis
3.00 credits  Fall
A first course in the theory and analytical practice of Heinrich Schenker. Students will learn the principles and techniques of Schenkerian analysis and will apply them to the study of works in smaller sectional forms.

MTC646 Studio Production
1.00 credit  Offered By Announcement Only
Recording studio production procedures. Topics include artist and material selection, session planning, and analysis of the producer's role. Course may be repeated for credit.

MTC648 Electronic Music Ensemble
1.00 credit  Offered By Announcement Only

MTC652 Research Seminar II
2.00 credits  Offered By Announcement Only

MTC667 Advanced Electronic and Computer Music Seminar
1.00 - 3.00 credits  Fall, Spring
Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

MTC682 Composition Workshop
1.00 credit  Fall, Spring
Variety of composition concepts and problems are dealt with through assignments and projects with special emphasis on practical considerations.

MTC693 SPECIAL PROJECTS IN MUSIC THEORY OR COMPOSITION
1.00 - 3.00 credits  Fall, Spring & Summer
Projects in any phase of theory-composition in which the student is interested and qualified to work.

MTC694 SPECIAL TOPICS IN MUSIC THEORY OR COMPOSITION
1.00 - 3.00 credits  Fall, Spring & Summer
Projects in any phase of theory-composition in which the student is interested and qualified to work.

MTC696 Studio Production Ensemble
1.00 credit  Offered By Announcement Only
MTC697 Studio Rhythm Section
1.00 credit
Fall, Spring

MTC699 The Other Music Ensemble
1.00 credit
Fall, Spring
An in-depth study and performance of 20th century music.

MTC710 Master's Thesis
1.00 - 6.00 credits
Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MTC713 Master's Media Writing Project
1.00 - 3.00 credits
Fall, Spring & Summer
The student working on his/her master's media writing project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

MTC720 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MTC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MTC731 Doctoral Essay
1.00 - 12.00 credits
Fall, Spring & Summer
Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MTC 731 may be taken in a regular semester, nor more than six in a summer session.

MTC750 Research in Residence
0.00 credit
Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Musicology
MCY520 History and Literature of the Wind Band
3.00 credits
Fall
An historical survey of wind band literature, the evolution of the military band, the wind band, and the wind orchestra.

MCY521 Symphonic Literature
3.00 credits
Spring
A survey of orchestral music from the end of the seventeenth century to the present.

MCY522 Operatic Literature
3.00 credits
Spring
The history and literature of opera from the end of the sixteenth century to the present.
MCY524 Contemporary Music  
3.00 credits  
Fall  
Music of the 20th century, with emphasis on developments since 1945.

MCY525 Art Song Literature  
3.00 credits  
Spring  
A survey of the solo vocal literature from the 16th century to the present, with particular emphasis on the 19th-century French and German repertoire.

MCY526 Keyboard Literature I  
3.00 credits  
Fall  
A survey of keyboard literature from its beginning to approximately 1750 emphasizing changes in styles of writing and expression, development of techniques suited to the primary instruments in use (including the early organ, clavichord, harpsichord and fortepiano), ornamentation both specified and improvised, forms, and ideas for interpretation based on historical sources.

MCY527 Keyboard Literature II  
3.00 credits  
Spring  
A survey of solo keyboard literature from approximately 1750 to the present emphasizing changes in styles of writing and expression, development of technique suited to the primary instruments in use (including the clavichord, harpsichord, fortepiano and modern piano), embellishment both specified and improvised, forms, and ideas for interpretation based on historical sources (including facsimiles, printed scores, written records and sound recordings, particularly those by the composers themselves).

MCY528 Music Bibliography  
3.00 credits  
Fall  
Course presents research materials, including dictionaries, encyclopedias, historical collections, scholarly editions, complete works, books, articles, and lists dealing with specialized areas of music history and literature.

MCY529 Music of the Baroque Period  
3.00 credits  
Spring  
Literature and history of music from the end of the sixteenth to the middle of the eighteenth centuries.

MCY530 Music of the Classical Period  
3.00 credits  
Fall  
The musical styles which developed between the mid-eighteenth century and the nineteenth century.

MCY532 History of Chamber Music  
3.00 credits  
Fall  
Styles and forms in chamber music literature from the seventeenth century to the present.

MCY533 Music of the Romantic Period  
3.00 credits  
Spring  
The musical styles which developed during the nineteenth century.

MCY535 Choral Literature I  
2.00 credits  
Fall  
Choral music of the sixteenth through the eighteenth centuries. A combination of lecture-discussion and class performance.
MCY536 Choral Literature II  
2.00 credits  
Fall  
Choral music of the nineteenth and twentieth centuries. A combination of lecture-discussion and class performance.

MCY537 Music in the United States  
3.00 credits  
Spring  
A survey of music in the United States from colonial times to the present, with emphasis on the social, economic, and political conditions which affected it. Art music (sacred and secular), popular music in all idioms, the music industry as it evolved in the U.S., and the influence of American music on the music of other countries.

MCY538 Music, Gender, and Sexuality  
3.00 credits  
Spring  
An exploration of music from around the world from the perspective of women. We will examine the roles women have played, and still play, as creators and performers in art music and popular music traditions. Representations of women and gender ideologies will also be discussed.

MCY541 Music of the Mediaeval, Renaissance, and Baroque Periods  
3.00 credits  
Fall & Summer  
A comprehensive, in-depth study of the musical styles and genres of the Mediaeval, Renaissance, and Baroque Eras. Important musical figures of these periods and analytical studies of important pieces of music from these periods are addressed.

MCY542 Music of the Classical, Romantic, and Modern Periods  
3.00 credits  
Spring & Summer  
A comprehensive, in-depth study of the musical styles and genres of the Classical, Romantic, and Modern Eras of important musical figures of these periods, and analytical studies of important pieces of music from these periods.

MCY553 Miami’s Musical Heritage  
3.00 credits  
Spring & Summer  
A study of the musical traditions and practices of the various cultures that are part of Miami’s unique multi-ethnic society.

MCY554 Music Cultures of the World: Argentina and Brazil  
3.00 credits  
Offered By Announcement Only  
A study of music culture of the region including the music of folk societies, popular artists, and classical musicians. Open to non-majors.

MCY562 Music of Argentina and Brazil  
3.00 credits  
Spring  
An in-depth study of Argentine and Brazilian musical cultures covering folk, popular, and classical traditions. Open to non-majors.

MCY564 Seminar in Latin American Music Collections  
3.00 credits  
Fall  
Examines Latin American music materials at the Cuban Heritage Collection and Special Collections at the Richter Library. Focuses on interpreting original documents and acquiring archival techniques.
MCY583 History of the American Musical Theatre
3.00 credits Fall
An examination of the development of musical theatre from its European opera and operetta background to an indigenous American art form. The areas to be explored include the rise and fall of various genre of musical shows, integration of story, song and dance, important producers, directors, lyricists, composers, and new fields such as director-choreographer. The development of an American cultural consciousness and political and socio-economic trends of various decades that greatly influenced the content and form of musical shows is also examined.

MCY593 SPECIAL PROJECTS IN MUSICOLOGY
1.00 - 3.00 credits Fall, Spring & Summer
Supervised topics and other activities in specific areas of Musicology.

