

# NORTHWESTERN

Undergraduate Catalog 2009–10

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This catalog for the academic year beginning September 1, 2009, contains University regulations and information about the programs and courses offered by the Judd A. and Marjorie Weinberg College of Arts and Sciences, School of Communication, School of Education and Social Policy, Robert R. McCormick School of Engineering and Applied Science, Medill School of Journalism, and Henry and Leigh Bienen School of Music and about cross-school undergraduate programs. Failure to read this catalog does not excuse a student from knowing and complying with its content.

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## Henry and Leigh Bienen School of Music

[www.music.northwestern.edu](http://www.music.northwestern.edu)

One of the oldest degree-granting music institutions in the United States, Northwestern University's Henry and Leigh Bienen School of Music combines a nationally ranked music program of conservatory-level intensity with the academic rigor and scholarly resources found only at a world-class private research university. The Bienen School of Music is a professional school within the University; students accepted into the school are also accepted into the University. Entering freshmen rank on average in the top 10 percent of their high school class and show highest-level achievement in academics as well as music. The school believes that by carefully developing outstanding musicianship and keen intelligence, while nurturing a curiosity about the world, we can best encourage the emergence of each student's unique creative voice.

All students at the Bienen School of Music are expected to grow as artists and as people. They are encouraged to explore in depth other areas of interest, drawing on the vast resources of Northwestern's other schools, and to develop the critical thinking and communication skills necessary for a successful career in music.

Key to all degree programs is intensive one-on-one training with a celebrated faculty that includes members of the Chicago Symphony and Lyric Opera of Chicago Orchestras, internationally acclaimed soloists, sought-after conductors, and distinguished scholars and clinicians. Students work in small classes with these dedicated teachers and musicians in a curriculum that comprises music history and theory, aural and piano skills, instrumental and voice lessons, and electives. Special programs include a five-year double-degree curriculum — enabling students to earn a degree in music as well as one in engineering, journalism, or arts and sciences — and the ad hoc (self-designed) degree, an option offered by no other major music school. Additionally, the world-class music making and other cultural resources of downtown Chicago provide exceptional opportunities for learning outside the classroom.

Performing and research opportunities abound at Northwestern. Students may participate in 16 ensembles and chamber groups and have access to more than 400 performances each year, including three critically acclaimed professional series as well as master classes given by such notables such as Richard Goode, Leon Fleisher, Renée Fleming, Renata Scotto, Oscar Ghiglia, and Janos Starker. In addition, the school sponsors the biennial Michael Ludwig Nemmers Prize in Music Composition and the Jean Gimbel Lane Prize in Piano Performance, which regularly

bring world-renowned composers and pianists to campus. The music collection in Deering Library comprises more than 142,000 books, scores, journals, and microfilms, and the Listening Center boasts 53,000 sound recordings. The library's collection of post-1945 music is considered the finest in the world and is frequently used by scholars from around the world.

A Bienen School of Music education provides students with skills and values — superb musicianship, a mastery of communication, a sense of discipline, a commitment to excellence — that prepare them for success wherever their interests may lead.

The Bienen School of Music is a founding member of the National Association of Schools of Music, which fully accredits all its degree programs.

## ACADEMIC POLICIES

### Programs of Study

The Bienen School of Music offers programs leading to the professional degrees of bachelor of music, master of music, graduate certificate in performance, and doctor of music. The school also offers a nonprofessional degree, the bachelor of arts in music.

The curriculum allows flexibility for students while providing an education that is basic for all musicians. Applicants in all areas who are accepted by the Bienen School of Music enter directly into a program of specialization that begins in the freshman year. The core studies, taken by all students, require the acquisition of minimum competencies and provide fundamental and essential experiences that complement the specialized studies in the declared major. Students are also required to complete studies in a number of allied subjects throughout the University and are given significant opportunities to explore other interests with free electives.

### *Bachelor of Music*

Courses of study leading to the bachelor of music degree include majors in piano, strings, voice, winds and percussion, jazz, music cognition, music composition, music education, musicology, music technology, and music theory. It is also possible to design an ad hoc major program that cuts across specializations to meet a particular student's needs and career ambitions. Ad hoc majors are designed in consultation with faculty and area professionals with expertise in the particular area of interest; specializations have

included areas such as arts administration, music criticism, music theater production, and popular musicology. For degree requirements for the bachelor of music, see below.

### *Bachelor of Arts in Music*

The bachelor of arts in music is a nonperformance degree that offers a broad liberal arts education with a major in music. The requirements of this degree are essentially identical to those for the BA in the Weinberg College of Arts and Sciences. Within the degree's focus on music, there are a wide range of possibilities for study, from cultural musicology to cognitive studies of music and from music composition to advanced technology for music. This degree is an excellent stepping-stone to further education in music or to any career for which a knowledge of music brings depth and enrichment. The BA curriculum offers considerable latitude in designing a sequence of courses to suit the student's interests and goals. A key feature for the student is the planning and execution of a senior project. For degree requirements for the bachelor of arts in music, see next column.

### *Dual Bachelor's Degree Programs*

The Bienen School of Music offers dual bachelor's degree programs with the Weinberg College of Arts and Sciences (music and liberal arts), the McCormick School of Engineering and Applied Science (music and engineering), and the Medill School of Journalism (music and journalism). For information on program requirements, see page 34 in the Cross-School Options chapter. For information on applying to these programs, see Application to Dual Bachelor's Degree Programs on page 17.

## **Degree Requirements**

### *Bachelor of music (50–54 units)*

Candidates for the degree of bachelor of music must complete 50–54 units, depending on the minimum number of courses required for their major. The degree can usually be completed within four years. All students in the bachelor of music degree program take a core set of music requirements (19 units of credit for all but jazz studies majors) in addition to the requirements for the individual major.

- Music core requirements (19 units; 15.5 for jazz studies)
  - 2 years of music theory (3 units)
  - 2 years of aural skills (3 units)
  - 1 year of keyboard skills (1.5 units)
  - 6 courses in music history (6 units)
  - 1 course in conducting (1 unit)
  - 1 year of ensemble (1.5 units)
  - 1 year of 100-level applied study (3 units)
- General education (nonmusic) (12 units; 8 units for music education)
- Free electives (music or nonmusic) (0–3 units)
- Major studies requirement (16–27 units)

### *Bachelor of arts in music (45 units)*

Candidates for the degree of bachelor of arts in music must complete 45 units.

- Music core requirements (10 units)
  - 2 years of music theory (3 units)
  - 1 year of aural skills (1.5 units)
  - 4 courses in music history (4 units)
  - 1 year of ensemble (1.5 units)
- Additional music courses (10 units)
- General education (nonmusic) (13 units)
- Nonmusic electives (6 units)
- Foreign language (6 units)

### *Other Requirements*

All freshmen in the Bienen School of Music must participate in band, choir, or orchestra, as appropriate to their principal auditioned instrument. For their last 24 units, all students must be registered at Northwestern; for their last 12 units, they must be registered in the Bienen School of Music. Credit toward graduation is generally not granted for summer work taken at other colleges or universities as part of the last 24 units.

Music majors must earn a grade of C or above in all courses required in the major, including all core requirements and all specialization courses, in order to count those courses toward graduation requirements. A grade of D or above (including P grades for four-year students) may be used to fulfill distribution requirements and electives. If a student receives a D in a major course, then takes that course a second time and receives a C grade or above, the initial D grade remains on the permanent record and cannot count toward elective requirements. The second (improved) grade does not replace the first, and the same course cannot be counted twice in the degree. A maximum of 6 quarter-courses in nonmusic subjects taken under the P/N grade option may be counted toward the degree. Music students may not take music courses under the P/N grade option, except for those courses graded solely with P/N grades.

If students interrupt their program of study for an extended period of time and degree requirements are changed during this period, they will normally be held to the new requirements.

Every candidate for a degree must file an application for the degree one year in advance of the date of graduation.

