

# MUSIC MEDIA AND INDUSTRY (MMI)

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**Department code:** MMI

The Department of Music Media and Industry offers degree programs in the following areas:

- B.A. and B.M. in Music Industry
- B.M. in Modern Artist Development and Entrepreneurship with a Minor in Music Industry
- B.M. in Professional Studies
- B.S. in Music Engineering Technology with a Minor in Computer or Electrical Engineering
- B.M. in Media Scoring and Production

## Minors

- Creative American Music Minor (<http://bulletin.miami.edu/undergraduate-academic-programs/music/music-media-industry/creative-american-music-minor/>)
- Media Scoring and Production Minor (<http://bulletin.miami.edu/undergraduate-academic-programs/music/music-media-industry/media-writing-and-production-minor/>)
- Music Industry Minor (<http://bulletin.miami.edu/undergraduate-academic-programs/music/music-media-industry/music-business-and-entertainment-industries-minor/>)

### **MMI 101. Music Industry and Society. 3 Credit Hours.**

This course provides students with an overview of the business fundamentals of the Music Industry. Topics discussed include intellectual property, music publishing, recorded music, licensing, live entertainment, musical products, and marketing in the music industry. The students will also have the opportunity to see the entertainer's business side, understanding the role of managers, agents, business managers, and attorneys.

Requisite: Frost School of Music only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

### **MMI 102. Record Label/Song Marketing Practicum. 1 Credit Hour.**

The course focuses on practical techniques and procedures employed by record companies.

**Components:** PRA.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

### **MMI 103. Concert Marketing Practicum. 1 Credit Hour.**

This course teaches students, through hands-on practical experience, how to market a concert. Students work closely with Frost School of Music ensembles on marketing upcoming performances.

MIND majors only and MMI 173.

**Components:** PRA.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

### **MMI 107. Skills Lab I. 1 Credit Hour.**

A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

Co-Requisite: MMI 140 and Requisite: Frost School of Music ONLY.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall.

### **MMI 108. Skills Lab II. 1 Credit Hour.**

A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

### **MMI 13. Music Engineering Forum. 1 Credit Hour.**

A weekly forum for all undergraduate Music Engineering Technology. Presentations include faculty lectures, guest lectures by industry professionals, as well as dissemination of information pertaining to audio studios and laboratories.

Requisite: Plan of Music Engineering.

**Components:** FOR.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

**MMI 139. Small Contemporary Ensemble. 1 Credit Hour.**

A performing ensemble of student-generated contemporary musical repertoire.

**Components:** ENS.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 14. Music Industry Forum. 1 Credit Hour.**

A weekly forum for all undergraduate Music Industry majors 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.

Requisite: MBEI/MIND Majors.

**Components:** FOR.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

**MMI 140. Experiential Musicianship I. 3 Credit Hours.**

The first of a two-course sequence in music theory, with an overall focus on musicianship for the Contemporary Music student. The course emphasizes theoretical and analytical skills, as well as the connection between analysis and other musical experiences in listening and performance. The student will display a written understanding of the basic building blocks of music, through its more advanced constructions and functions.

Co-Requisite: MMI 107 and Requisite: Frost School of Music ONLY.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 141. Experiential Musicianship II. 3 Credit Hours.**

MMI 141 is the second in a two-course sequence in music theory and musicianship for the Contemporary Music Student. As with MMI 140, the course emphasizes analytical skills and the connections between analysis and other musical experiences in listening and performance.

Pre-requisite: MMI 140 And Co-requisite: MMI 108 must pass with 2.0.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 149. The American Music Ensemble. 2 Credit Hours.**

In this course, students will focus the majority of their efforts on learning original repertoire composed by the dedicated songwriters of the ensemble. In the spring semester all members of the ensemble will receive an opportunity to have their songs played by the ensemble and, perhaps, performed in one of the scheduled performances. Development of the student's musicianship will play the most essential role in the majority of meetings as well as learning how to effectively run rehearsals while building band chemistry and confidence. Additional performance opportunities may present themselves throughout the calendar year and will be discussed as soon as they are offered. The expected outcome is for members of AME to become the recording and performance leaders of the music industry. AME is a year-long ensemble. It is expected that students who are selected to AME will be able to attend all rehearsals and performances.

Requisite: Sophomores or Juniors or Seniors only.

**Components:** ENS.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 15. MADE Forum. 1 Credit Hour.**

The course provides a weekly forum for sharing information about issues, current developments, and other matters related to the contemporary music industry as a field of study and as a profession. The course is required for all undergraduate MADE majors during each semester.

Requisite: Must have a Plan of MADE.

