ARCHITECTURE

http://www.arc.miami.edu

Introduction
The School of Architecture at the University of Miami offers a Master of Architecture degree, as well as Master degrees in Science in Architecture (Architectural Design and Architectural Studies), Urban Design and Real Estate Development + Urbanism, dual degrees, second Master's degrees and certificates.

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.

Accreditation
In the United States, most 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 professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

The University of Miami School of Architecture offers the following NAAB-accredited degree programs:

- Bachelor of Architecture (171 undergraduate credits)
- Master of Architecture (3-year Track – 105 graduate credits)
- Master of Architecture (2-year Track – 60 graduate credits)

The next accreditation visit for all programs: 2017-2018.

Admission Requirements
To ensure an orderly design studio sequence we accept applications for Fall semester only. Entry in other semesters may result in a delay of design studio attendance which affects the timely completion of the program. 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's Degree program are:

1. 3.0 cumulative grade point average (GPA)
2. 300 cumulative Graduate Record Examination score on verbal and quantitative sections (GRE)
3. International applicants and/or those whose native language is not English the TOEFL should have been taken within 2 years prior to application for admission; a minimum score of 550 (paper-based), 80 (internet-based) is required. Visit the TOEFL website, www.toefl.org (http://www.ets.org/portal/site/ets/menuitem.fab2360b1645a1de9b3a0779f1751509/?vgnextoid=69c0197a484f4010VgnVCM10000022f95190RCRD), for more information.

For additional admission requirements please visit the website of the School of Architecture at www.arc.miami.edu for more information.

Resources
The school’s resources, including an architecture library, state-of-the-art computer lab, digital fabrication laboratories, model shop and Design Build Lab are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. The distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

Other academic opportunities for graduate architecture students include dual degrees, second Master’s degrees and certificates such as:

Dual Degrees
- Bachelor of Science in Architectural Engineering (B.S.A.E)/Master of Architecture (M.ARCH)
- Bachelor of Architecture (B.Arch)/Master of Business Administration (M.B.A)

Second Master’s degrees
- Master of Architecture (M.ARCH) - 3 year and 2 year advanced or Master of Science in Architecture (M.Sc.Arch)/Master of Real Estate Development + Urbanism or Master of Urban Design
- Master of Urban Design (M.U.D)/Master of Real Estate Development + Urbanism (MRED+U)

Certificates
- Historic Preservation Certificate
- Classical Architecture Certificate

Master of Architecture
The Master of Architecture (M.ARCH) program consists of the following two tracks:

Master of Architecture - 3 years
A 3 year program for students with non-architecture degrees (completion of 105 credits is required).

Master of Architecture - 2 years advanced standing
A 2 year program for students with non-professional degrees in architecture or closely related field (completion of 60 credits is required).

Master of Science in Architecture
The Master of Science in Architecture (M.Sc.Arch.) is a one year, three semester program (completion of 36 credits is required). The program offers a critical and professional environment to investigate design
strategies and design challenges in relation to the most pressing issues of the 21st century: resilient design, tropical and subtropical architectures, identity in a globalized world, health care design, housing design, conservation of the built environment and the effect of embedded technologies on design. The Master of Science in Architecture program is designed to provide a skills and knowledge base for professional application as well as future advanced doctoral study.

The School of Architecture offers two tracks: Track 1 - Architectural Design and Track 2 - Architectural Studies.

**Master of Urban Design**

The Master of Urban Design (M.U.D.) is a three semester program (completion of 36 credits is required), with the possibility of an optional fourth semester for a Masters’ Thesis (42 credits). This concentration consists of directed study to explore in-depth the existing state of suburbs and cities, study precedents and propose design solutions.

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**

The Master of Real Estate Development + Urbanism (M.R.E.D.+U) is an intensive one-year (Fall, Spring, Summer) graduate program for students with degrees and experience in business, architecture and related fields blending the fundamentals of real estate development (finance, law, market analysis, development process) with the School’s strengths in livable community design (completion of 36 credits is required).

**Awards and Scholarships**

All students admitted full time to the Master of Architecture program may be eligible for partial tuition based scholarship support. The School of Architecture provides merit-based tuition scholarships to graduate students. Applicants to the Graduate Programs will be considered each semester for a limited number of merit-based assistantships within the School. Assistantships are an honors award available to a limited number of students.

American Institute of Architects Henry Adams Medal is 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.

**Master’s Degrees in Architecture**

- Master of Architecture - 3 years and 2 years advanced standing (M.ARCH)
- Master of Real Estate Development + Urbanism (M.R.E.D.+U)
- Master of Science in Architecture - Architectural Design or Architectural Studies (M.Sc.Arch.)