MCY594 SPECIAL TOPICS IN MUSICOLOGY
1.00 - 3.00 credits Fall, Spring & Summer

MCY611 MUSICOLOGY PEDAGOGY
3.00 credits Fall

MCY611 MUSICOLOGY PEDAGOGY
3.00 credits Offered By Announcement Only

MCY616 GRADUATE MUSICOLOGY FORUM
0.00 credit Fall, Spring

MCY693 SPECIAL PROJECTS IN MUSICOLOGY
1.00 - 3.00 credits Fall, Spring & Summer
Projects in any phase of music literature and history in which the student is interested and qualified to work.

MCY694 SPECIAL TOPICS IN MUSICOLOGY
1.00 - 3.00 credits Fall, Spring & Summer
Projects in any phase of music literature and history in which the student is interested and qualified to work.

MCY710 Master's Thesis
1.00 - 6.00 credits Fall, Spring & Summer
The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

MCY720 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MCY 710 (usually six credits). Credit not granted. May be regarded as full time residence.
MCY730 Doctoral Dissertation
1.00 - 12.00 credits Fall, Spring & Summer
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MCY 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

MCY750 Research in Residence
0.00 credit Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Studio Music and Jazz
MSJBI Jazz Bass
1.00 - 3.00 credits Fall, Spring
Jazz Bass at the Master's level. The student will pursue a course of study that is directed toward his/her musical goals. This course will examine, through transcription and analysis, the important figures in the history of jazz bass, and also those performances in which the student is interested.

MSJBJ Jazz Bass
1.00 - 3.00 credits Fall, Spring
Continuation of MSJ BI.

MSJBJK Jazz Bass
1.00 - 3.00 credits Fall, Spring & Summer
Continuation of MSJ BJ.

MSJJBL Jazz Bass
1.00 - 3.00 credits Fall, Spring
This semester will focus on the student's graduate recital performance, if applicable.

MSJJBK Jazz Bass
1.00 - 3.00 credits Fall, Spring
Jazz Bass at the Doctoral level. The student will pursue a course of study that is directed towards his/her musical goals. This course will also examine, through transcription and analysis, the important figures in the history of jazz bass, and also those performances in which the student is interested.

MSJBN Jazz Bass
1.00 - 3.00 credits Fall, Spring
Continuation of MSJ BM.

MSJBO Jazz Bass
1.00 - 3.00 credits Fall, Spring
Continuation of MSJ BN.

MSJBP Jazz Bass
1.00 - 3.00 credits Fall, Spring
Continuation of MSJ BO.
### MSJJBQ Jazz Bass
1.00 - 3.00 credits  
Continuation of MSJ JBP.  
**Fall, Spring**

### MSJJBR Jazz Bass
1.00 - 3.00 credits  
Continuation of MSJ JBQ.  
**Fall, Spring**

### MSJJDI Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**

### MSJJDJ Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**

### MSJJDK Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring & Summer**

### MSJJDL Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**

### MSJJDM Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**

### MSJJDN Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**

### MSJJDO Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**

### MSJJDP Jazz Drumset
1.00 - 3.00 credits  
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.  
**Fall, Spring**
MSJJDQ Jazz Drumset
1.00 - 3.00 credits  Fall, Spring
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

MSJJDR Jazz Drumset
1.00 - 3.00 credits  Fall, Spring
Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

MSJGI Jazz Guitar
1.00 - 3.00 credits  Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

MSJJGJ Jazz Guitar
1.00 - 3.00 credits  Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

MSJJGL Jazz Guitar
1.00 - 3.00 credits  Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.
MSJJGM Jazz Guitar
1.00 - 3.00 credits
Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

MSJJGN Jazz Guitar
1.00 - 3.00 credits
Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

MSJJGO Jazz Guitar
1.00 - 3.00 credits
Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

MSJJGP Jazz Guitar
1.00 - 3.00 credits
Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.
MSJJGQ Jazz Guitar
1.00 - 3.00 credits  
Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

MSJJGR Jazz Guitar
1.00 - 3.00 credits  
Fall, Spring
Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

MSJJPI Jazz Piano
1.00 - 3.00 credits  
Fall, Spring
Exploration of the jazz piano tradition with an emphasis on advanced artists. Discussion of solo piano arranging and reharmonization techniques. Improvisation on non-symmetrical forms and advanced modal compositions.

MSJJPJ Jazz Piano
1.00 - 3.00 credits  
Fall, Spring
Exploration of the jazz piano tradition with an emphasis on advanced artists. Discussion of solo piano arranging and reharmonization techniques. Improvisation on non-symmetrical forms and advanced modal compositions.

MSJJPK Jazz Piano
1.00 - 3.00 credits  
Fall, Spring & Summer
Exploration of the jazz piano tradition with an emphasis on advanced artists. Discussion of solo piano arranging and reharmonization techniques. Improvisation on non-symmetrical forms and advanced modal compositions.

MSJJPL Jazz Piano
1.00 - 3.00 credits  
Fall, Spring
Exploration of the jazz piano tradition with an emphasis on advanced artists. Discussion of solo piano arranging and reharmonization techniques. Improvisation on non-symmetrical forms and advanced modal compositions.
MSJJPJ Jazz Piano
1.00 - 3.00 credits
Fall, Spring
Development of an individual voice and style. Composition in the solo piano and trio format: orchestrational techniques on the piano as derived from orchestra and big band, discussion of form and structure.

MSJJPJN Jazz Piano
1.00 - 3.00 credits
Fall, Spring
Development of an individual voice and style. Composition in the solo piano and trio format: orchestrational techniques on the piano as derived from orchestra and big band, discussion of form and structure.

MSJJPPO Jazz Piano
1.00 - 3.00 credits
Fall, Spring
Development of an individual voice and style. Composition in the solo piano and trio format: orchestrational techniques on the piano as derived from orchestra and big band, discussion of form and structure.

MSJJPQP Jazz Piano
1.00 - 3.00 credits
Fall, Spring
Development of an individual voice and style. Composition in the solo piano and trio format: orchestrational techniques on the piano as derived from orchestra and big band, discussion of form and structure.

MSJJPJR Jazz Piano
1.00 - 3.00 credits
Fall, Spring
Development of an individual voice and style. Composition in the solo piano and trio format: orchestrational techniques on the piano as derived from orchestra and big band, discussion of form and structure.

MSJJSI Jazz Saxophone
1.00 - 3.00 credits
Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.
MSJJSJ Jazz Saxophone
1.00 - 3.00 credits    Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSK Jazz Saxophone
1.00 - 3.00 credits    Fall, Spring & Summer
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSL Jazz Saxophone
1.00 - 3.00 credits    Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSN Jazz Saxophone
1.00 - 3.00 credits    Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
Frost School of Music
Studio Music and Jazz

MSJJSO Jazz Saxophone
1.00 - 3.00 credits  Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as being thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSO Jazz Saxophone
1.00 - 3.00 credits  Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as being thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSO Jazz Saxophone
1.00 - 3.00 credits  Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as being thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSO Jazz Saxophone
1.00 - 3.00 credits  Fall, Spring
The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as being thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured free forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

MSJJSO Jazz Saxophone
1.00 - 3.00 credits  Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.
MSJTBJ Jazz Trombone
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTBK Jazz Trombone
1.00 - 3.00 credits
Fall, Spring & Summer
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTBL Jazz Trombone
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTBM Jazz Trombone
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTNB Jazz Trombone
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTOB Jazz Trombone
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPB Jazz Trombone
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.
University of Miami Bulletin, 2013-2014
Graduate Course Listing
Frost School of Music
Studio Music and Jazz

MSJTBJ Jazz Trombone
1.00 - 3.00 credits  Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTBR Jazz Trombone
1.00 - 3.00 credits  Fall, Spring
Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPJ Jazz Trumpet
1.00 - 3.00 credits  Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPK Jazz Trumpet
1.00 - 3.00 credits  Fall, Spring & Summer
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPL Jazz Trumpet
1.00 - 3.00 credits  Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPM Jazz Trumpet
1.00 - 3.00 credits  Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.
Frost School of Music

Studio Music and Jazz

MSJTPN Jazz Trumpet
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPO Jazz Trumpet
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPP Jazz Trumpet
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPQ Jazz Trumpet
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJTPR Jazz Trumpet
1.00 - 3.00 credits
Fall, Spring
Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

MSJVOI Jazz Voice
1.00 - 3.00 credits
Fall, Spring
Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nuturing the individual student’s artistic direction.