Students coming to Northwestern University for a second undergraduate degree must transfer at least 9 units of credit in music, audition for admission at the 300 level, complete the general education distribution requirement with transfer credit, and comply with the 24-unit residency requirement.

In addition to and independent of the requirements set by the Bienen School of Music, all students must satisfy the Undergraduate Residence Requirement (see page 23 in the Undergraduate Education chapter of this catalog).

## Applied Music Study

The Bienen School of Music offers individual instruction for majors in piano, strings, voice, winds and percussion, and jazz. Students should consult their program coordinators for the assignment of an instructor. Consent of the instructor, program coordinator, and department chair as well as concurrent registration in ensemble are required. Elective applied study assignments are made by the appropriate program coordinator and department chair as space is available.

## Attendance Policy

Students are expected to attend all sessions of courses and ensembles for which they are registered. It is the responsibility of students enrolled in the Bienen School of Music to acquaint themselves and comply with the attendance policy of their departments, class instructors, and ensemble conductors. In addition, students who are absent from classes for three or more consecutive days because of illness are required to notify the Office of Student Affairs.

Outside professional opportunities may arise for music students. If such an opportunity directly interferes in any way with curricular responsibilities, students must first obtain permission from faculty of record for courses potentially affected, including classes, opera, and ensembles, along with the signature of the program coordinator and a signature from one of the cochairs of the Department of Music Performance.

Failure to comply with these regulations can be cause for failure in the courses or ensembles for which a student is registered during that quarter.

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See the Cross-School Options chapter for opportunities open to all Northwestern undergraduates.

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## ACADEMIC OPTIONS

### Double Major

Students may earn a double major in four years by fulfilling the requirements of both majors. Typically, the double major within the Bienen School of Music combines a specialization in a performance area with one in an academic area, although double majors in two academic areas are also possible. A double major in two performance areas is generally not permitted. Four-year bachelor of music students may also complete a second major outside the music school but may earn only one bachelor's degree. Bienen School of Music students who choose to leave the school for another school at Northwestern may still complete a music major as a second major, although in these cases no degree from the Bienen School will be awarded.

Bachelor of arts in music candidates may double major with any major offered in the Weinberg College of Arts and Sciences but may earn only one bachelor of arts degree.

## Minor Programs

Bienen School of Music minor programs include a minimum of 6 and a maximum of 9 courses, of which a minimum of 5 courses are not double counted in the major. Students must receive a grade of C or above in all courses counted toward the minor; no P/N grades are allowed. Students who wish to complete a minor program should fill out a Minor Declaration Form, available in the Office of Student Affairs, and should fill out a minor petition form one year before graduation. Students may pursue more than one Bienen School of Music minor.

### *Arts Administration (8 units)*

The minor in arts administration is open to music majors only.

- ECON 202 Introduction to Microeconomics
- MKTG 201 Marketing I: Principles of Marketing (School of Continuing Studies)
- ADVERT 203 Basic Advertising (School of Continuing Studies)
- ORG BEH 309 Human Resource Management (School of Continuing Studies)
- ORG BEH 367 Strategic Planning and Management (School of Continuing Studies)
- 2 business-related electives
- MUSIC 398 Internship

### *Commercial Music (8 units)*

- JAZZ ST 330 Jazz Composition and Arranging (2 units)
- RTVF 383 Sound Production
- MUS COMP 311 Class Composition
- MUS COMP 314-1 Instrumentation
- 2 courses chosen from music technology
- 1 course in popular music

### *Jazz Studies (8 units)*

Admission requires a performance audition.

- JAZZ ST 162 Applied Jazz (3 quarters, 1.5 units)
- JAZZ ST 210-1,2 Jazz History (2 units)
- JAZZ ST 336-0 Jazz Improvisation (3 quarters, 1.5 units)
- JAZZ ST 377-0 Jazz Orchestra or 391-0 Small Ensemble (6 quarters, 3 units)

### *Music Cognition (9 units)*

- 3 units in music cognition
- 3 units in musical analysis and music technology
- 3 units in cognate areas (psychology, linguistics, and/or communication sciences and disorders)

### *Music Composition (9 units)*

Admission requires submission of a composition portfolio.

- MUS COMP 111 and 311 Class Composition (6 units)
- MUS COMP 314-1 Instrumentation or 314-2 Orchestration (1 unit)

- 1 elective chosen from 300-level music composition courses
- 1 elective in music technology
- MUS COMP 390 Composition Colloquium (6 quarters, 0 credit)

#### *Music Criticism (7 units)*

The minor in music criticism is open to music majors only.

- JOUR 201-1 Reporting and Writing
- JOUR 201-2 Multimedia Storytelling
- JOUR 301 Enterprise Reporting in Diverse Communities (prerequisite: 201)
- JOUR 202 Introduction to 21st-Century Media or 370 Media Law and Ethics
- JOUR 310 Media Presentation: Newspaper/Online, 311 Media Presentation: Magazine, or 312 Media Presentation: Video Producing for Broadcast and the Web
- MUSIC 398 Internship or 399 Independent Study
- 1 300-level musicology course

#### *Musicology (6 units)*

The minor in musicology is open to music majors only.

- 6 units in musicology, at least one of which must be chosen from MUSICOL 323 or 326–329 (courses on music of the world's cultures) and at least one of which must be chosen from MUSICOL 350–355 (courses on historical art music). Students who wish to emphasize a particular concentration within the field of musicology should speak to the program coordinator or a musicology faculty member of their choosing.

#### *Music Technology (6 units)*

The 6 units required for the minor in music technology are to be chosen from the following list of courses.

- MUS TECH 259 Introduction to Music Technology or MUS TECH 262 Technology in the Music Classroom
- MUS TECH 321 Producing in the Virtual Studio
- MUS TECH 322 Recording and Basic Audio
- MUS TECH 335 Selected Topics in Music Technology
- MUS TECH 337 Multimedia for the Web
- MUS TECH 338 Programming
- MUS TECH 340 Composing with Computers
- MUS TECH 342 Computer Sound Synthesis
- MUS TECH 345 Technology-Based Performance
- MUS TECH 348 3-D Sound and Spatial Audio

#### *Music Theory (6 units)*

The minor in music theory is open to music majors only.

- 3 300-level music theory courses in music analysis
- 3 300-level courses in music cognition

#### *Music Theatre*

The Certificate in Music Theatre provides the opportunity for Bienen School of Music students majoring in voice and School of Communication students majoring in theatre

to create a second area of specialization that is important to their development as musical theatre artists. For voice majors the program provides training in acting and other theatre courses. Theatre majors have weekly voice classes and exposure to other music offerings.

The prescribed sequence of courses is open only to students accepted into the program through audition. The auditions are held annually in the spring quarter and are limited to freshman and sophomore theatre and voice majors. Auditionees are required to perform a vocal selection and a monologue and to participate in a dance audition.

#### **Certificate Requirements for Voice Majors (8 units)**

- THEATRE 243-1,2,3 Acting I: Principles of Characterization (3 units)
- THEATRE 352-1,2 Music Theatre Techniques (2 units)
- THEATRE 367 History of the Lyric Theatre (1 unit)
- Design, dance, or acting elective (1 unit)
- 3 dance classes (.33 unit each; 1 unit total)

It is also recommended that sophomores enroll in THEATRE 272 Special Topics: Music Theatre.

For certificate requirements for theatre majors, see page 162.

#### **Program Honors**

Each year faculty are invited to nominate graduating students for program honors. To be eligible for program honors, students must be graduating in June or August of the current year, have a cumulative GPA of 3.5 or above, and be outstanding contributors to their respective programs. Additional criteria govern the selection of voice majors; see the coordinator of the voice and opera program for details. Faculty select only a small number of students in each program for program honors in a given year; for more information, contact the Office of Student Affairs in the Bienen School of Music.

#### **Graduate Studies**

The Bienen School of Music offers programs of study leading to the master of music degree, the graduate certificate in performance, and the doctor of music degree. Information concerning these programs is available from the Office of Admission and Financial Aid in the Bienen School of Music. For information about the requirements for the doctor of philosophy degree in music, contact the Graduate School.