- Master of Urban Design (M.U.D.)

ARC 601. Urban Design Studio I. 6 Credit Hours.
Introduction to urban principles, documentation, lexicon of urbanism, urban codes, and architectural guidelines (Studio Format - Rome Program).
Components: STU.
Grading: GRD.
Typically Offered: Fall.

ARC 602. Urban Design Studio II. 6 Credit Hours.
Studio projects focusing on urban retrofit and the repair of suburbia. Design topics may include typo-morphological studies, sustainable development, down-town redevelopment, neighborhood retrofit, urban agriculture, etc.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 603. Urban Design Studio III. 6 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

ARC 604. Architecture Design and Theory I. 6 Credit Hours.
Architectural design as a propositive and integrative discipline that translates to space and built environment the Social, Cultural, Human and Environmental aspirations of a Society. Design as a tangible tangible and physical human proposition to problems, understanding of precedents, sites and the built environment as a urban fabric to consider, Design concepts, human centered design, ordering systems, programming, materials, methods, structure, light, space, tectonics, environment.
Components: STU.
Grading: GRD.
Typically Offered: Fall.

ARC 605. Architecture Design and Theory II. 6 Credit Hours.
Technology component; materials, structure, light, space and environmental control systems as a framework for architectural design. Technique and technology differences. Design as a feasible tangible aim, construction materials and methods, structural systems, strategic concepts in mechanical and environmental control systems, architecture as space and light.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 606. Architectural Design and Theory III. 6 Credit Hours.
Advanced Design Studio based course addressing more complex and ambitious topics related with the built environment, the ability to prepare and solve a program through design, materials, technique, technology, social human centered aspects of architecture, structure, architecture as light and space, site and context and environmental issues.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.
ARC 607. Architecture Design and Theory IV. 6 Credit Hours.
Studio focusing on the ability to demonstrate skills associated with making integrated architectural design decisions across multiple systems. Students must display an ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.
Components: STU.
Grading: GRD.
Typically Offered: Fall.

ARC 608. Architecture Design. 3-6 Credit Hours.
Specialization component: student and faculty select areas of in-depth study in housing, resiliency, healthcare, urban design, housing and hospitality, historic preservation etc.
Components: STU.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 609. Architecture Design. 3-6 Credit Hours.
Specialization component: student and faculty select areas of in-depth study in housing, resiliency, healthcare, urban design, housing and hospitality, historic preservation etc.
Components: STU.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 610. Architecture Design Degree Project. 6 Credit Hours.
Design Thesis: An independent design research project on a topic selected and developed by the student. Design Thesis is an opportunity for each student in the Master of Architecture, Master of Science in Architecture or Master of Urban Design to define an individual position with regard to the discipline of Architecture.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 611. Visual Representation. 3 Credit Hours.
Issues covered in the course will deal with the illustration of ideas in architectural manner. Students are to use the skill of drawing and model-making, either by hand or on the computer, as their new language. Topics will include how to read, understand, and create design drawings, to draw from observations and analyze their subject matter, to be able to distinguish the relevance of a particular drawing and to structure how they present their information. Students will be instructed to properly craft their work in and outside of studio in an effort to see their work evolve and improve.
Components: STU.
Grading: GRD.
Typically Offered: Fall.

ARC 612. Advanced Visual Analysis. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 613. Advanced Visual Representation. 3 Credit Hours.
Students will learn to carefully evaluate space, color, depth, hierarchy, balance and scale in all architectural visual representation. The assignments will explore different media as it is used in the profession including but not limited to: diagrams, renderings, plans, elevations, sections, and axonometric. Through lectures and workshops, the course will provide a combination of both theoretical and practical lessons encompassing the fundamentals of architectural visual representation. The course will also include parallel lectures on typography, architectural graphic design, and verbal presentation. The lectures will be given by highly regarded industry professionals who will address the way that students can be aware of and understand typography, verbal presentation, and graphic design fundamentals as it relates to architecture. The class will consist of three parts. Part I introduces students to the fundamentalsof 3d modeling and drafting as part of a representation workflow. The exercise will include both urban and building scales. Part II concentrates on understanding and dissecting more complex geometries through advance use of digital parametric software such as Grasshopper. Part III focuses on visual representation based on a studio project with emphasis on graphic techniques for final presentations.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 614. Michelangelo. 3 Credit Hours.
Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo’s work.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 615. Advanced Visualization Techniques. 3 Credit Hours.
Beginning at the urban scale, students will engage with the concept of mapping and the graphical representation of an urban environment. This will be done through site analysis and investigation of existing conditions for the neighborhood of Miami Beach, FL. After the urban analysis, students will transition into the building scale and analyze a “Lifeguard House” in Miami Beach. Students will be asked to rethink and redesign the lifeguard house using Rhino 30. Each student will produce drawings including elevations, plans, sections, and exploded axonometric of their new design. Lastly, students will create a physical model using the laser cutter.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 616. Architectural Watercolor Renderings. 3 Credit Hours.
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).
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 617. Construction Documents. 3 Credit Hours.
Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.
ARC 618. Documentation of Historic Architecture. 3 Credit Hours.
Principles of preservation and restoration, research methods, measured drawings, surveying methods, case studies.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