MSJVOJ Jazz Voice
1.00 - 3.00 credits
Fall, Spring
Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nuturing the individual student’s artistic direction.
MSJVOK Jazz Voice
1.00 - 3.00 credits  Fall, Spring & Summer
Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nurturing the individual student's artistic direction.

MSJVOL Jazz Voice
1.00 - 3.00 credits  Fall, Spring
Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nurturing the individual student's artistic direction.

MSJVOM Jazz Voice
1.00 - 3.00 credits  Fall, Spring
Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

MSJVON Jazz Voice
1.00 - 3.00 credits  Fall, Spring
Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

MSJVOO Jazz Voice
1.00 - 3.00 credits  Fall, Spring
Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

MSJVOP Jazz Voice
1.00 - 3.00 credits  Fall, Spring
Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

MSJVOQ Jazz Voice
1.00 - 3.00 credits  Fall, Spring
Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

MSJ509 Jazz Composition I
2.00 credits  Fall
Application of advanced composition techniques to various contemporary Jazz styles making extensive use of analysis of established compositions. Emphasis is placed on small group performance.

MSJ510 Jazz Composition II
2.00 credits  Spring
This course is a continuation of MSJ 500 with an emphasis on melody writing, reharmonization techniques, pentatonic/blues composition, and an introduction to advanced harmonic materials.
MSJ516 Jazz Vocal Arranging  
2.00 credits  
Spring  
Analysis and techniques of jazz vocal writing.

MSJ519 Advanced Modern Arranging I  
3.00 credits  
Fall  
Advanced arranging and composition for the Jazz and studio ensemble.

MSJ520 Advanced Modern Arranging II  
3.00 credits  
Spring  
Advanced arranging and composition for the Jazz and studio ensemble.

MSJ521 Advanced Modern Arranging III  
3.00 credits  
Spring  
Course addresses scoring for large jazz ensemble, utilizing chord scale voicings and line writing techniques. Emphasis is placed on orchestration styles such as Duke Ellington, Gil Evans, and Thad Jones.

MSJ522 Introduction to Midi Sequencing and Digital Workstations  
2.00 credits  
Fall, Spring  
An introduction to Midi Sequencing with hands-on experience working with a computer sequencing workstation. Topics include sequencing, quantizing, editing, mixing, and effects processing.

MSJ544 Jazz Pedagogy and Administration  
3.00 credits  
Spring  
The philosophy, methods, and materials of instruction pertinent to the teaching and management of a jazz and commercial curriculum at the high school and college level. Includes preparation of model curricula and supervised instruction.

MSJ560 Advanced Jazz Improvisation Theory  
3.00 credits  
Fall  
Review of fundamentals and introduction of advanced topics in jazz harmony and scale resources for improvisation.

MSJ565 Advanced Improvisation I  
3.00 credits  
Spring  
Use of stylistic nuance with emphasis on melodic development, complex harmonies, time-feel, and phrasing. Open only to senior or graduate majors in Studio Music and Jazz.

MSJ566 Advanced Improvisation II  
3.00 credits  
Fall  
Refinement of improvisation concepts leading towards the establishment of a personal style of playing. Open only to senior or graduate majors in Studio Music and Jazz.

MSJ593 SPECIAL PROJECTS IN STUDIO MUSIC AND JAZZ  
1.00 - 3.00 credits  
Fall, Spring & Summer  
Supervised topics and other activities in specific areas of Studio Music and Jazz.

MSJ594 SPECIAL TOPICS IN STUDIO MUSIC AND JAZZ  
1.00 - 3.00 credits  
Fall, Spring & Summer
MSJ603 Jazz Piano Class I
1.00 credit  
Fall, Spring
Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ604 Jazz Piano Class II
1.00 credit  
Fall, Spring
Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ605 Jazz Piano Class III
1.00 credit  
Fall, Spring
Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ606 Jazz Piano Class IV
1.00 credit  
Fall, Spring
Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

MSJ614 Advanced Orchestration
3.00 credits  
Fall
Techniques for scoring for the modern symphony orchestra.

MSJ615 Jazz Composition Seminar I
2.00 credits  
Fall
Creative work in Jazz Composition.

MSJ620 Analysis of Jazz Styles
3.00 credits  
Fall
A comparative study of Jazz styles from 1900 to the present.

MSJ634 E.C.M. Ensemble
1.00 credit  
Fall, Spring
This ensemble performs music typical of the contemporary European jazz styles such as those characterized by the Edition of Contemporary Music (E.C.M.) Recording Company.

MSJ639 Small Jazz Vocal Ensemble
1.00 credit  
Fall, Spring
Small groups of vocalists with a rhythm section, dedicated to a particular style and body of literature.
MSJ640 Small Jazz Ensemble
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ641 Small Jazz Ensemble I
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ642 Small Jazz Ensemble II
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ643 Small Jazz Ensemble III
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ644 Small Jazz Ensemble IV
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ645 Small Jazz Ensemble V
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ646 Small Jazz Ensemble VI
1.00 credit  Fall, Spring
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.
MSJ647 Small Jazz Ensemble VII  
1.00 credit  
Fall, Spring  
Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

MSJ650 Studio Jazz Band  
1.00 credit  
Fall, Spring  
This ensemble performs music in the recent big band tradition, from leaders such as Duke Ellington, Count Basie, Buddy Rich, Bob Brookmeyer, and Thad Jones. The group performs on campus with an emphasis on studio recording.

MSJ651 Concert Jazz Band  
1.00 credit  
Fall, Spring  
The Concert Jazz Band is the premiere big band at the Frost School of Music. Students are required to perform at an advanced level, and work with a variety of guest artists. Requirements include the ability to sight read difficult material, and to improvise in various styles. Audition is required.

MSJ653 Jazz Band III  
1.00 credit  
Fall, Spring  
Big Band designed for graduate students needing experience with classic Big Band repertory.

MSJ655 Monk/Mingus Ensemble  
1.00 credit  
Fall  
This ensemble is dedicated to the study and performance of the music of the influential jazz composers Charles Mingus and Thelonius Monk.

MSJ656 Funk/Fusion Ensemble  
1.00 credit  
Fall, Spring  
Small jazz ensemble focusing on contemporary electric jazz/rock/fusion/Latin styles. Emphasis is placed on original compositions by the members of the ensemble. The most common instrumentation is bass, drums, piano/synthesizer, guitar, and saxophone.

MSJ657 Horace Silver Ensemble  
1.00 credit  
Spring  
This ensemble is dedicated to the study and performance of the music of Horace Silver.

MSJ658 Bebop Ensemble  
1.00 credit  
Fall, Spring  
This is the top instrumental small group and performs frequently both locally and nationally. The ensemble performs exclusively original compositions provided by the members of the group. The styles presented are varied and based on the interests of the participants, but include bebop, blues and world music.
MSJ659 Rhythm and Blues Ensemble
1.00 credit
Fall, Spring
Mid-level ensemble for both instrumentalists and vocalists designed to familiarize students with classic Rhythm and Blues material from the 50s, 60s, and 70s, while preparing for a series of concerts throughout the semester. Students are guided through the process of putting a working band together and preparing it for performances and recordings, including what is expected of and from instruments, vocalists, producers, promoters, and other industry personnel.