## **RESOURCES**

#### **Musical Organizations**

As a part of their program of study, music majors are required to participate in music school ensembles. Students from all other schools of the University are encouraged to participate in any organizations for which they qualify.

*Symphony Orchestra*

This large ensemble provides experience in the concert presentation of representative symphonic repertoire as well as operas and concertos, emphasizing major works and striving for performance excellence through high standards of individual musicianship and advanced playing technique.

*Chamber Orchestra*

The Chamber Orchestra provides the experience of performing fundamental repertoire written for the orchestra until the early 19th century and repertoire specifically written for chamber orchestra since the early 19th century.

*Philharmonia*

The school's largest orchestra is open upon audition to interested and qualified students from any school in the University and performs a wide range of repertoire.

*Symphonic Wind Ensemble*

The Symphonic Wind Ensemble emphasizes major original works for band and strives for performance excellence through high standards of individual musicianship and advanced playing technique.

*Symphonic Band*

An ensemble of fine wind and percussion musicians who wish to perform the finest works available for large band or wind orchestra.

*Concert Band*

The Concert Band provides an excellent performing experience for interested and qualified students from any school in the University. The Concert Band performs fine literature, including both original and transcribed works.

*Wildcat Marching Band*

The Marching Band combines marching precision and exceptional playing ability to create a finely polished, spirited unit. The band performs at all Wildcat home football games and at one or more away games each season.

*Jazz Groups*

The Jazz Orchestra and a variety of small combo groups enable students to gain experience in the jazz idiom and to improve improvisation skills. They also offer student composers and arrangers the chance to write for various jazz instrumental combinations.

*Percussion Ensemble*

The Percussion Ensemble offers students an opportunity to perform percussion chamber works representative of diverse musical styles from renaissance transcriptions through avant-garde theater pieces. The ensemble maintains an active performance schedule both on and off campus and is open to all percussion students.

*Contemporary Music Ensemble*

The Contemporary Music Ensemble provides experience for student performers and composers in the performance of contemporary works.

*University Chorale*

An ensemble of 40 to 46 voices, University Chorale is the most selective of the University's choral ensembles. The Chorale's membership is drawn from upper-level undergraduate and graduate students whose musicianship meets high performance standards. Choral literature from renaissance through the present day comprises the ensemble's repertoire. The Chorale also frequently collaborates with various instrumental ensembles to perform choral works calling for chamber orchestra and/or wind ensemble.

*University Singers*

University Singers, an ensemble of 40 to 50 voices, draws its membership primarily from the music school as well as from qualified singers throughout the University. The group performs music of various periods, both accompanied and unaccompanied, and often combines with other choral ensembles to perform larger works.

*University Chorus*

The University Chorus, the University's largest choral ensemble, includes students primarily from the music school as well as those from other schools of the University. The ensemble is also open to faculty and staff as well as residents of the off-campus community by audition. Numbering 90 to 100 singers, University Chorus primarily performs large, extended works from the oratorio and cantata repertoire.

*Alice Millar Chapel Choir*

A select ensemble of 50 to 60 voices, the Chapel Choir includes music majors and other qualified students. Repertoire includes a cappella and accompanied masterworks from all periods and in many languages. Emphasis is placed on sight-reading and musicianship development.

*University Women's Chorus*

The Women's Chorus is primarily designed for nonmajor young women who are interested in continuing their singing experiences but with a less rigorous rehearsal commitment than that of other music school choruses. The ensemble performs one concert each quarter.

*Baroque Music Ensemble*

The Baroque Music Ensemble provides study and performance of music written before 1800, primarily from the baroque period, for select instrumentalists and vocalists. Performance-based activities focus on historically informed performance practices with occasional coachings

and master classes from distinguished performers and scholars. Instruction on period-instrument techniques is a possible option. The ensemble is open to performers on modern instruments and period instruments and singers of every voice type. At least one performance is given each quarter.

#### *Guitar Ensemble*

The ensemble performs the chamber literature for guitar: guitar duos, trios, and quartets as well as chamber works with strings and music for flute and guitar, voice and guitar, and other instrumental combinations.

#### *Chamber Music Ensembles*

Chamber ensembles include piano trio; string trio, quartet, quintet, sextet, and octet; harp ensemble; brass quintet, choir, and band; woodwind quintet; trombone quartet and ensemble; and tuba, saxophone, mixed winds, trumpet, horn, and flute ensembles.

### **Facilities**

The Bienen School of Music occupies five buildings. The Music Administration Building houses administrative offices, classrooms, studios, and practice rooms. The faculties of the Department of Music Studies, Voice and Opera Program, and Piano Program have offices in this building. Regenstein Hall houses rehearsal facilities, practice rooms, a 200-seat lecture/recital room, the library and offices for the University bands, the Music Performance Department Office, and faculty studios for the Conducting and Ensembles, String Instruments, and Wind and Percussion Instruments Programs. Practice Hall (the “Beehive”) contains 35 practice rooms. Lutkin Hall, seating 400, is used for student and faculty recitals and lecture classes. Pick-Staiger Concert Hall provides a 1,000-seat concert hall, rehearsal facilities, and offices and library for the University Symphony Orchestra. A new state-of-the-art building adjacent to Regenstein Hall of Music is scheduled to open in 2012. It will include a 400-seat recital hall as well as classrooms, labs, and rehearsal spaces.

### **Music Library**

Among the nation’s largest music libraries, the Northwestern University Music Library supports all areas of musical study with a broad collection of books, scores, sound recordings, periodicals, and online resources. The facility, located in historic Deering Library, offers a reading room rich in reference materials, a music listening center, and a computer lab equipped with specialized music hardware and software. The Music Library is also distinguished internationally for its extensive collection of contemporary music, which includes one copy of nearly every score published since 1945 as well as many original manuscripts by prominent composers such as Pierre

Boulez, John Cage, George Crumb, and Iannis Xenakis. The Music Library’s collections and staff serve the Bienen School of Music, the entire Northwestern University community, and researchers from around the world. For more information see [www.library.northwestern.edu/music](http://www.library.northwestern.edu/music).

### **MUSIC STUDIES FOR NONMAJORS**

[www.music.northwestern.edu/programs/nonmajors.html](http://www.music.northwestern.edu/programs/nonmajors.html)

Students registered in other schools of the University are encouraged to continue their development as instrumentalists or vocalists through ensemble participation, class instruction, or private study. Ensembles and music performance instruction require an audition. For more information, visit the Office of Student Affairs for a brochure.

#### **Concentration in Music**

The concentration in music is a program offered to students in any school at Northwestern outside the Bienen School of Music. The program requires a total of 6 units of credit and is focused on the academic study of music; no more than 2 credits of performance-related credits (nonmajor applied lessons and/or ensembles) may be counted toward the concentration. The program is limited to 20 students per year. For information, contact the Office of Student Affairs in the Bienen School of Music.

#### **Applied Lessons for Credit**

Nonmusic majors may take half-hour individual music lessons for .5 course credit in GEN MUS 115 Applied Piano and Organ, 120 Applied Strings, and 125 Applied Winds/Percussion; they may take voice classes or individual voice lessons, for up to .5 course credit (subject to instructor consent), in GEN MUS 131, 133, 134, 160, 231, 260, and 360. A registration fee is billed to the student’s tuition and fees account; for 2009–10 registration fees, see the “Music Opportunities for Nonmajors” brochure, available in the Bienen School’s Office of Student Affairs. Students are accepted for instrumental lessons and for vocal lessons and classes based on an audition and the availability of an instructor.

#### **Courses Open to Undergraduates**

The following courses were designed to meet the needs of any students interested in studying music. Students with a basic music foundation are encouraged to register for 252 Harmony (a basic music theory course), followed by 253 Form and Analysis and/or Composition. The music literature sequence is designed to permit students with limited background to start with 170. For courses for which Weinberg students may earn distribution requirement credits, the distribution area is indicated in parentheses.