ARC 619. Architecture and Color. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

ARC 620. Responsible Architecture. 3 Credit Hours.
A responsible architecture is one that takes into consideration aesthetics, ecology, sustainability, history, context (urban or otherwise), as well as the health, welfare, and joy of the people who occupy it. This course will address architecture from a distinctly humanist viewpoint, keeping in mind how man is inextricably connected to his environment, both architectural and natural. To focus on sustainability, typology, urbanism, or aesthetics alone would be to negate architecture’s interconnectedness. The creation of a responsible architecture requires this multi-layered approach.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 621. Urban Design History and Theory. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 622. Housing and Infrastructure. 3 Credit Hours.
Advanced survey of urban design theories in print and practice - emphasis on issues of modernity. (Seminar Format)
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 623. Urban Design and Development Charrette. 3 Credit Hours.
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)
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 624. Architecture Theory. 3 Credit Hours.
Review and criticism of current theoretical work in architecture. Design theory, language, typology, image, form, context.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 625. Roman Architecture and Urbanism I. 3 Credit Hours.
Historical overview of architecture and town planning in ancient Rome, from the Etruscan period through the Imperial period.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 626. Landscape Arch Design II. 3 Credit Hours.
Analysis and design of landscape spaces. Topics include ecological principles, landforms and plant materials.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 627. Architecture Photography. 3 Credit Hours.
Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 628. Historic Preservation. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 629. Research in Design-Methods and Procedures. 3 Credit Hours.
Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 630. Building Technology I: Materials and Methods. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 631. Building Technology II: Structural Systems. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 632. Building Structures I. 3 Credit Hours.
The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.
ARC 633. Building Structures II. 3 Credit Hours.
The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Summer.

ARC 634. The Palazzo in Italian Architecture. 3 Credit Hours.
Study of the development of the Renaissance and Baroque palazzo in Rome and other important centers of art and culture. Emphasis on the socio-political context.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 635. Historic Italian Urbanism. 3 Credit Hours.
Study of Italian cities and towns from medieval to contemporary times, including a comparative analysis of history and form.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 636. Italian Gardens. 3 Credit Hours.
Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 637. Research in Rome. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 638. Interior Architecture Design. 3 Credit Hours.
Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.
Components: LEC.
Grading: GRD.

ARC 639. Selected Topics in Interior Architecture Design. 3 Credit Hours.
Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 640. Tropical Architecture. 3 Credit Hours.
The course will comprise a discussion of tropical architecture and the theme of tropicalism. Course work will include research and documentation in drawings of selected case studies.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 641. Seminar on Town Design. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.

ARC 642. Seminar on Housing. 3 Credit Hours.
Introduction to domestic building typology; exploration of the concepts of low, medium, and high density housing with attention to social, environmental, and economic issues; presentations of current case studies.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 643. Seminar on Retrofit of Suburbia. 3 Credit Hours.
Introduction to the critical reconstitution of the city; theory and history of the concepts of revitalization and redevelopment; presentations, review, and criticism of current case studies.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 644. The Architecture of Palladio. 3 Credit Hours.
On site study of the architecture and urbanism of Andrea Palladio. Emphasis on the artistic precedents of the Veneto Region.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 645. Urban Composition. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 646. Studies of Havana. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 647. Architecture and Urban Identity. 3 Credit Hours.
Study of the relationship between architecture and urbanism focusing on the ways by which architecture provides urban identity and image of place. Case studies relating monuments, fabric and urban plans to their culture, time and place. Lecture and seminar format.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.
ARC 648. Seminar in Community Development. 3 Credit Hours.
Study of the contemporary context for the development of the physical environment. Examination of public, private and third sector implementation of building and community design. Format: guest speakers, readings, discussions, and seminar.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 649. Advanced Visual Analysis. 1-3 Credit Hours.
Survey of digital and analogue representation techniques for urban designers.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