MSJ660 Avant Garde Ensemble
1.00 credit
Fall, Spring
This ensemble offers students the opportunity to develop the free form improvisation in either the bebop based style of Ornette Coleman or the fusion oriented style as typified by Bill Laswell.

MSJ662 Jazz Saxophone Ensemble
1.00 credit
Fall, Spring
An intermediate level reading ensemble comprised of five saxophones and rhythm section, designed to reinforce fundamental principles of playing in the typical big band saxophone section. Skills addressed include sight-reading, blend, intonation, phrasing, rhythmic accuracy, etc. Rhythm section players gain reading experience and learn the basics of providing a foundation for big band type arrangements. Repertoire includes both published and selected original charts from student arrangers.

MSJ664 Contemporary Rhythm Section Techniques I
1.00 credit
Fall
This is an ensemble for freshmen rhythm section players. The focus of this ensemble is to introduce students to various styles of rhythm section playing-- from swing and modern Jazz through Rock, Funk, R&B, and other commercial styles of music. Concepts of sound, groove, balance and blend, repertory, and accompaniment are also discussed.

MSJ665 Contemporary Rhythm Section Techniques II
1.00 credit
Spring
Fundamentals of rhythm section playing for guitarists, pianists, bassists, and drummers. It covers a variety of contemporary styles within the rock, jazz, Latin, and pop idioms. Students are grouped into ensembles which perform in class weekly.

MSJ666 Small Jazz Ensemble Lab
0.00 credit
Fall, Spring
Performance Lab designed to work in conjunction with all of the 140 level ensembles. Provides and environment in which students are required to perform on a regular rotating schedule throughout the semester. These performances are critiqued by the institution and other faculty, as well as students, in order to nurture a critical but positive atmosphere.

MSJ667 Salsa Ensemble
1.00 credit
Spring
An ensemble of instrumentalists and singers performing a wide variety of Salsa and Latin jazz styles with emphasis on improvisation.

MSJ669 Jazz Guitar Ensemble I
1.00 credit
Fall, Spring
A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.
MSJ670 Jazz Guitar Ensemble II
1.00 credit  
A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

MSJ671 Jazz Guitar Ensemble III
1.00 credit  
A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

MSJ672 Jazz Guitar Ensemble (Workshop I)
1.00 credit  
A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

MSJ673 Jazz Guitar Ensemble (Workshop II)
1.00 credit  
A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

MSJ675 Jazz Writing Ensemble
1.00 credit  
This class is a seminar in jazz arranging and composition techniques for Studio/Jazz Writing master's students and DMA students in Jazz Composition. The class consists primarily of topics related to jazz and studio arranging and composition, recording techniques, rehearsal techniques, music technologies, music business, and entrepreneurship. Topics are examined utilizing hands-on technology, score analysis, listening, guest lectures, and long range projects.

MSJ693 SPECIAL PROJECTS IN STUDIO MUSIC AND JAZZ
1.00 - 3.00 credits  
Projects in any phase of studio music and jazz in which the student is interested and qualified to work.

MSJ694 SPECIAL TOPICS IN STUDIO MUSIC AND JAZZ
1.00 - 3.00 credits  
Projects in any phase of studio music and jazz in which the student is interested and qualified to work.

MSJ695 Jazz Vocal Ensemble I
1.00 credit  
A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

MSJ696 Jazz Vocal Ensemble II
1.00 credit  
A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

MSJ697 Jazz Vocal Ensemble III
1.00 credit  
A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.
MSJ711 Master's Recital Paper
1.00 - 3.00 credits  Fall, Spring & Summer
The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

MSJ712 Master's Recital
1.00 credit  Fall, Spring
The student enrolls for recital credit during the semester in which he/she presents the master's recital.

MSJ713 Master's Jazz Writing Project
1.00 - 3.00 credits  Fall, Spring & Summer
The student working on his/her master's jazz writing project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

MSJ720 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MSJ 710 (usually six credits). Credit not granted. May be regarded as full time residence.

MSJ731 Doctoral Essay
1.00 - 12.00 credits  Fall, Spring & Summer
Required of all candidates of the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MSJ 731 may be taken in a regular semester, nor more than six in a summer session.

MSJ732 Doctoral Recital
1.00 credit  Fall, Spring
A formal recital displaying improvisational, interactive, and compositional skills appropriate to the doctoral level.

MSJ750 Research in Residence
0.00 credit  Fall, Spring & Summer
Used to establish research in residence for the D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Vocal Performance
MVPCDI Conducting
1.00 - 4.00 credits  Fall, Spring
MVPCDJ Conducting
1.00 - 4.00 credits  Fall, Spring
MVPCDK Conducting
1.00 - 4.00 credits  Fall, Spring & Summer
MVPCDL Conducting
1.00 - 4.00 credits  Fall, Spring
MVPCDM Conducting
1.00 - 4.00 credits  Fall, Spring
MVPCDN Conducting
1.00 - 4.00 credits  
Fall, Spring

MVPCDO Conducting
1.00 - 4.00 credits  
Fall, Spring

MVPCDP Conducting
1.00 - 4.00 credits  
Fall, Spring

MVPCDO Conducting
1.00 - 4.00 credits  
Fall, Spring

MVPCDR Conducting
1.00 - 4.00 credits  
Fall, Spring

MVPVOI Voice
1.00 - 4.00 credits  
Fall, Spring
Private lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation in required languages, the ability to sustain a professional sound in the upper register and perform with established skills for vocal, physical and emotional communication in voice juries and performances of concert and opera, and the potential for a professional career as a classical singer.

MVPVOJ Voice
1.00 - 4.00 credits  
Fall, Spring

MVPVOK Voice
1.00 - 4.00 credits  
Fall, Spring & Summer

MVPVOL Voice
1.00 - 4.00 credits  
Fall, Spring

MVPVOM Voice
1.00 - 4.00 credits  
Fall, Spring
Private lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation and workable knowledge of required languages, the ability to sustain a professional sound in the upper register and perform with advanced skills for vocal, physical and emotional communication in voice juries and performances of concert and opera, and the potential for a professional career as a classical singer and/or teacher of music.

MVPVON Voice
1.00 - 4.00 credits  
Fall, Spring

MVPVOO Voice
1.00 - 4.00 credits  
Fall, Spring

MVPVOP Voice
1.00 - 4.00 credits  
Fall, Spring

MVPVOQ Voice
1.00 - 4.00 credits  
Fall, Spring

1560
MVP508 Choral Score Study
2.00 credits
In depth study of selected choral or choral/orchestral works related to literature being performed by university ensembles during the academic year.

MVP538 Vocal Pedagogy
2.00 - 3.00 credits
Fall
Course covers methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production with practical application, observing and teaching individual and class voice in a supervised environment.

MVP552 Vocal Performance Preparation
1.00 credit
Fall, Spring
Musical preparation of a wide range of assigned vocal literature from all periods for performance in forums, juries, and recitals. Special emphasis is on musical values, styles, translations of texts, diction, pronunciation of Italian, German, French, and English, and memorization.

MVP580 Opera Production
1.00 credit
Fall, Spring
Opera production for main stage production, scenes, and other productions. Open only to students that are cast in productions, as determined by audition and faculty decision. Typically taken by vocal performance majors.