**GEN MUS 115-0 Applied Piano and Organ** (.5 units) Private lessons for nonmajors; audition required.

**GEN MUS 120-0 Applied Strings (.5)** Private lessons for nonmajors; audition required.

**GEN MUS 121-0 Beginning Nonmajor Guitar Class (.5)** Class instruction in classical guitar.

**GEN MUS 125-0 Applied Winds/Percussion (.5)** Private lessons for nonmajors; audition required.

**GEN MUS 131-0 Nonmajor Vocal Performance Seminar, Beginning (.5)** Must be concurrently registered for 133 or 160.

**GEN MUS 133-0 Nonmajor Class Voice, Beginning (.5)** Audition required.

**GEN MUS 134-0 Nonmajor Class Voice, Intermediate/Advanced (.5)** Audition required.

**GEN MUS 160-0 Nonmajor Private Voice, Beginning (.5)** Private lessons for nonmajors; audition required.

**GEN MUS 170-0 Introduction to Music** Principles of musical organization. Score study and recognition of what is heard in all music, including classical, jazz, rock, and popular. (VI. Literature and fine arts)

**GEN MUS 175-0 Selected Topics** Topics vary; announced before registration. May be repeated.

**GEN MUS 220-0 History of the Symphony** Study of music for the symphony orchestra from the 17th century to the modern period. (VI. Literature and fine arts)

**GEN MUS 230-0 Masterpieces of Opera** History of opera from its origins in Italy at the end of the 16th century to the modern period. (VI. Literature and fine arts)

**GEN MUS 231-0 Nonmajor Vocal Performance Seminar, Intermediate/Advanced (.5)** Must be concurrently registered for 134, 160, 260, or 360.

**GEN MUS 250-0 History of Rock** The basic elements of rock from its roots in pop, country and western, and rhythm and blues to the present. Prerequisite: consent of instructor. (VI. Literature and fine arts)

**GEN MUS 252-0 Harmony** A basic course in music theory fundamentals, including harmonic materials and tonal structures. Analysis of harmonic structures; harmonization of melodies. Prerequisite: 170 or consent of instructor. (II. Formal studies)

**GEN MUS 253-0 Form and Analysis** Nature of musical forms found in musical literature from renaissance to the present; analysis of musical examples. Prerequisite: 252, or music-reading skills and some understanding of harmony.

**GEN MUS 260-0 Nonmajor Private Voice, Intermediate (.5)** Private lessons for nonmajors; audition required.

**GEN MUS 270-1 The Western Musical Tradition** Major genres and composers from 1600 to 1825. Primary emphasis on the generations of Bach and Handel, Haydn and Mozart, Beethoven and Schubert. Prerequisite: 170 or equivalent. (VI. Literature and fine arts)

**GEN MUS 270-2 The Western Musical Tradition** Major genres and composers from 1825 to the present. Prerequisite: 170 or equivalent. (VI. Literature and fine arts)

**GEN MUS 335-0 Selected Topics** Topics vary; announced before registration. May be repeated.

**GEN MUS 360-0 Nonmajor Private Voice, Advanced (.5)** Private lessons for nonmajors; audition required.

## INTERDEPARTMENTAL COURSES FOR MUSIC MAJORS

The music theory, aural skills, keyboard skills, and music history sequences are required for, and limited to, all undergraduates in the Bienen School of Music.

### Courses Open to Undergraduates

**MUSIC 101-1,2,3 Theory Skills Testing (0)** Skills tests taken in conjunction with MUSIC 111-1,2,3.

**MUSIC 111-1,2,3 Music Theory I, II, III (.5)** Music as sound in time. Analytical studies in forms, media, textures, and harmonic and melodic materials. Prerequisite: preceding quarters of 111.

**MUSIC 126-1,2,3 Aural Skills I, II, III (.5)** Sight-singing and ear-training; drill in recognition of melodic, rhythmic, and harmonic patterns and aural analysis through listening and dictation. Progresses through six levels of proficiency.

**MUSIC 127-0 Keyboard Skills (.5)** Class instruction, in electronic piano classroom; six levels of proficiency.

**MUSIC 211-1,2,3 Music Theory IV, V, VI (.5)** Continuation of 111. Prerequisite: 111-1,2,3 or consent of instructor.

**MUSIC 213-0 Introduction to World Music Cultures** Introduction to both the world's musical variety and common issues related to music production worldwide.

**MUSIC 214-0 Music History I** Principles, materials, and concepts of the historical study of Western art traditions, from medieval through renaissance.

**MUSIC 215-0 Music History II** Continuation of 214, from baroque through early romantic.

**MUSIC 216-0 Music History III** Continuation of 215, from the middle of the romantic era through the present.

**MUSIC 226-1,2,3 Aural Skills IV, V, VI (.5)** Continuation of 126.

**MUSIC 227-0 Keyboard Skills (.5)** Continuation of 127.

**MUSIC 327-1 Advanced Keyboard Skills VII (.5)** Advanced score-reading. Reading various voice parts in combination and harmonically reducing four-part textures.

**MUSIC 327-2 Advanced Keyboard Skills VIII (.5)** Techniques of accompanying by reducing and rewriting accompaniments to make initial performances more effective.

**MUSIC 327-3 Advanced Keyboard Skills IX (.5)** Advanced accompanying. Adding accompaniments to a given vocal line. Improvising accompaniments in various styles, including "swing." Transposition of individual lines.

**MUSIC 335-0 Selected Topics in Music** Topics vary; announced before registration. May be repeated.

**MUSIC 350-0 Alexander Technique (.5)** Methods of using the body efficiently to reduce unnecessary tension and stress in instrumental and vocal performance.

**MUSIC 397-0 Summer Internship** (0) Field experience as an intern.

**MUSIC 398-0 Internship** (.5–4) Field experience as an intern. Requirements include journal and final paper.

**MUSIC 399-0 Independent Study** (.5–1)

## MUSIC STUDIES

This department consists of the Music Composition, Music Education, Musicology, Music Technology, and Music Theory and Cognition Programs. Bachelor of music specializations are available in music cognition, music composition, music education, musicology, music technology, and music theory. These specializations are described on the following pages.

### *Music Composition*

[www.music.northwestern.edu/programs/composition.html](http://www.music.northwestern.edu/programs/composition.html)

Composition students pursue a course of study that develops analytical and creative skills and enjoy many opportunities to hear their works performed. Students have access to the electronic and computer music studios, which provide the latest technology for experimentation and experience with 21st-century compositional materials. Students intending to major in composition may substitute composition class for applied studies during their freshman and sophomore years.

### Major Studies Requirements

For a major in composition, 16 course units are required beyond the core degree requirements.

- 212 Applied Composition (3 units; some credit may be given for applied instrument or voice lessons)
- 312 Applied Composition (6 units)
- 314-1 Instrumentation (1 unit)
- 314-2 Orchestration (1 unit)
- MUS THRY 316 Renaissance Counterpoint (1 unit)
- MUS THRY 318 Baroque Counterpoint (1 unit)
- 335 Selected Topics (1 unit)
- Music theory courses in analysis (2 units; 1 unit must be in 20th-century analysis)
- 380 Senior Recital (0 units)
- 390 Composition Colloquium (12 quarters, 0 units)

### Courses Open to Undergraduates

**MUS COMP 111-1,2,3 Class Composition** Class instruction in techniques of composition. Open to nonmusic majors. **1.** Writing for solo instruments. **2.** Writing for two to four instruments. **3.** Writing for instruments and/or voices. Prerequisite: preceding quarters of 111 or consent of instructor.

**MUS COMP 112-0 Applied Composition** Original composition; individual instruction.

**MUS COMP 212-0 Applied Composition** Original composition; individual instruction.

**MUS COMP 311-1,2,3 Class Composition** Class instruction in techniques of composition. Open to nonmusic majors.

**1.** Writing for solo instruments. **2.** Writing for two to four instruments. **3.** Writing for instruments and/or voices. Prerequisites: for 311-1, 111-3 or consent of instructor; for 311-2,3, preceding quarters of 311 or consent of instructor.