**Components:** FOR.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

**MMI 160. Ensemble Recording Workshop I. 3 Credit Hours.**

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.

Requisite: Plan of MUE or MEC.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 161. Ensemble Recording Workshop II. 3 Credit Hours.**

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.

Prerequisite: MMI 160. Requisite: Plan of MUE or MEC.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 17. Media Scoring and Production Forum. 1 Credit Hour.**

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.

**Components:** FOR.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

**MMI 172. Audio Design Workshop III. 1 Credit Hour.**

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.

Requisite: Frost School of Music only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 173. Introduction to the Music Industry. 3 Credit Hours.**

This course provides students with an overview of the music industry and related entrepreneurial fundamentals. Music industry topics explored include copyright, publishing, the record business, licensing, the live music industry, and arts administration. Entrepreneurial topics explored include starting a business, accounting and marketing basics, and securing funding.

Requisite: MBEI Or MIND Major Or MBEI Or MIND Minors only and Sophomore Standing Or MINDN\_MN.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 207. Skills Lab III: American Song Traditions. 1 Credit Hour.**

A learning ensemble focusing on the various Anglo-American song traditions from English and Irish folk ballads, through Hymnodies, Old-Time, Bluegrass, Western Swing and Newgrass.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 208. Skills Lab IV: American Song Traditions. 1 Credit Hour.**

A learning ensemble focusing on the various African-American song traditions from early plantation songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 220. Introduction to Music Recording. 3 Credit Hours.**

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.

Requisite: Must have a plan of MUE or MEC or EAN.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 240. Experiential Musicianship III. 3 Credit Hours.**

The study of melodic, harmonic and rhythmic language in jazz and contemporary music using analysis and aural dictation. MMI 207 Skills Lab III, keyboard lab accompanies this course.

Corequisite: MMI 207 SKILLS LAB III.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 241. Experiential Musicianship IV. 3 Credit Hours.**

The continuation of MSJ 140/MMI 240 focused on the study of the diminished chord, extensions, modes and upper structure triads. A keyboard lab accompanies this course.

Corequisite: MMI 208 SKILLS LAB IV.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 250. Essential Technologies for Musicians. 3 Credit Hours.**

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.

Requisite: Frost School of Music only.

**Components:** DIL.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 251. Electronic Production Technologies. 3 Credit Hours.**

Introduction to MIDI technology and computer based tools for music production.

Prerequisite: MMI 201 or MMI 220 or MMI 520.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 259. Digital Audio and MIDI Production. 3 Credit Hours.**

Weekly lab focused on Pro Tools proficiency and the intricacies of audio technology relating to a modern producer/film composer. Topics include Digital Audio definitions and uses, Pro Tools understanding, shortcuts, and proficiency, and MIDI.

Requisite: MADE\_BM or MSPD\_BM or MWPD\_BM majors only.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 260. Virtual Orchestration. 3 Credit Hours.**

Weekly lab focused on the creation of sample-based orchestral mock-ups. Particular emphasis is placed on technical considerations as they apply to MIDI programming, sample selection, and mixing.

Requisite: MADE\_BM or MSPD\_BM or MWPD\_BM majors only.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 261. Media Scoring I: Music for Media. 3 Credit Hours.**

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

Prerequisite: MMI 282 (or MTC 204).

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 262. Media Scoring II: Video Game Scoring. 3 Credit Hours.**

Project based seminar/workshop designed to provide students the opportunity to gain the skills, knowledge and experience necessary to produce a variety of musical works for use in video games. Students will also be instructed in the concepts and subtleties of using a DAW (Digital Audio Workstation) specifically designed for video games.

Prerequisite: MMI 282 (or MTC 204).

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 274. Introduction to Music Copyright Law. 3 Credit Hours.**

This course provides a study of the current U.S. copyright law as it applies to musical compositions and sound recordings. This course includes analysis of the modern practices of music licensing for both digital and physical uses as well as copyright acquisition. Students will study the various rights of the copyright owner, what can be protected by copyright, and the duration of copyright. They will learn the formalities of music copyright including registration and notice. Current music copyright infringement cases are reviewed along with defenses to infringement and remedies for infringement. The course also covers international copyright protection and music copyright as it applies to digital technologies and distribution.

Prerequisite: MMI 173 or MMI 310 And Requisite: MBEI Or MIND Major Or MBEI Or MIND Minors only And Sophomore Standing.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 280. Synthestration. 3 Credit Hours.**

Weekly lab focused on Sound Design/synthesis as it applies to the modern producer. Topics include different synthesis techniques, different waves, modulation controls, signal flow as it applies to modular synthesis, hardware synths vs "softsynths," and FX processing common to synth instruments.