MVP588 Voice Performance in Salzburg, Austria
2.00 - 4.00 credits
Summer
Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive vocal training from University of Miami faculty as well as distinguished guest artists. A class in vocal repertoire is also included.

MVP593 SPECIAL PROJECTS IN VOCAL PERFORMANCE OR CHORAL CONDUCTING
1.00 - 3.00 credits
Fall, Spring & Summer
Supervised topics and other activities in specific areas of Vocal Performance.

MVP594 SPECIAL TOPICS IN VOCAL PERFORMANCE OR CHORAL CONDUCTING
1.00 - 3.00 credits
Fall, Spring & Summer

MVP610 VOCAL LITERATURE FOR TEACHING: ENGLISH
3.00 credits
Fall
Study of the historical body of English language vocal repertoire as it relates to voice classification, age, and technical development of a singer.

MVP611 Vocal Literature for Teaching: Italian
3.00 credits
Spring
Study of the historical body of Italian vocal repertoire as it relates to voice classification, age, and technical development of a singer.

MVP612 Vocal Literature for Teaching: German
3.00 credits
Fall
Study of the historical body of German vocal repertoire as it relates to voice classification, age, and technical development of a singer.
**MVP613 VOCAL LITERATURE FOR TEACHING: FRENCH**  
3.00 credits  
Spring  
Study of the historical body of French vocal repertoire as it relates to voice classification, age, and technical development of a singer.

**MVP614 VOCAL LITERATURE FOR TEACHING: MUSICAL THEATRE**  
3.00 credits  
Fall  
Study of the historical body of American and British Musical Theatre repertoire as it relates to voice classification, age, and technical development of the singer.

**MVP630 Studio Teaching Techniques**  
1.00 credit  
Fall  
Application of the principles studied in MVP 638. Candidates will be assigned students for applied voice study, under supervision of the instructor.

**MVP632 Teaching the Singer Actor**  
2.00 credits  
Spring  
Exploring teaching techniques for developing the skills of the singer.

**MVP636 Voice Disorders**  
2.00 credits  
Spring  
Assessment and treatment of the human voice. Course promotes an understanding of the terminology, clinical assessment, and therapy protocols used in treating the dysfunctional or damaged voice.

**MVP638 Advanced Vocal Pedagogy**  
3.00 credits  
Fall  
Course addresses advanced methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production, historical perspectives, and comparative pedagogical publications. Includes practical application, observation and teaching individual and class voice in a supervised environment.

**MVP639 Vocal Pedagogy Internship**  
1.00 credit  
Fall  
Observation in the field of choice, including, but not limited to studio work, medical setting or speech pathology setting.

**MVP647 Men's Chorale**  
1.00 credit  
Fall, Spring  
This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

**MVP648 Women's Chorale**  
1.00 credit  
Fall, Spring  
This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

**MVP650 English Diction for Singers**  
1.00 credit  
Fall  
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in English. International Phonetic Alphabet is presented as a learning tool.
MVP651 Italian Diction for Singers
1.00 credit  
Spring  
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching in Italian and Latin. International Phonetic Alphabet is presented as a learning tool.

MVP652 German Diction for Singers
1.00 credit  
Fall  
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in German. International Phonetic Alphabet is used as a learning tool.

MVP653 French Diction for Singers
1.00 credit  
Spring  
Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in French. International Phonetic Alphabet is used as a learning tool.

MVP680 Symphonic Choir
1.00 credit  
Fall, Spring  
Study and performance of choral literature appropriate for large choir, including choral orchestral masterworks.

MVP684 Chamber Singers
1.00 credit  
Fall, Spring  
An ensemble of eighteen to twenty undergraduate and graduate students. The ensemble performs challenging chamber choir repertoire from the Renaissance through the Twentieth Century.

MVP685 UM Chorale
1.00 credit  
Fall, Spring  
This ensemble performs significant choral literature with an emphasis on music of the Twentieth-Century and on choral/orchestral works including opera. Open to all qualified graduate students, regardless of major.

MVP688 Opera Theater
1.00 credit  
Fall, Spring  
Taken by Graduate Students in Vocal Performance. The preparation and public performance of staged operatic scenes and operas with supplemental classes in acting skills, stage movement and characterization.

MVP693 SPECIAL PROJECTS IN VOCAL PERFORMANCE OR CHORAL CONDUCTING
1.00 - 3.00 credits  
Fall, Spring & Summer  
Projects in any phase of vocal performance in which the student is interested and qualified to work. PREREQUISITE: Graduate Music students only. Dean's approval and signature required.

MVP694 SPECIAL TOPICS IN VOCAL PERFORMANCE OR CHORAL CONDUCTING
1.00 - 3.00 credits  
Fall, Spring & Summer  
Projects in any phase of vocal performance in which the student is interested and qualified to work.
MVP711 Master's Recital Paper
1.00 - 3.00 credits  
Fall, Spring & Summer
The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

MVP712 Master's Recital
1.00 credit  
Fall, Spring
The student enrolls for recital credit during the semester in which he/she presents the master's recital.

MVP714 Artist Diploma Recital
1.00 credit  
Fall, Spring
The student enrolls for recital credit during the semester in which he/she presents the Artist Diploma Recital.

MVP720 Research in Residence
0.00 credit  
Fall, Spring & Summer
Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MVP 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

MVP731 Doctoral Essay
1.00 - 12.00 credits  
Fall, Spring & Summer
Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MVP 731 may be taken in a regular semester, nor more than six in a summer session.

MVP732 Doctoral Recital
1.00 - 2.00 credits  
Fall, Spring
Required of all candidates for the D.M.A.

MVP750 Research in Residence
0.00 credit  
Fall, Spring & Summer
Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
HST536 U.S. Health Care Crisis: Politics and Policies
3.00 credits
Spring
This course will explore key health policy issues within the U.S., along with the politics and interest groups which shape them. Fundamental concerns within the health care system such as: cost, quality and access to care will be analyzed. Major topics of discussion will include: Medicare, Medicaid, private insurance, the nursing shortage, and prescription drugs. The politics and policies surrounding issues such as bioethics, globalization, and infectious disease will also be considered.

Nursing
NUR501 ADVANCED PRACTICE PREPARATION FOR MSN STUDENTS
0.00 credit
Fall, Spring
This preparatory experience provides students an opportunity to review concepts of pharmacology; physiology; and health assessment prior to beginning the Master of Science in Nursing program. Activities related to academic strategies and writing are also included, to assist in improving study and writing skills.

NUR536 U.S. Health Care Crisis: Politics and Policies
3.00 credits
Spring
This course will explore key health policy issues within the U.S., along with the politics and interest groups which shape them. Fundamental concerns within the health care system such as: cost, quality and access to care will be analyzed. Major topics of discussion will include: Medicare, Medicaid, private insurance, the nursing shortage, and prescription drugs. The politics and policies surrounding issues such as bioethics, globalization, and infectious disease will also be considered.

NUR551 TEACHING AND LEARNING THEORY IN CLINICAL NURSING EDUCATION
3.00 credits
Fall, Spring
This course covers principles and practices of teaching and learning integral to clinical nursing education and identifies the role of the faculty in teaching students with diverse learning styles and needs within a variety of clinical settings.

NUR553 Methods for Clinical Nursing Education
3.00 credits
Fall, Spring
The focus of this course is the organization and management of instruction for clinical nursing education. Emphasis is placed on effective strategies for the development of learning opportunities in diverse clinical settings.