**MUS COMP 312-0 Applied Composition** Original composition; individual instruction.

**MUS COMP 314-1 Instrumentation** Instruments of the orchestra; scoring techniques; analysis of instrumental combinations. Prerequisite: MUSIC 211-3 or consent of instructor.

**MUS COMP 314-2 Orchestration** Stylistic scoring projects; analysis of orchestral and chamber scores. Prerequisite: 314-1 or consent of instructor.

**MUS COMP 314-3 Advanced Orchestration** Contemporary scoring techniques; creative projects; analysis of orchestral and chamber scores. Prerequisite: 314-2, graduate standing, or consent of instructor.

**MUS COMP 335-0 Selected Topics in Music Composition** Topics vary; announced before registration. Writing projects; analysis of scores; 20th-century stylistic techniques, performers, and composers. Contemporary materials; in-class performances of original work. Prerequisite: preceding quarter of 335 or consent of instructor. May be repeated for credit.

**MUS COMP 336-1,2 Contemporary Repertoire I, II** Close study of specific recent compositional styles; modernism post-1945, music since 1975. Prerequisite: consent of instructor.

**MUS COMP 337-0 Topics in Contemporary Repertoire** 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** 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** Topics vary by quarter. Content, musical spaces, extended techniques, and spectralism. Prerequisite: consent of instructor.

**MUS COMP 340-0 Composition Workshop** Topics vary by quarter. Examples include Composer/Performer, Composing for Percussion, Composing for Dance, Composing for Solo Instrument. Prerequisite: consent of instructor.

**MUS COMP 380-0 Senior Recital** (0)

**MUS COMP 390-0 Composition Colloquium** (0) Discussion of contemporary compositional techniques.

**MUSIC COMP 399-0 Independent Study** (.5–1)

*Music Education*

**[www.music.northwestern.edu/programs/musiced.html](http://www.music.northwestern.edu/programs/musiced.html)**

Graduates with a major in music education meet all requirements for teacher certification in the state of Illinois as well as most other states. Students take the professional program required of all music students, a structured sequence of courses in general education, a basic set of courses in music education, and special courses in the chosen music education specialization. The combination results in a program that prepares professionals with a broad understanding of music and education as well as the skills to be effective music teachers.

Students in the undergraduate music education program must take all the core studies in music and all the professional studies in music education plus the general education courses required for teacher certification. They must also choose one of the three specialization tracks — instrumental, choral, or general — and take the required courses for that track. All music education majors are required to complete 100 hours of clinical observation.

**Major Studies Requirements**

For a major in music education, 25 to 27 course units are required beyond the core degree requirements.

- Additional applied lessons (6 units)
- Additional keyboard skills (as needed by track) (1.5–3 units)
- Additional large ensemble (8 quarters) (4 units)
- 258 Philosophy of Music Education
- 260 The Music Teacher as Communicator
- 314 Music Education Rehearsal Practicum (11 quarters, 0 units)
- 368 Teaching Composition in the Schools
- 380–387 Student Teaching (3 units)
- 390 Student Teaching Colloquium (0 units)
- MUS TECH 262 Technology in the Music Classroom
- CONDUCT 340-1,2, or 3 Advanced Conducting

***Instrumental Track (7.5 additional units)***

- 230 Flute Class (.5 unit)
- 232 Voice Class (.5 unit)
- 233 Clarinet and Saxophone Class (.5 unit)
- 234 Double Reeds Class (.5 unit)
- 235 High Brass Class (.5 unit)
- 236 Low Brass Class (.5 unit)
- 237 String Class I (.5 unit)
- 238 String Class II (.5 unit)
- 239 Percussion Class (.5 unit)
- 362 Teaching General Music II
- 364 Teaching Instrumental Music I
- 365 Teaching Instrumental Music II

***Choral Track (6 additional units)***

- 231-1 Guitar Class I (.5 unit)
- 232 Voice Class (.5 unit)

- 240 Classroom Instruments (.5 unit)
- 361 Teaching General Music I
- 362 Teaching General Music II
- 366 Teaching Choral Music I
- 367 Teaching Choral Music II
- Instrumental techniques elective (.5 unit)
- VOICE 111-1,2,3 Phonetics and Diction (0 units)
- VOICE 311 Vocal Solo Class (9 quarters, 0 units)

***General Track (5.5 additional units)***

- 231-1,2 Guitar Class I, II (.5 unit each)
- 232 Voice Class (.5 unit)
- 240 Classroom Instruments (.5 unit)
- 361 Teaching General Music I
- 362 Teaching General Music II
- 366 Teaching Choral Music I
- Instrumental techniques elective (.5 unit)

**General Education (8 units)**

- ENGLISH 105 Expository Writing or 205 Intermediate Composition
- SESP 201 Human Development: Childhood and Adolescence or PSYCH 218 Developmental Psychology
- TEACH ED 327 Educating Exceptional Children or CSD 336 The Field of Special Education
- Weinberg distribution area I (natural sciences) (1 unit)
- Weinberg distribution area III (social and behavioral sciences) (2 units)
- Weinberg distribution area IV (historical studies) and/or V (ethics and values) (2 units)

**Courses Open to Undergraduates**

**MUSIC ED 230-0 Flute Class (.5)**

**MUSIC ED 231-1,2 Guitar Class I, II (.5)**

**MUSIC ED 232-0 Voice Class (.5)**

**MUSIC ED 233-0 Clarinet and Saxophone Class (.5)**

**MUSIC ED 234-0 Double Reeds Class (.5)**

**MUSIC ED 235-0 High Brass Class (.5)**

**MUSIC ED 236-0 Low Brass Class (.5)**

**MUSIC ED 237-0 String Class I (.5)**

**MUSIC ED 238-0 String Class II (.5)**

**MUSIC ED 239-0 Percussion Class (.5)**

**MUSIC ED 240-0 Classroom Instruments (.5)**

**MUSIC ED 242-0 Recorder Class (.5)**

**MUSIC ED 258-0 Philosophy of Music Education**

Philosophical issues in music education relating to the teaching and learning of music in schools.

**MUSIC ED 260-0 The Music Teacher as Communicator**

Discussion and observation of school music programs and effective presentational skills.

**MUSIC ED 314-0 Music Education Rehearsal Practicum (0)**

Students rehearse their peers in a public school–level ensemble, learn public school repertoire, and gain practical experience on their secondary instruments.

**MUSIC ED 335-0 Selected Topics in Music Education** Topics vary; announced before registration. May be repeated.

**MUSIC ED 345-0 Music in the Interdisciplinary Curriculum**

For individuals interested in promoting music- and arts-based interdisciplinary experiences for elementary and secondary school students. Focuses on curriculum development that relates various arts disciplines to one another (such as music, art, and literature) and establishes valid connections between the arts and disciplines outside the arts (such as history and social studies).

**MUSIC ED 361-0 Teaching General Music I** For grades K–5, curriculum materials and strategies for developing musical growth. Laboratory experiences; developing creativity in the music classroom. Open only to music majors or with consent of instructor.

**MUSIC ED 362-0 Teaching General Music II** For grades 6–12, effective teaching of general music classes in middle and high school. Available curriculum materials; innovative approaches.

**MUSIC ED 363-0 Teaching High School Nonperformance Courses** Planning and teaching high school music, arts, humanities courses. Present practices; development of exemplary course plans.

**MUSIC ED 364-0 Teaching Instrumental Music I** Teaching and administrative principles for elementary and middle school instrumental music programs. Rehearsal dynamics, conducting, rehearsal room management, and pedagogy for school ensembles. Prerequisite: MUSIC ED 237.

**MUSIC ED 365-0 Teaching Instrumental Music II** Teaching and administrative principles for secondary school instrumental music programs. Rehearsal dynamics, conducting, rehearsal room management, and pedagogy for school ensembles. Prerequisite: 364.

**MUSIC ED 366-0 Teaching Choral Music I** Development and application of skills, knowledge, and understandings for teaching choral music in elementary and middle school.