Requisite: MADE\_BM or MSPD\_BM or MWPD\_BM majors only.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 281. Production I: Recording and Production Techniques. 3 Credit Hours.**

Project based seminar/workshop designed to provide students the opportunity to gain the skills and knowledge to properly record acoustic audio into a DAW (Digital Audio Workstation). Particular emphasis will be placed on the proper use and implementation of microphones, microphone cables, direct boxes, microphone pre-amplifiers and consoles. In addition, students will be versed in the basics of acoustics, signal flow and basic mixing techniques within a DAW.

Pre/Corequisite: MMI 141 Or MTC 141 OR MSJ 141.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 282. Production II: Audio Processing and Critical Listening. 3 Credit Hours.**

Project-based practicum course designed to provide students the opportunity to explore, discover and articulate the elements needed to successfully model and emulate music of any genre by examining popular music of selected decades. Particular emphasis is placed on critical listening, the understanding of signal flow and processing, and the skills required to properly apply each of these concepts in order to enhance the commercial viability of their final projects.

Prerequisite: MMI 281 (or MTC 203) Or MADE\_BM Seniors only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 307. Skills Lab V: American Pop. 1 Credit Hour.**

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.

**Components:** ENS.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 308. Skills Lab VI: American Pop. 1 Credit Hour.**

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.

**Components:** ENS.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 310. Music Business and Entrepreneurship for Musicians. 3 Credit Hours.**

This course provides students with an overview of the music business and related entrepreneurial fundamentals. Music business topics explored include copyright, publishing, the record business, licensing, the live music industry, and arts administration. Entrepreneurial topics explored include starting a business, accounting and marketing basics, and securing funding.

Requisite: Frost School of Music and Prerequisite: MMI 141 or MSJ 141 or MTC 141.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 315. Contemporary Songwriting I. 3 Credit Hours.**

Explores modern songwriting techniques, song lyric theory, song form, melodic development, pop harmony and rhythm & grooves. Students will analyze a variety of recordings by top modern songwriters. Students will compose and record a number of original songs for the course.

Requisite: Frost School of Music only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 320. Contemporary Lyric Writing. 3 Credit Hours.**

This course explores modern lyric writing techniques, song lyric theory, and song form. Students will analyze a variety of lyrics by top modern songwriters, focusing on their use of literary devices, imagery and metaphors. Students will compose a number of original lyrics for the course.

Requisite: Frost School of Music only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 361. Acoustics. 3 Credit Hours.**

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.

MUE & MEC only and MTH 108 or above.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 363. Media Scoring III: Film Scoring Foundations. 3 Credit Hours.**

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.

Prerequisite: MMI 262.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 364. Media Scoring IV: Film Scoring Extensions. 3 Credit Hours.**

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.

Prerequisite: MMI 363 (or MTC 511).

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 378. Music Industry Agreements. 3 Credit Hours.**

This course explores the legal agreements between different parties in the music business, such as record companies, recording artists, music producers, and licensees. Emphasis is placed on the different ways of contractually addressing intellectual property ownership and usage, compensation, and exclusive services.

Prerequisite: (MIND\_BM or MBEI\_BM or MBEI\_MU\_A or MIND\_MU\_A or MIND\_MN or MINDN\_MN or MBEL\_MN) and (MMI 173 or MMI 310) and (MMI 274).

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 383. Production III: Audio Editing. 3 Credit Hours.**

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.

Prerequisite: MMI 282.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 384. Production IV : Mixing and Mastering. 3 Credit Hours.**

Weekly lab focused on mixing and mastering music for commercial release. Topics include psychoacoustics, a variety of audio effects and their uses in a mix, how rooms and equipment affect your ability to listen critically, and loudness requirements for commercial releases. Students will be mixing 1 song a week, with increased level of difficulty as new subjects are introduced.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 401. Audio Electronics. 3 Credit Hours.**

An introductory course in audio electronics theory and professional audio applications such as recording studio equipment and audio effects design. Coursework 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. Requisite: Frost School of Music only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 404. Live Performance Musical Direction. 3 Credit Hours.**

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.

Senior level/ MADE\_BM majors only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 410. Music Engineering Capstone Project. 3 Credit Hours.**

Students in MMI 410 propose and execute a project that represents the Culmination of their learning experiences in the Music Engineering Program. Students meet as a group with a faculty member of record each week to Discuss project topics and assess progress. The course concludes with a public Presentation of the final project.