NUR555 Evaluation in Clinical Nursing Education
1.00 - 3.00 credits
Fall, Spring
The course explores principles and practices of evaluation integral to clinical nursing education.

NUR558 Practicum in Clinical Nursing Education
1.00 - 6.00 credits
Fall, Spring
The primary focus of this course is to provide opportunities to apply concepts and principles from the previous 3 courses of the Certificate in Nursing Education program. The course provides opportunity for laboratory, clinical, and online application of principles of teaching and learning. The course combines 42 hours didactic contact hours with 112 online practicum hours.

NUR594 Selected Topics
0.00 - 3.00 credits
Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Selected Topics.
NUR595 Selected Topics
2.00 - 3.00 credits Offered By Announcement Only
Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title Selected Topics.

NUR601 Advanced Pharmacology
3.00 credits Fall
Advanced practice nursing application of pharmacological and pharmacokinetics for the purpose of selecting appropriate drug therapies for diverse populations.

NUR602 DOCTORAL LEVEL ORIENTATION/NUR
0.00 credit Spring
This course provides entering doctoral students with an evaluation of their writing ability and a review of formal writing skills. Other topics pertinent to success for nursing DNP coursework such as basic statistics review and being a health care champion are addressed.

NUR608 Concepts in Advanced Practice Nursing
3.00 credits Spring
Major concepts necessary for advanced practice nursing. Included are: major scientific theories, health and health promotion, health policy, ethical issues, epidemiology, technology in health care, and advanced practice role competencies. Specific emphasis is placed on understanding culture and cultural diversity in health care.

NUR609 Professionalism in Advanced Practice Nursing
2.00 credits Summer
Focuses on the synthesis of concepts and principles necessary to develop leaders in advanced practice nursing specialties. Emphasis is placed on the role of the advanced practice nurse for optimal delivery of health care to clients across the life span.

NUR610 ADULT GERONTOLOGY ACUTE CARE I
4.00 credits Fall
Analysis of selected theories and conceptual models of nursing and their implementation in practice and research. Approaches to development of a scientific body of knowledge for nursing practice is included. (2) PREREQUISITE: Graduate status.

NUR611 Foundations of Anesthesia Science for Nurse Anesthetists
3.00 credits Fall
Introduction to the application of basic sciences to nurse anesthesia. This course includes the application of principles of physics, molecular biology, biochemistry and medicinal chemistry.

NUR612 Physiology/Pathophysiology for Advanced Practice Nursing
3.00 credits Fall
Analysis of physiologic and pathophysiologic mechanisms of health and illness.

NUR613 Advanced Health Assessment and Diagnostic Reasoning
0.00 - 3.00 credits Fall
Emphasis on culturally sensitive comprehensive health assessment and diagnostic reasoning related to advanced nursing practice. Special emphasis is placed on advanced health assessment; including age appropriate health screenings; prenatal, pediatric, and geriatric assessment; and interpretation of basic laboratory tests and diagnostic studies utilized in advanced nursing practice. Specialty specific seminars address issues for individual tracks within advanced practice nursing.
NUR614 BASIC CONCEPTS IN ANESTHESIA NURSING
14.00 credits  Spring
Fundamental knowledge and skills for entry into advanced practice anesthesia nursing. Concepts include essential techniques, monitoring and equipment, chemical and physical properties of anesthetic agents, and pharmacologic interventions for common problems and conditions requiring routine surgical procedures in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

NUR615 Professional Aspects of Anesthesia Nursing
2.00 credits  Fall
Focuses on the development and current trends in nurse anesthesia practice, education, and research. Concepts include the historical, legal, legislative, and professional role issues associated with advanced practice anesthesia nursing. Professional responsibilities, ethical issues, diversity, cultural competency, quality assurance, continuing education, and professional involvement are emphasized.

NUR616 Pharmacology for Acute Care Nursing
3.00 credits  Spring
Focuses on foundational pharmacologic principles and associated application to clinical practice in acute care nursing. Integration of pharmacological concepts and interventions in safe, culturally competent, and interdisciplinary acute care advanced nursing practice are emphasized.

NUR617 Pharmacology for Anesthesia Nursing
3.00 credits  Spring
Focuses on foundational pharmacological principles and associated application to clinical practice in nurse anesthesia. Integration of pharmacological concepts and interventions in safe, culturally competent, and interdisciplinary anesthesia practice are emphasized.

NUR619 ADVANCED CONCEPTS OF ANESTHESIA NURSING I
14.00 credits  Summer
In-depth knowledge and skills of anesthesia nursing care for a variety of common problems and conditions across anesthesia specializations. Concepts include assessment, techniques, planning and pharmacologic interventions for specialty surgical procedures in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

NUR620 Advanced Concepts of Anesthesia Nursing II
14.00 credits  Fall
In-depth knowledge and skills of highly specialized problems and conditions requiring anesthesia or surgical interventions. Concepts include assessment, techniques, planning and pharmacologic interventions for regional anesthesia, pain management, care of obstetrical patients and patients with catastrophic conditions in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

NUR621 Diagnostics and Nursing Interventions for Acute Care Nursing
2.00 credits  Fall
Selected diagnostic tests and intervention techniques essential to acute care nursing. Critical thinking and decision making related to interdisciplinary assessment of acute care patients. Cultural issues related to diagnostics and intervention.
NUR622 Acute Care Nursing of Adults I
0.00 - 4.00 credits
Summer
The first of two sequential clinical practicums designed for the development of scientific knowledge and advanced practice skills in the area of acute care nursing. Involves synthesis of concepts, knowledge and skills gained in previous courses applied to the care of the acutely ill patient. Focuses on the advanced practice of acute care nursing via the nurse practitioner/clinical nurse specialist.

NUR623 Primary Healthcare of Infants and Children
1.00 - 3.00 credits
Spring
Theoretical and clinical bases for advanced practice nursing management of infants and children. Emphasis is placed on strategies for health maintenance and prevention of health problems and management of alterations.

NUR624 Health Care of the Aging Adult
0.00 - 5.00 credits
Offered By Announcement Only
Development of the role of the advanced practice nurse in the health care management of the aging adult in settings ranging from primary care clinics to residential and rehabilitation including assisted living, long-term, and home care.

NUR625 ADULT GERONTOLOGY ACUTE CARE II
7.00 credits
Spring
Theoretical and clinical focus for the nurse practitioner as an advanced practice nurse in the health care management of adult populations in rehabilitative settings and residential facilities including assisted living, long term, and home care.
(2:6) Prerequisite or corequisite: NUR 601. PREREQUISITE: NUR 613 and 617.

NUR626 Advanced Concepts in Gynecological Health Care for Women
2.00 credits
Offered By Announcement Only
Theoretical and clinical bases for the provision of complex gynecological care of women. Emphasis is on strategies for promotion of transcultural health care needs and management of alterations according to the advanced practice roles.

NUR627 Primary Prenatal Healthcare of Women
1.00 - 2.00 credits
Spring
Theoretical and clinical bases for providing primary prenatal care of women. Emphasis is on management strategies for promotion of transcultural health care needs according to the advanced practice role.

NUR628 ADULT GERONTOLOGY I
4.00 credits
Fall
Theoretical and clinical bases for health care management of health alterations in the adult population. Emphasis on strategies for health maintenance and prevention of health problems, management of alterations, discharge planning and rehabilitation of individuals and aggregate population.