**MUSIC ED 367-0 Teaching Choral Music II** Continuation of 366. High school choral program, curriculum model, repertoire, sight-reading, rehearsal techniques, programming, administration.

**MUSIC ED 368-0 Teaching Composition in the Schools**

Practical and research literature in teaching composition; design of curricular materials for teaching composition and improvisation in school music programs.

**MUSIC ED 369-0 Research and Evaluation in Music Education** Procedures and issues in research and evaluation in music teaching. Practical application of research to decision making.

**MUSIC ED 390-0 Student Teaching Colloquium (0)**

**MUSIC ED 399-0 Independent Study (.5–1)**

## Student Teaching Courses

Students are assigned to specific classes in cooperating schools under joint University/school supervision.

**MUSIC ED 380-0 Student Teaching in the Elementary School: General Music (1–4)**

**MUSIC ED 381-0 Student Teaching in the Middle School/ Junior High School: General Music, Choral (1–4)**

**MUSIC ED 383-0 Student Teaching in the Senior High School: Choral and Nonperformance Courses (1–4)**

**MUSIC ED 385-0 Student Teaching in the Elementary School: Instrumental (1–4)**

**MUSIC ED 386-0 Student Teaching in the Middle School/ Junior High School: Instrumental (1–4)**

**MUSIC ED 387-0 Student Teaching in the Senior High School: Instrumental and Nonperformance Courses (1–4)**

## Musicology

[www.music.northwestern.edu/programs/musicology.html](http://www.music.northwestern.edu/programs/musicology.html)

An undergraduate major in musicology is available within the bachelor of music degree or as a specialization within the bachelor of arts degree. The courses required for this specialization are selected from musicology, analysis, and the departmental core. As some of the courses are offered on a two-year alternating schedule, certain courses may not be available during a given year.

## Major Studies Requirements

For a major in musicology, 16 course units are required beyond the core degree requirements.

### Historic Musicology Track

- 350–355 history of music courses (6 units)
- Musicology electives or cognates (6 units)
- Applied lessons/performance experience (3 units)
- 385 Senior Project (1 unit)
- 390 Musicology Colloquium (12 quarters, 0 units)

### Ethnomusicology Track

- Ethnomusicology courses (3 units)
- Area and topics courses (9 units)
- Applied lessons/performance experience (3 units)
- 385 Senior Project (1 unit)
- 390 Musicology Colloquium (12 quarters, 0 units)

## Courses Open to Undergraduates

**MUSICOL 323-0 Fieldwork Methods in Ethnomusicology** Ethnomusicology; its history, bibliographical resources, methods, and theories.

**MUSICOL 326-0 Topics in World Music: Asia** The musical traditions of South Asia, East Asia, and Southeast Asia. Topics include characteristics of instruments and instrumental ensembles, sound structures, theatrical traditions, and vocal performance.

**MUSICOL 327-0 Topics in World Music: Africa** Introduces students to the diverse musics of Africa through the multi-disciplinary lens of ethnomusicology. Topics include music learning and transmission, aesthetics, musical styles and structures, performance practice, compositional process, musical change, and the role of music in society.

**MUSICOL 328-0 Topics in World Music: The Americas** An ethnomusicological perspective on music of the Americas as influenced by the European, African, Hispanic, and native American cultures. The socioeconomic impact of jazz, rock, gospel, and popular music; the role of music in the spiritual and social life of the Americas' diverse peoples.

**MUSICOL 329-0 Music and Islam** History, basic tenets, and aesthetic of Islam; the musics of Islamic cultures from North Africa, Spain, the Middle East, central Asia, and the Indian subcontinent. Methods of contextualizing musical cultures and critical methodology related to gender, post-colonial theory, and religion.

**MUSICOL 330-0 Russian Fairy Tale and Opera** Russian cultural and national identity through the study of folk tales and their musical counterparts in such operas as Glinka's *Ruslan and Ludmila*, Tchaikovsky's *The Sleepers*, and Rimsky-Korsakov's *The Snow Maiden*, *Sadko*, and *The Tale of Tsar Saltan*. Current critical theory, concepts related to the portrayal of women, the interplay of nationalism and gender, and the dichotomy between East and West.

**MUSICOL 331-0 Orientalism and Music** The imagery of the East in the music of the West expressed in musical genres of various historical periods; focus on romantic opera and contemporary musical culture. Orientalism as formulated by Edward Said and developed by John MacKenzie is defined and further clarified through references in literature and the visual arts.

**MUSICOL 335-0 Selected Topics in Musicology** Topics vary; announced before registration. May be repeated.

**MUSICOL 337-0 Improvisation and World Musicianship** Improvisation in Western art music, jazz, Indian, and African music; performance workshops in African drumming, Indian solfeggio, and rhythmic mnemonics.

**MUSICOL 340-0 Music and Gender** The many intersections between music and ideas of gender; focus on issues of composition, characterization, patronage, and performance. Elite and popular forms of Western music from the Middle Ages to 2000 explored in relation to gender issues in musics of other cultures.

**MUSICOL 341-0 Music and the Visual Arts** The many ways in which the senses of sight and hearing interact in Western images of music and music making as well as in select musical works inspired by concurrent ideas or movements in the visual arts.

**MUSICOL 342-0 Authenticity** Focus on authenticity in music at the end of the 20th century and beginning of the 21st century by examining the three music genres most closely associated with the cultural and philosophical considerations of the idea: early music, country music, and "world" or "ethnic" music.

**MUSICOL 343-0 Music and Shakespeare** An exploration of some of the many intersections between Shakespearean drama and music from the late 16th through early 21st centuries, including study of plays, opera, ballet, film, musical theater, art song, popular music, and the symphony.

**MUSICOL 350-0 Topics in Medieval Music** Gregorian and medieval chant, secular monophony, and the development of polyphony from the earliest records through the music of Ockeghem and Busnois.

**MUSICOL 351-0 Topics in 16th-Century Music** Middle and late renaissance and early manifestations of the baroque, from Josquin through the Gabriellis.

**MUSICOL 352-0 Topics in 17th-Century Music** The baroque from Monteverdi through Bach and Handel.

**MUSICOL 353-0 Topics in 18th-Century Music** Representative works and critical studies of European art music from the Arcadian reform of opera through the Napoleonic era.

**MUSICOL 354-0 Topics in 19th-Century Music** Representative works and critical studies of European art music from the Congress of Vienna to the death of Mahler.

**MUSICOL 355-0 Topics in 20th-Century Music** Representative works and critical studies of art music from Debussy to the present.

**MUSICOL 385-0 Senior Project**

**MUSICOL 390-0 Musicology Colloquium** (0)

**MUSICOL 399-0 Independent Study** (.5–1)

### *Music Technology*

**[www.music.northwestern.edu/programs/musictech.html](http://www.music.northwestern.edu/programs/musictech.html)**

The major in music technology offers a unique professional preparation for a career in the technological sectors of the musical world — from games and web-based multimedia to programming and composing for electronic media.

Music technology students are engaged in creating music content for media as well as building technological tools for musical tasks. Students have access to the electronic and computer music studios, which provide the latest technology for experimentation and experience with 21st-century compositional materials.

### **Major Studies Requirements**

For a major in music technology, 16 course units are required beyond the core degree requirements.

- Required courses in music technology (6 units)
  - 338 Programming (1 unit)
  - 340 Composing with Computers (1 unit)
  - 342-1,2 Computer Sound Synthesis (2 units)
  - 384 Senior Project Development (2 quarters, .5 unit each)
  - 385 Senior Project (1 unit)
  - 390 Music Technology Colloquium (6 quarters, 0 units)
- Electives in music technology and related areas (7 units), chosen from
  - 259 Introduction to Music Technology or
  - 262 Technology in the Music Classroom
  - 320 Physics of Sound
  - 321 Producing in the Virtual Studio
  - 322 Recording and Basic Audio
  - 335 Selected Topics in Music Technology
  - 337 Multimedia for the Web

- 343 Sound Design for New Media
- 344 Advanced Projects in Music Technology
- 345 Technology-Based Performance
- 348 3-D Sound and Spatial Audio
- RTVF 383 Sound Production
- RTVF 384 Foundations of Sound Design

- Applied lesson/performance experience (3 units)

### Courses Open to Undergraduates

#### **MUS TECH 259-0 Introduction to Music Technology**

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 262-0 Technology in the Music Classroom** Survey of music software and hardware in the context of teaching. Topics include computer-aided instruction, music notation, sequencing and MIDI, multimedia, and web publishing. Assignments include projects related to teaching music. No prerequisite.