**Components:** THI.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 420. Music Industry Capstone Project. 3 Credit Hours.**

Students will apply the knowledge and skills acquired in their courses to develop a Business Plan for a Music Business venture. Students will identify a segment of the industry, analyze aspects associated with a SWOT analysis, income, cost, expenses, and develop a marketing plan for the venture. The course will provide students an inside view of the business operations while enhancing their conceptual understanding of the structures and interrelationships of the diverse music ventures in the music business ecosystem.

Requisite: Senior Status And MBEI or MIND Majors only.

**Components:** THI.

**Grading:** SUS.

**Typically Offered:** Spring.

**MMI 425. Event Operations Practicum. 1 Credit Hour.**

Practical experience in concert and event management including, to varying degrees, concert hall operations, audience management, stage management, lighting operations, box office operations, and printed program preparation and distribution, in the context of Frost School of Music concerts and events, under the supervision of professional staff.

**Components:** PRA.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

**MMI 436. Audio for Visual and Interactive Media. 3 Credit Hours.**

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.

Prerequisite: MMI 201 or MMI 220.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 445. Senior Project/Portfolio. 1 Credit Hour.**

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.

Requisite: MWP Or MSP Or MADE majors And Senior Status or CAM minors only.

**Components:** THI.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 455. Music Industry Internship. 3 Credit Hours.**

Practical experience in different areas of the music industry under the supervision of professional firms and the university.

Requisite: MBEL/MIND Majors.

**Components:** PRA.

**Grading:** CNC.

**Typically Offered:** Fall, Spring, & Summer.

**MMI 460. Recital Recording and Sound Reinforcement (Recording Services). 1 Credit Hour.**

Practical experience in live concert recording, editing and mastering, and sound reinforcement, under supervision of professional on-campus engineers.

Requisite: MUEE\_BS Plan Code Only. Permission of Instructor for other Plan Codes.

**Components:** PRA.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 465. Internship in Music Engineering. 1-3 Credit Hours.**

Practical experience in the music engineering industry such as work in a recording studio, broadcast company, hardware or software manufacturer, under professional supervision.

Requisite: Plan of MUE or MEC.

**Components:** PRA.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 493. Special Projects in Music Media and Industry. 1-3 Credit Hours.**

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music only.

**Components:** IND.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**MMI 494. Special Topics in Music Media and Industry. 1-3 Credit Hours.**

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

**Components:** SEM.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**MMI 501. Transducer Theory. 3 Credit Hours.**

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.

Requisite: MUE And EAN And Prerequisite: PHY 221 And ECE 201.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 502. Digital Audio Theory. 3 Credit Hours.**

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.

Requisite: MUE and EAN majors only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 503. Audio Software Development I. 3 Credit Hours.**

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.

Prerequisite: MMI 502. Requisite: Plan of MUE and EAN.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.



**MMI 504. Audio Software Development II. 3 Credit Hours.**

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.

Prerequisite: MMI 502 or ECE 436.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**MMI 505. Current Trends in Music Engineering I. 3 Credit Hours.**

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.

Prerequisite: MMI 504. Requisite: Plan of MAU and EAN.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**MMI 506. Current Trends in Music Engineering II. 3 Credit Hours.**

MMI 506 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 508. Current Trends in Music Engineering III. 3 Credit Hours.**

MMI 508 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**MMI 510. Computational Psychoacoustics. 3 Credit Hours.**

This course deals with the fundamentals of audition in human biological systems, including auditory sensory transduction, cochlear processes, neural pathways, cortical organization, and auditory illusions, with specific applications to perceptual data reduction techniques and auditory displays.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**MMI 511. Current Trends in Music Engineering IV. 3 Credit Hours.**

MMI 511 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Prerequisite: ECE 118.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 520. Audio Technology for Musicians. 3 Credit Hours.**

Introduction and overview of audio technology with emphasis on music recording, production equipment, and techniques. Topics include microphones, loudspeakers, mixing consoles, interconnection, amplifiers, digital processing, time code, and surround sound. Open to non-MUE majors.

Requisite: Frost School of Music only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 521. Timbral Ear Training. 3 Credit Hours.**

Students in this course will accomplish four primary goals: 1) instantaneous discernment of ISO frequency regions and critical bands; 2) aural identification of audio-processing techniques, artifacts, and problems; 3) development of critical thinking skills and competence in current audio listening test methodologies; and 4) successful completion of a comprehensive bank of critical listening "golden ears" tests

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**MMI 530. Entrepreneurship for Musicians. 3 Credit Hours.**

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.

Requisite: Frost School of Music only.