NUR630 Research Methods and Evidence-Based Practice
3.00 credits
Spring & Summer
Research process, research methods, and the analysis of data using quantitative and qualitative approaches. Focuses on understanding levels of evidence for implementing evidence-based practice and performance improvement in nursing practice and health care. Investigates research methods associated with health disparities, access to health care, and clinical outcomes.
NUR631 ADULT GERONTOLOGY II  
4.00 - 7.00 credits  
Spring  
Theoretical and clinical bases for health management of health alterations in the adult population. Emphasis on strategies for health maintenance and prevention of health problems, management of alterations, discharge planning and rehabilitation of individuals and aggregate population.

NUR634 Perinatal Health Care  
0.00 - 6.00 credits  
Offered By Announcement Only  
Continuation of the application of physiologic, psychosocial, and cultural concepts to perinatal health care management. Emphasis is placed on nurse-midwifery management of intrapartum, postpartum, and neonatal clients.

NUR638 ADULT GERONTOLOGY ACUTE CARE III  
6.00 credits  
Summer  
Theoretical, clinical, and research basis of advanced practice nursing in the care and management of adults in primary care setting. (2:15) PREREQUISITE: NUR 628.

NUR639 Acute Care Nursing of Adults II  
0.00 - 7.00 credits  
Fall  
The second of two clinical practicums designed to guide the development of scientific knowledge and advanced practice skills in the area of acute care nursing. Designed to assist the student to assume the role of the Acute Care Nurse Practitioner/Clinical Nurse Specialist.

NUR640 Teaching and Learning Theory in Clinical Nursing Education  
3.00 credits  
Offered By Announcement Only  
This course covers principles and practices of teaching and learning integral to clinical nursing education and identifies the role of the faculty in teaching students with diverse learning styles and needs within a variety of clinical settings.

NUR641 Methods for Clinical Nursing Education  
3.00 credits  
Offered By Announcement Only  
The focus of this course is the organization and management of instruction for clinical nursing education. Emphasis is placed on effective strategies for the development of learning opportunities in diverse clinical settings.

NUR642 Evaluation in Clinical Nursing Education  
3.00 credits  
Offered By Announcement Only  
The course explores principles and practices of evaluation integral to clinical nursing education.

NUR643 Practicum in Nursing Education  
5.00 credits  
Offered By Announcement Only  
The primary focus of this course is to provide opportunities to apply concepts and principles from the previous 3 courses of the Certificate in Nursing Education program. The course provides opportunity for laboratory, clinical, and online application of principles of teaching and learning. The course combines 42 hours didactic contact hours with 112 online practicum hours.
NUR644 Leadership and Professional Development Strategies for Nursing  
4.00 credits  Offered By Announcement Only
In this course, students will be exposed to the principles of organizational culture, dynamics, mission, vision, values, and goals as it impacts nursing. Additionally, they will learn current theories of change management and resource management for nursing practice. They will explore change agent roles in project management and processes.

NUR645 Interdisciplinary Anesthesia Nursing  
14.00 credits  Spring
Initial integration and synthesis course of advanced knowledge and skills for interdisciplinary anesthesia nursing care. Selected topics and clinical case studies include collaborative-decision-making, effective communication, planning and evaluation for patients with complex problems and conditions across the lifespan. With continual guidance, students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

NUR646 Interdisciplinary Anesthesia Nursing II  
14.00 credits  Summer
Second integration and synthesis course of advanced knowledge and skills for interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. With moderate guidance students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

NUR647 Advanced Practice Nursing Integration  
7.00 credits  Summer
Integration of the components of the Advanced Practice Nursing role to analyze advanced practice issues.

NUR648 Internship  
0.00 - 7.00 credits  Fall
Integration and role synthesis of Advanced knowledge and skills in nurse midwifery care for women and infants within diverse cultural clinical settings. Selected topics include practice management and clinical case studies to include diagnosis, collaborative practice, planning and evaluations of care for normal and complex conditions for the female adolescent, reproductive age woman and infant, the mature women and their families.

NUR650 Interdisciplinary Anesthesia Nursing III  
14.00 credits  Fall
Third and final integration and synthesis course of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. With minimal guidance students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

NUR652 INTRODUCTION TO CLINICAL INQUIRY I  
3.00 credits  Summer
Combines clinical knowledge and hands-on clinical experience in an area of the student’s potential research interest. Students will practice under the supervision of an advanced practice nurse in the specialty area. Students are expected to begin the process of identifying clinical research problems.
NUR653 Introduction to Clinical Inquiry II
6.00 credits  
Summer
Combines clinical knowledge and hands-on clinical experience in an area of the student's potential research interest. Students will practice under the supervision of an advanced practice nurse in a specialty area. There will be a focus on health care delivery systems. Students are expected to translate clinical problems into researchable questions.

NUR654 The Evolution of Nursing Practice and Applications of Theory in Nursing Practice
3.00 credits  
Spring
This course is an overview of the conceptual foundations of nursing science and nursing practice. Knowledge from basic and applied sciences and ethics as well as the history of the global evolution of nursing practice are examined.

NUR655 HEALTH CARE MANAGEMENT, ECONOMICS, FINANCING, AND ETHICS
3.00 credits  
Fall
This course is an overview of health care management, financing, ethics and core and advanced concepts of health care economics. This course will also examine issues associated with health care management, economics, and ethics.

NUR656 INTERNATIONAL HEALTH
2.00 credits  
Fall
This course covers diverse topics that affect the health of the population and advanced practice nursing internationally.

NUR657 POPULATION BASED HEALTH AND HEALTH CARE HEALTH DISPARITIES
3.00 credits  
Summer
This course is an overview of knowledge from nursing, public health and other disciplines for population based assessment. The importance of cultural and ethical dimensions in program development is included.

NUR658 Structure and Processes in Health Care Organization and Health Care Policy
3.00 credits  
Spring
An exploration of health care organizations and healthcare policy, and how change is effected in both. Health care policy and planning to address health care disparities at the local, state, and federal levels will be explored. Organizational diagnosis, organizational change, and ethical dimension of public policy formulations and implementation will be highlighted.

NUR659 TECHNOLOGY IN HEALTH CARE
3.00 credits  
Fall
An exploration of the various aspects of the evolving technology to improve and transform health care and advanced practice nursing. This course prepares DNP nursing students to design, select and use technology to support, manage, and improve patient care and health care systems.

NUR660 Translational Science
3.00 credits  
Fall, Spring & Summer
Emphasis is on translational science which includes organizational readiness and promoting change in health care environment. Focus is on utilizing systematic analysis to identify, plan, execute and appraise best evidence on selected topics.
NUR661 NURSING THEORY AND PRACTICE IN ADVANCED NURSE ANESTHESIA
4.00 credits  
Summer

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

NUR662 Nursing Epistemology
4.00 credits  
Fall

Focus on historical and philosophical perspectives in the development of knowledge and patterns of knowing with in-depth examination of the evolution of nursing science. Analysis of concepts relevant to nursing phenomena. Approaches to scientific development in nursing with emphasis on theory building and theory generation.

NUR663 Research I: Evaluating the Evidence for Practice
3.00 credits  
Spring

This course is an analysis of evidence-based nursing practice. During the course, students acquire the knowledge base to resolve clinical practice problems and direct evidence-based practice.

NUR665 Quantitative Research Methods
3.00 credits  
Fall

In-depth exploration of research methods and design for quantitative research in nursing. Emphasis on development of a research problem; quantitative research design from descriptive to randomized clinical trials; epidemiologic designs; threats to validity; sampling and power analysis; measurement including psychometric theory, data collection and management; and interpretation of data. Other topics include ethics, human subjects' protection, and translation of finding into practice.