**MUS TECH 320-0 Physics of Sound** Principles of physical acoustics. Acoustics of musical instruments, the human voice, and concert halls. Fundamentals of psychoacoustics. Assignments include informal experiments.

**MUS TECH 321-0 Producing in the Virtual Studio** Techniques for creating and producing music in the context of a computer-based audio production environment. Topics include MIDI, audio editing, plug-ins, effects processing, mastering, and basic surround mixing. Assignments include creative projects. Prerequisites: 259, 262, or equivalent experience and consent of instructor.

**MUS TECH 322-0 Recording and Basic Audio** Microphone and placement techniques including stereo and close/distant miking of voices, acoustic instruments, and ensembles. Topics also include console design, signal flow, and dynamics processing. Projects include recording assignments. Prerequisites: 259, 262, or equivalent experience and consent of instructor.

#### **MUS TECH 335-0 Selected Topics in Music Technology**

Topics vary; announced before registration. May be repeated with change of topic.

**MUS TECH 337-0 Multimedia for the Web** Advanced instruction in web design and programming with a focus on the design and maintenance of multimedia intended for distribution via the Internet. Assignments include web-based projects. Prerequisite: consent of instructor.

**MUS TECH 338-0 Programming** Syntax of programming languages, program development, user interfaces, and music-specific algorithms. Techniques for creating musical applications. Prerequisite: 259, 262, or equivalent experience.

**MUS TECH 340-0 Composing with Computers** Foundational techniques of composition using music and audio software. Techniques of algorithmic composition, sound processing.

Analysis of electroacoustic music. Assignments include student compositions. Prerequisite: 259, 262, or equivalent experience.

**MUS TECH 342-1,2 Computer Sound Synthesis 1.** Synthesis of musical sounds, including the characteristics of digital audio signals, wavetable synthesis, modulation, and sample-based synthesis. **2.** Processing of audio signals, including digital filtering, reverberation, and effects processing; physical modeling synthesis. Assignments include sound synthesis programming. Prerequisite: 259, 262, or equivalent experience.

**MUS TECH 343-0 Sound Design for New Media** Creative projects for the web and DVD. Topics include philosophies and techniques of sound design, authoring for 5.1 surround sound, techniques of sound montage. Prerequisite: consent of instructor.

**MUS TECH 344-0 Advanced Projects in Music Technology** Individual instruction in projects related to music technology. Prerequisite: consent of instructor.

**MUS TECH 345-0 Technology-Based Performance** 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 348-0 3-D Sound and Spatial Audio** Techniques and applications of 3-D sound and spatial audio. The physical acoustics and psychoacoustics of spatial hearing, simulating 3-D cues, stereo sound reproduction, multichannel audio formats, environmental acoustics, and environmental simulation. Prerequisite: fundamental knowledge of acoustics.

#### **MUS TECH 384-0 Senior Project Development (.5)**

**MUS TECH 385-0 Senior Project** Independent project in music technology. Prerequisite: permission of department.

#### **MUS TECH 390-0 Music Technology Colloquium (0)**

#### **MUS TECH 399-0 Independent Study (.5-1)**

### *Music Theory and Cognition*

[www.music.northwestern.edu/programs/musictheorycognition.html](http://www.music.northwestern.edu/programs/musictheorycognition.html)

#### **musictheorycognition.html**

Undergraduates majoring in theory or cognition receive a broad education in music and the cognitive sciences. The emphasis is on cognitive musicology, whereby music is studied using the tools and insights of cognitive science and musicological research.

### Major Studies Requirements

For a major in music theory or in music cognition, 16 course units are required beyond the core degree requirements.

#### *Music Theory*

- 300- and 400-level courses in music theory and cognition (6 units)
- Musicology (2 units)
- Music technology (1 unit)

- Cognate areas (3 units)
- Applied lessons/performance experience (3 units)
- 385 Senior Project (1 unit)

### *Music Cognition*

- 335 Selected Topics in Music Theory (courses in music cognition) (2 units)
- 351 Music Cognition (1 unit)
- PSYCH 201 Statistical Methods in Psychology (1 unit)
- PSYCH 205 Research Methods in Psychology (1 unit)
- Cognate areas (3 units)
- Electives (4 units)
- Applied lessons/performance experience (3 units)
- 385 Senior Project (1 unit)

### **Courses Open to Undergraduates**

**MUS THRY 316-0 Renaissance Counterpoint** Contrapuntal textures from two to four voices. Cadence and form, melodic line and motive, rhythm, simple and complex imitation, and treatment of dissonance in the sacred music of Lassus, Josquin, and Palestrina.

**MUS THRY 318-0 Baroque Counterpoint** Baroque dance suite, chorale prelude, invention, fugue, chiefly involving the music of J. S. Bach. Melodic, harmonic, structural characteristics; contrapuntal techniques.

**MUS THRY 321-0 Analytical Techniques** Detailed analysis of all parameters of selected musical examples; compositional procedures as a means of developing an intelligent rationale for interpretation. Prerequisite: MUSIC 211-1,2,3 or consent of instructor.

**MUS THRY 331-0 Analytical Studies** Extension and refinement of concepts and techniques acquired in MUSIC 111-1,2,3, MUSIC 211-1,2,3.

**MUS THRY 332-0 Rhythmic Analysis** Recent theoretical work on rhythm; analytical methodologies dealing with music primarily as a temporal process.

**MUS THRY 335-0 Selected Topics in Music Theory** Topics vary; announced before registration. May be repeated.

**MUS THRY 351-0 Music Cognition** Survey of issues and research methods in music cognition. Music listening, memory for music, development of skills.

**MUS THRY 352-0 Score Analysis Skills** Recognition of the character and succession of tonalities. Music listening, memory for music, development of skills.

**MUS THRY 355-0 Atonal Analysis** Techniques for analysis of atonal and nonfunctional tonal music, including serial, set-theoretic, and parametric approaches. Emphasis on music of Schoenberg, Webern, Berg, Stravinsky, and Debussy. Selected readings in analytic literature. Prerequisite: MUSIC 211-1,2,3 or equivalent.

**MUS THRY 385-0 Senior Project** (1)

**MUS THRY 390-0 Music Theory/Cognition Colloquium** (0) Discussion of current research in music theory and cognition.

**MUS THRY 399-0 Independent Study** (.5-1)

See the Cross-School Options chapter for opportunities open to all Northwestern undergraduates.

## **MUSIC PERFORMANCE**

This department consists of the Conducting and Ensembles, Jazz, Piano, Strings, Voice and Opera, and Wind and Percussion Programs.

### *Conducting and Ensembles*

Courses in the Conducting and Ensembles Program are available to all music majors.

### **Courses Open to Undergraduates**

**CONDUCT 323-0 Marching Band Techniques** Writing for marching and pep bands; rehearsing for the marching band.

**CONDUCT 326-0 Basic Conducting** Fundamentals in both instrumental and choral conducting; transpositions, ranges, and podium technique. Extensive laboratory experience with videotaped evaluation.

**CONDUCT 335-0 Selected Topics in Conducting** Topics relevant to the professional needs of conducting majors.

**CONDUCT 340-1,2,3 Advanced Conducting** Separate quarters of band, orchestral, and choral conducting that emphasize the techniques of score preparation and analysis, repertoire, and rehearsal methods. Prerequisite: 326 or equivalent. May be repeated for credit.

