**COMPOSITION AND MUSIC TECHNOLOGY**

[Link to music.northwestern.edu] Composition students pursue a course of study that develops analytical and creative skills and enjoy several opportunities to hear their works performed. Students intending to major in composition may substitute composition class for applied studies during their first and second years.

Courses in music technology are offered primarily for music majors but are open to students from across the University as space permits.

**Programs of Study**
- Composition Major
- Composition Minor
- Music Technology Minor

**Music Composition Courses**
- **MUS_COMP 111-0 Class Composition (1 Unit)** Class instruction in techniques of composition. Open to non-music majors.
- **MUS_COMP 112-0 Applied Composition for Music Majors (1 Unit)** Original composition; individual instruction.
- **MUS_COMP 211-0 Class Composition (1 Unit)** Class instruction in techniques of composition. Open to music and non-music majors.
- **MUS_COMP 212-0 Applied Composition for Music Majors (1 Unit)** Original composition; individual instruction.
- **MUS_COMP 311-0 Class Composition (1 Unit)** Class instruction in techniques of composition. Open to non-music majors. Prerequisite: at least one quarter of MUS_COMP 111-0 or consent of instructor.
- **MUS_COMP 312-0 Applied Composition for Music Majors (1 Unit)** Original composition; individual instruction.
- **MUS_COMP 314-1 Instrumentation (1 Unit)** Instruments of the orchestra; scoring techniques; analysis of instrumental combinations. Prerequisite: MUSIC 211-3 or consent of instructor.
- **MUS_COMP 314-2 Orchestration (1 Unit)** Stylistic scoring projects; analysis of orchestral and chamber scores. Prerequisite: MUS_COMP 314-1 or consent of instructor.
- **MUS_COMP 314-3 Advanced Orchestration (1 Unit)** Contemporary scoring techniques; creative projects; analysis of orchestral and chamber scores. Prerequisite: MUS_COMP 314-2, graduate standing, or consent of instructor.
- **MUS_COMP 335-0 Selected Topics (1 Unit)** Topics vary; announced before registration. Writing projects; analysis of scores; contemporary stylistic techniques, performers, composers, and materials; in-class performances of original work. May be repeated for credit.
- **MUS_COMP 336-0 Contemporary Repertoire (1 Unit)**
- **MUS_COMP 337-0 Topics in Contemporary Repertoire (1 Unit)** Topics vary by quarter. Close study of specific recent compositional styles, which may include minimalism, complexity, music of the last decade, experimental music. Prerequisite: consent of instructor.
- **MUS_COMP 338-0 Composer Portraits (1 Unit)** Composers vary by quarter. Portrait studies of the work of a major composer or composers, e.g., Ferneyhough; Lutoslawski; Cage; Birtwistle and Maxwell Davies. Prerequisite: consent of instructor.
- **MUS_COMP 339-0 Compositional Concepts and Techniques (1 Unit)** Topics vary by quarter. Content, musical spaces, extended techniques, and spectralism. Prerequisite: consent of instructor.
- **MUS_COMP 340-0 Composition Workshop (1 Unit)** Topics vary by quarter. Examples include Composer/Performer, Composing for Percussion, Composing for Dance, Composing for Solo Instrument. Prerequisite: consent of instructor.
- **MUS_COMP 370-0 Junior Recital (0 Unit)**
- **MUS_COMP 380-0 Senior Recital (0 Unit)**
- **MUS_COMP 390-0 Composition Colloquium (0 Unit)** Discussion of contemporary compositional techniques.
- **MUS_COMP 399-0 Independent Study (0.5-1 Unit)**

**Music Technology Courses**
- **MUS_TECH 259-0 Introduction to Music Technology (1 Unit)** Survey of music software and hardware for the professional musician. Topics include music notation, sequencing and MIDI, audio recording and editing, synthesis, multimedia, and web publishing. Assignments include projects demonstrating the practical use of software tools.
- **MUS_TECH 300-0 Foundations of Music Tech for Music Majors (1 Unit)** Introduction of key concepts in acoustics, digital audio theory, production, and postproduction. Through projects and presentations, students will learn to record and edit their work, use notation software, communicate with recording engineers, and prepare and present work online.
- **MUS_TECH 321-0 Producing in the Virtual Studio (1 Unit)** Techniques for creating and producing music in the context of a computer-based audio production environment. Topics include MIDI, audio editing, plugins, effects processing, mastering, and basic surround mixing. Assignments include creative projects. Prerequisite: MUS_TECH 259-0 or equivalent experience and consent of instructor.
- **MUS_TECH 322-0 Recording Techniques (1 Unit)** Microphone and placement techniques including stereo and close/distant miking of voices, acoustic instruments, and ensembles. Console design, signal flow, and dynamics processing. Projects include recording assignments. Prerequisite: MUS_TECH 259-0 or equivalent experience and consent of instructor.
- **MUS_TECH 335-0 Selected Topics (1 Unit)** Topics vary; announced before registration. May be repeated with change of topic.
- **MUS_TECH 340-0 Composing With Computers (1 Unit)** Foundational techniques of composition using music and audio software. Techniques of algorithmic composition, sound processing. Analysis of electroacoustic music. Assignments include student compositions. Prerequisite: MUS_TECH 259-0 or equivalent experience.
MUS_TECH 342-1 Computer Sound Synthesis I (1 Unit)  Synthesis of musical sounds, including the characteristics of digital audio signals, wavetable synthesis, modulation, and sample-based synthesis.

MUS_TECH 342-2 Computer Sound Synthesis II (1 Unit)  Processing of audio signals, including digital filtering, reverberation, and effects processing; physical modeling synthesis. Assignments include sound synthesis programming. Prerequisite: MUS_TECH 259-0 or equivalent experience.

MUS_TECH 345-0 Technology-Based Performance (1 Unit)  Creation, rehearsal, and performance of technology-based music in a group setting. Topics include real-time interaction, technological performance interfaces, application of algorithmic methods. Prerequisite: consent of instructor.

MUS_TECH 350-0 Studio Techniques for Electroacoustic Music (1 Unit)  Advanced projects in electroacoustic composition, audio programming (Max/MSP), audio engineering, or electronic instrument design; includes a largescale project, typically developed from the student's previous music technology course work. Prerequisite: MUS_TECH 340-0, MUS_TECH 345-0, or equivalent experience.

MUS_TECH 355-1 History and Analysis of Electroacoustic Music (1 Unit)  Survey of electronic music repertoire from 1948 through the end of the analog era and the introduction of digital music. Examination of the aesthetic motivations and technical approaches that have shaped electroacoustic music throughout its history, focusing on the interaction between technical innovation and creativity.

MUS_TECH 355-2 History and Analysis of Electroacoustic Music (1 Unit)  Survey of electronic music repertoire from 1948 through the end of the analog era and the introduction of digital music. Examination of the aesthetic motivations and technical approaches that have shaped electroacoustic music throughout its history, focusing on the interaction between technical innovation and creativity.

MUS_TECH 385-0 Senior Project (1 Unit)  Independent project in music technology. Prerequisite: permission of department.

MUS_TECH 399-0 Independent Study (0.5-1 Unit)