ARC 650. Professional Lecture Series. 3 Credit Hours.
Real estate transactions and deal structuring from the development perspective. Using the case study method, the course explores the key components and the disciplines needed for successful real estate transactions and projects.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 651. Contemporary Theories of Architecture. 3 Credit Hours.
Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 652. Management of Professional Practice. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 653. Structural Design Theory. 3 Credit Hours.
Relationship of structural systems to architectural design. Case studies in theories of structure, form and construction.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 654. Architecture of South Florida. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 657. Design and Fabrication Techniques: Carved Panels. 3 Credit Hours.
Design, construction and detailing of wood as applied to furnishings and interiors. Focus: low and high relief carved wood panels. Workshop based course including research, exercises, measuring, documentation and a final project.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

ARC 658. Theories of Landscape Architecture. 3 Credit Hours.
Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 661. Building Technology I: Materials and Methods. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 662. Environmental Building Systems I. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

ARC 663. Environmental Building Systems II. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 664. Landscape Arch Design I. 3 Credit Hours.
Analysis and design of landscape spaces. Studies in historical precedence, gardens, parks, plazas, squares and response to architectural context.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 665. Computer Modeling. 3 Credit Hours.
Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 667. History of Architecture I. 3 Credit Hours.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.
ARC 668. History of Architecture II. 3 Credit Hours.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 669. Directed Readings. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 670. Modern Architecture. 3 Credit Hours.
History of architecture, landscape, and city design in the modern era.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 671. Ancient Architecture. 3 Credit Hours.
History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 672. Selected Topics in World Architecture. 3 Credit Hours.
History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, South Asia, China, Japan, Pre-Columbian America.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 673. Early Christian, Byzantine, and Medieval Architecture. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 674. Renaissance Architecture. 3 Credit Hours.
History of architecture and human settlements. Renaissance and Baroque architecture in Italy, France, Spain and Portugal, Great Britain, Austria, Germany, and neighboring countries.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 675. Colonial Architecture. 3 Credit Hours.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 676. 19th and 20th Century Architecture. 3 Credit Hours.
History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 677. The Architecture of Alvar Aalto. 3 Credit Hours.
An examination of the architecture of Alvar Aalto through the analysis of selected buildings.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

ARC 678. Italian Rationalist Architecture. 3 Credit Hours.
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, Germany, Soviet Union).
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

ARC 681. Special Problems. 1-3 Credit Hours.
Group or individual investigations of significant architectural issues, offered by special arrangement only.
Components: STU.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 682. Special Problems. 3-6 Credit Hours.
Group or individual investigations of significant architectural issues, offered by special arrangement only.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 683. Special Problems. 3 Credit Hours.
Group or individual investigations of significant architectural issues, offered by special arrangement only.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 684. Special Problems. 3 Credit Hours.
Group or individual investigations of significant architectural issues, offered by special arrangement only.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 685. Special Problems. 3 Credit Hours.
Group or individual investigations of significant architectural issues, offered by special arrangement only.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 686. Special Problems. 3 Credit Hours.
Group or individual investigations of significant architectural issues, offered by special arrangement only.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.
ARC 690. History of Cities. 3 Credit Hours.
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 settlement
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

ARC 693. Computer Animation. 3 Credit Hours.
Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 694. Geographic Information Systems in Urban Design. 3.00 Credit Hours.
Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 695. Interactive Multimedia in Design. 3 Credit Hours.
Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 696. Advanced Topics. 3 Credit Hours.
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".
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

ARC 699. Directed Research. 1-6 Credit Hours.
The course addresses the issues of design as research and pre-design. Students will develop research, write a thesis statement, select a site, prepare a site documentation and site analysis, and develop an architectural program for the thesis project, select pertinent case studies and diagram them. This work will be collected and presented as both a presentation and in book form. In addition, the course prepares students for an independent design project through thoughtful development of a thesis question, site and program. The preparation of the thesis question will require the development of basic research strategies and methods, and understanding of how to find an evaluate sources, the analysis and synthesis of information, the development of a research plan and a design method, and the written and oral presentation of these skills to an outside audience.
Components: RSC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 701. Masters Final Project. 6 Credit Hours.
Individually supervised projects. Required as a 6 credit course for all Master of Architecture in Computing students electing a final project.
Components: THI.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 720. Research in Residence. 1 Credit Hour.
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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

ARC 810. Master's Thesis. 1-6 Credit Hours.
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.
Components: LEC.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.