**Components:** DIL.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 531. Recording Engineering Seminar. 3 Credit Hours.**

Students in MMI 531 will accomplish three primary goals: 1) understanding historical trends in the audio recording industry, particularly those involving key technological advances; 2) understanding and appreciating recent advances in sound recording technologies and methods; and 3) development of critical thinking, research, writing, and presentation skills.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**MMI 532. Arts Leadership. 3 Credit Hours.**

Course explores critical concepts of leadership, decision-making, and teamwork in wide-ranging arts presentation settings. Through experiential learning, students practice and acquire the knowledge and skills vital for effective navigation through the dynamic arts industry.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 537. Recorded Music Operations. 3 Credit Hours.**

This course provides a study of the activities involved in commercially exploiting recorded music. The course 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.

Prerequisite: MMI 173 or MMI 310, and MMI 274. Requisite: Plan of MIND OR MBEI Major or Minor.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**MMI 543. Marketing in the Music Industry. 3 Credit Hours.**

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.

Requisite: MBEI/MIND or MADE Majors.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 545. Music Placement and Exploitation. 3 Credit Hours.**

This course provides an in-depth study of the creative and business aspects involved with the discovery, placement and exploitation of music in the current entertainment business. Students explore the processes of how music is placed in television, film, commercials, video games, with new media and recording artists. This course covers the roles of the various players in the music placement business and studies creative approaches, negotiation techniques and licensing practices. The DIY music creator, both the songwriter and recording artist, and their music representative will learn how to prepare, package, present, place and exploit their music as well as how to build a fan base. Students will learn how to locate resources for licensable music, offer creative options, select and license appropriate music, combine music with a variety of media, negotiate with a variety of rights holders, and generate license requests, agreements, and cue sheets.

Prerequisite: MMI 173 or MMI 310 and MMI 274 and MMI 573 or Requisite: MBEI or MBEC or MADE Majors.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 555. Music Industry Internship Full-Time. 12 Credit Hours.**

Practical experience in different areas of the music industry under supervision of professional firms and the university.

Requisite: Senior Status and MBEI or MIND Majors only.

**Components:** PRA.

**Grading:** CNC.

**Typically Offered:** Fall & Spring.

**MMI 573. Music Publishing. 3 Credit Hours.**

This course provides an in-depth study of the creative and business aspects, concepts and practices of the music publishing industry. The course covers the acquisition, exploitation, administration and protection of songs in the contemporary music publishing business. Students will also study the income sources, royalty rates and payment procedures currently used in the music industry as they apply to musical compositions. Music publishing agreements currently used for the acquisition and administration of songs are reviewed in-depth. Foreign music publishing issues are explored and reviewed as related to domestic music publishing.

Prerequisite: MMI 173 or MMI 310, and MMI 274. Requisite: Plan of MIND OR MBEI Major or Minor.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI 580. Advanced Analysis of Current Topics in the Music Industry. 3 Credit Hours.**

This course provides students with in-depth study of advanced topics in the music business, including recent developments in the areas of music licensing, copyright, international markets, live music, artist development, data management, and others. Particular focus is placed on ways to meet the current challenges facing the industry.

Requisite: MBEI/MIND or MADE Majors.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**MMI 593. Special Projects in Music Media and Industry. 1-3 Credit Hours.**

Advanced individual instruction pertaining to faculty member's area expertise and student's area of interest. This course includes a culminating project.

Requisite: Frost School of Music only.

**Components:** IND.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**MMI 594. Special Topics in Music Media and Industry. 1-3 Credit Hours.**

Advanced group/classroom instruction pertaining to faculty to faculty member's expertise and students' areas of interest.

**Components:** SEM.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**MMI CB3. Contemporary Bass. 1-2 Credit Hours.**

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.

Prerequisite: MMI CBD.

**Components:** LSN.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI CX1. Contemporary Performance Instruction. 2 Credit Hours.**

1-Hour Lesson for students enrolled for 2 credits, ½ hour lesson for students enrolled for 1 credit. Applied instrument/ voice instruction in contemporary, popular music performance. Freshman/Sophomore level.

**Components:** LSN.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI CX3. Contemporary Performance Instruction. 2 Credit Hours.**

1-Hour Lesson for students enrolled for 2 credits, ½ hour lesson for students enrolled for 1 credit. Applied advanced instrument/ voice instruction in contemporary, popular music performance. Junior/Senior level.

**Components:** LSN.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**MMI CXS. Secondary Contemporary Performance Instruction. 1 Credit Hour.**

Secondary lessons. Additional lessons on an instrument that is not a principal instrument of the student. No juries or auditions needed. Taken in addition to the required 2 credit lessons. Does not count towards required lessons. Must be approved by private instructor.

Requisite: Frost School of Music only.

**Components:** LSN.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.