NUR667 Research Practicum
1.00 credit  
Fall

Student participates in an ongoing research project under the guidance of a faculty member. Conducts the practical aspects of research including: IRB application/continuing reports, data collection and management.

NUR668 RESEARCH METHODS 1
3.00 credits  
Summer

NUR669 RESEARCH II TRANSLATIONAL SCIENCE & EVIDENCE BASED PRACTICE
3.00 credits  
Fall

NUR670 Qualitative Methods in Research
3.00 credits  
Spring

Exploration of inductive approaches to research and the use of qualitative methods including phenomenology, ethnography, and grounded theory. The techniques include focus groups, unstructured and structured interviews, and ethnoscience. Discussion of techniques, analysis, and the ethical and political implications of special problems in qualitative research is also included.
NUR671 Scientific and Theoretical Writing
3.00 credits
Introduction to the process of scientific writing including concept analysis and publication. Critique and respond to own and peers' writing. Challenges of making revisions. Synthesize relevant literature. Other topics include: impact factor, publication process, and techniques of writing.

NUR672 Capstone I
0.00 - 3.00 credits
The capstone project is required synthesizing initiative for students to apply theory, supported by evidence and expert knowledge of nursing practice, by completing a scholarly project of the student's or agency's choice. Students may design a practice change imitative under the direction of a faculty member and preceptor.

NUR673 Capstone II
0.00 - 3.00 credits
The capstone project is required synthesizing initiative for students to apply theory, supported by evidence and expert knowledge of nursing practice, by completing a scholarly project of the student's or agency's choice. Students may design a practice change imitative under the direction of a faculty member and preceptor.

NUR675 Field Project in Qualitative Research
0.00 - 4.00 credits
This course contains individually precepted learning experiences across the spectrum of nursing in a variety of settings. Students develop expertise within the scope of their nursing practice.

NUR676 Practice Immersion Experience
0.00 - 4.00 credits
This course contains individually precepted learning experiences across the spectrum of advanced practice nursing in a variety of settings. Students will have either clinically focused, education focused or administration focused role immersion experiences. (1:5)

NUR677 Applied Statistics: Analysis of Variance
3.00 credits
Overview of analysis of variance (ANOVA) for categorical predictors and continuous outcomes including one-way ANOVA, two-way ANOVA, and ANCOVA. Computer applications doing real data and standard statistical software packages.

NUR678 Applied Statistics: Multiple Regression
3.00 credits
Overview of multiple regression analysis for continuous, categorical, and moderator/mediation variables and interactions. Computer applications using real data and standard statistical software packages.

3.00 credits
Overview of structural equation modeling (SEM) and hierarchical linear modeling (HLM) for continuous, categorical, longitudinal, and nested data. Computer applications using real data and statistical software packages (Exel, SPSS, Mplus).
NUR680 Research Ethics
0.00 credit Fall

NUR681 MEASUREMENT OF NURSING PHENOMENA
3.00 credits Fall
Development of instruments to measure a phenomenon of concern within the domain of nursing.

NUR682 Advanced Practice Psychopharmacology
2.00 credits Spring
Review of common psychoactive medications, classes, uses, effects, side effects, and prescriptive implications.

NUR683 Theoretical Bases for Advanced Practice Psychiatric Mental Health Nursing
2.00 credits Spring
Review of theories and practice of individual, group and, family therapy; role of advanced practice mental health nursing, ethics, research, legislative practice.

NUR684 Advanced Practice Psychiatric Mental Health Nursing Therapeutic Interventions
1.00 - 5.00 credits Spring
Assessment and treatment of persons with major psychiatric disorders.

NUR688 HEALTH SYSTEMS DEVELOPMENT AND LEADERSHIP PRACTICE
4.00 - 12.00 credits Summer

NUR690 Independent Study
1.00 - 6.00 credits Fall, Spring
A in depth study of a specified area in advanced nursing of special interest to the student, under faculty guidance.

NUR691 CAPSTONE I NURSE ANESTHESIA
3.00 credits Spring

NUR692 CAPSTONE II NURSE ANESTHESIA
3.00 credits Summer

NUR693 CAPSTONE III
3.00 credits Fall

NUR694 CLINICAL PRATICUM FOR DNP NURSE ANESTHESIA
11.00 credits Fall & Summer

NUR697 Selected Topics
0.00 - 12.00 credits Offered By Announcement Only
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing topics will be shown in class schedule in parentheses after selected topic notation.
NUR 698 Selected Topics
0.00 - 6.00 credits
Fall, Spring & Summer
Subject matter offerings based upon student demand and availability of faculty. Subtitles describing topics will be shown in class schedule in parentheses after selected topic notation.

NUR 699 Special Topics in Nursing Research
1.00 - 3.00 credits
Fall, Spring
Directed or independent research in collaboration with a faculty member providing opportunity for participation in ongoing nursing research. Specific requirements and credit allocation determined by contractual arrangement between student and faculty member.

NUR 730 Doctoral Dissertation
1.00 - 12.00 credits
Fall, Spring
Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12 credits. Not more than 12 hours of NUR 730 may be taken in a regular semester, nor more than six in a summer session. A student who has passed (a) qualifying examinations, and (b) is engaged in an assistantship, may still take the maximum allowable credit stated above.

NUR 750 Research in Residence
0.00 credit
Fall, Spring
Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
SAP501 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP502 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

SAP503 Study Abroad  
1.00 - 18.00 credits  
Fall, Spring

Czech Republic - Charles University (Grad Level)

SAP572 Study Abroad  
1.00 - 12.00 credits  
Offered By Announcement Only

SAP582 Study Abroad  
1.00 - 12.00 credits  
Fall, Spring
Holding course for those students participating in the Graduate School UM/FIU Exchange Program.

SAP600 Study Abroad  
1.00 - 6.00 credits  
Fall, Spring & Summer
Holding course for those students participating in the FIU UM Exchange Program.

SAP601 Study Abroad  
0.00 - 18.00 credits  
Fall, Spring & Summer

SAP699 Study Abroad  
1.00 - 12.00 credits  
Fall, Spring
In some departments it is possible to earn graduate credits for study taken abroad. Curriculum must be worked out by the student in conjunction with an advisor.

SAP701 UM-FIU Consortium  
1.00 - 6.00 credits  
Fall

SAP702 UM-FIU Consortium  
1.00 - 6.00 credits  
Spring

SAP703 UM-FIU Consortium  
1.00 - 6.00 credits  
Summer
UMI605 UNIVERSITY OF MIAMI INTERNSHIP
0.00 - 1.00 credit Fall, Spring & Summer
A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

UMI610 UNIVERSITY OF MIAMI INTERNSHIP
0.00 - 1.00 credit Fall, Spring & Summer
A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.
ESS645 Special Sport Populations

3.00 credits

This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, how nutrition affects the condition, and the most recent therapeutic treatments prescribed for the condition. PREREQUISITE: ESS 521.
CTI601 INTRODUCTION TO CLINICAL AND TRANSLATIONAL RESEARCH
2.00 credits Fall
This introductory core course will be taught by the PI and Co-PI, as well as various guest lecturers. It will include special topics in translational science including: ethics in translational science, communication of science, introduction to bioinformatics, research with underserved/under-represented populations, regulatory considerations, grant writing, and other pertinent subjects. Students will be required to attend each weekly seminar and read the corresponding journal excerpts. Students are required to attend the weekly discussion sessions led by the PI and Co-PI in order to solidify concepts and translational themes.