**CONDUCT 341-0 Choral Literature I** A comprehensive examination of choral music literature from 1600 to 1800.

**CONDUCT 342-0 Choral Literature II** A comprehensive examination of choral music literature from 1800 to the present.

**CONDUCT 345-0 Orchestral Bowing: Style and Function** (.5) Designed for nonstring-playing conductors, teachers, and composers wishing to enhance their knowledge of bowing principles and practices as well as string players wishing to explore teaching concepts and in-depth bowing analyses. Topics include sound production principles, applied bowing techniques and pedagogy, performance practice, interpretation, and analysis.

**CONDUCT 364-0 Choral Organizations** University Chorale, University Singers, University Chorus, Alice Millar Chapel Choir, and Women's Chorus. Open to all qualified students.

**CONDUCT 374-0 Band Organizations** Marching Band, Concert Band, Symphonic Band, Symphonic Wind Ensemble. Open to all qualified students.

**CONDUCT 378-0 Contemporary Music Ensemble** (0-.5) Membership by audition.

**CONDUCT 391-0 Chamber Music** (.5) Performance of chamber music literature in a variety of small-ensemble settings.

**CONDUCT 393-0 Orchestral Organizations** Membership by audition in Symphony Orchestra, Chamber Orchestra, or Philharmonia.

**CONDUCT 395-0 Baroque Music Ensemble (0–.5)**

Performance of choral, solo, and instrumental music of the Middle Ages through the early baroque.

**CONDUCT 399-0 Independent Study (.5–1)***Jazz*

[www.music.northwestern.edu/programs/jazz.html](http://www.music.northwestern.edu/programs/jazz.html)

The jazz program offers courses in jazz improvisation, composition and arranging, history, and ensembles.

**Major Studies Requirements**

For a major in jazz studies performance, 25 course units are required beyond the core degree requirements. For jazz majors, the 19-unit core requirement for the bachelor of music degree is reduced to 15.5 units by the omission of one year of keyboard skills (1.5 units) and two music history courses (2 units). Those requirements are replaced by the jazz keyboard and jazz history requirements below.

- 210-1,2 Jazz History (2 units)
- 262 Applied Jazz (3 units)
- 330 Jazz Composition and Arranging (2 units)
- 336 Jazz Improvisation (3 units)
- 337 The Business of Jazz (.5 unit)
- 361 Jazz Keyboard (1 unit)
- 362 Applied Jazz (6 units)
- 377 Jazz Orchestra (4.5 units)
- 380 Senior Recital (0 units)
- 391 Small Ensemble (3 units)

**Courses Open to Undergraduates****JAZZ ST 162-0, 262-0, 362-0 Applied Jazz**

**JAZZ ST 210-1,2 Jazz History** The origins of jazz, its performers, and their contributions. Includes a look at contemporary social conditions during its development.

**JAZZ ST 305-0 Optional Recital (0)**

**JAZZ ST 330-0 Jazz Composition and Arranging** The techniques of composing and arranging for large and small ensembles in the jazz tradition. Study of scores by major composers and arrangers from throughout jazz history.

**JAZZ ST 333-0 Jazz Theory (.5)** Chord symbols, melodic and harmonic structures, and other analyses as applied to the language of jazz.

**JAZZ ST 335-0 Selected Topics in Jazz Studies** Topics vary. May be repeated for credit as topics change.

**JAZZ ST 336-0 Jazz Improvisation (.5)** The language of jazz. Focus is on melodic development and ear training via repertoire and solos of jazz's most influential figures.

**JAZZ ST 337-0 The Business of Jazz (.5)** A survey of the music industry as it pertains to jazz. Includes discussions on songwriting, music publishing, national and international copyright law, music licensing, artist management, music production, and related topics.

**JAZZ ST 361-0 Jazz Keyboard (.5)** Basic keyboard skills, with an emphasis on jazz voicing, harmonization, and analysis.

**JAZZ ST 370-0 Junior Recital (0)****JAZZ ST 377-0 Jazz Orchestra (.5)****JAZZ ST 380-0 Senior Recital (0)****JAZZ ST 391-0 Small Ensemble (.5)****JAZZ ST 399-0 Independent Study (.5–1)***Piano*

[www.music.northwestern.edu/programs/piano.html](http://www.music.northwestern.edu/programs/piano.html)

The major in piano performance focuses on private lessons, studio classes, piano repertoire, piano pedagogy, and accompanying classes. Frequent performances as a soloist and as an assisting musician develop skills in public presentation. Solo recitals, required in both the junior and senior years, are considered an integral part of the program.

**Major Studies Requirements**

For a major in piano performance, 17 course units are required beyond the core degree requirements.

- 261 Applied Piano (3 units)
- 313-1,2,3 Repertoire Studies (3 units)
- 315-1,2,3 Piano Pedagogy (3 units)
- 328 Beginning Collaborative Piano (1.5 units)
- 340 Piano Recital Hour (12 quarters, 0 units)
- 361 Applied Piano (6 units)
- 370 Junior Recital (0 units)
- 380 Senior Recital (0 units)
- CONDUCT 391 Chamber Music (.5 unit)

Students enrolled in a five-year double-degree program may substitute three 300-level musicology and/or music theory electives for the pedagogy requirement.

**Courses Open to Undergraduates****PIANO 161-0, 261-0, 361-0 Applied Piano****PIANO 255-0 Piano Sight-Reading (0)****PIANO 305-0 Optional Recital (0)**

**PIANO 313-1,2,3 Repertoire Studies** Analytical and historical study of piano solo and concerto repertoire from early keyboard literature to the present.

**PIANO 315-1,2,3 Piano Pedagogy** Lecture/demonstration/laboratory course in piano teaching at all levels. Principles and techniques of group and individual instruction; survey of teaching materials. Seniors and graduate students.

**PIANO 328-0 Beginning Collaborative Piano (.5)** Piano students work with a singer and instrumentalist in the preparation and performance of mainstream recital repertoire.

**PIANO 335-0 Selected Topics in Piano** Topics vary; announced before registration. May be repeated.

**PIANO 340-0 Piano Recital Hour (0)****PIANO 358-0 Other Keyboard: Instruction in Harpsichord or Organ (.5)****PIANO 370-0 Junior Recital (0)****PIANO 380-0 Senior Recital (0)****PIANO 392-0 Studio Ensemble (.5)****PIANO 399-0 Independent Study (.5–1)**

*String Instruments*

[www.music.northwestern.edu/programs/strings.html](http://www.music.northwestern.edu/programs/strings.html)

Majors in string instruments prepare for professional performance and teaching as well as for advanced study. The curriculum is built around individual study and ensemble participation, including chamber music and orchestra, with orchestral repertoire studies and string pedagogy available to qualified juniors and seniors. A junior recital and a senior recital are required. Students in this program may major in violin, viola, cello, double bass, harp, or classical guitar.

**Major Studies Requirements**

For a major in violin, viola, or cello, 19.5 course units are required beyond the core degree requirements.

***Violin, Viola, and Cello Performance***

- 200-level applied study (3 units)
- 300-level applied study (6 units)
- 300-level string pedagogy (1.5 units)
- 319-1,2,3 Orchestral Studies (1.5 units)
- 370 Junior Recital (0 units)
- 380 Senior Recital (0 units)
- CONDUCT 391 Chamber Music (3 units)
- CONDUCT 393 Orchestral Organizations (4.5 units)

For a major in double bass performance, 18 course units are required beyond the core degree requirements.

***Double Bass Performance***

- 200-level applied study (3 units)
- 300-level applied study (6 units)
- 300-level string pedagogy (1.5 units)
- 319-1,2,3 Orchestral Studies (1.5 units)
- 370 Junior Recital (0 units)
- 380 Senior Recital (0 units)
- CONDUCT 391 Chamber Music (1.5 units)
- CONDUCT 393 Orchestral Organizations (4.5 units)

For a major in harp or guitar performance, 16.5 course units are required beyond the core degree requirements.

***Harp Performance***

- 200-level applied study (3 units)
- 300-level applied study (6 units)
- Large ensemble (4.5 units)
- 318-1,2,3 Harp Pedagogy and Maintenance (1.5 units)
- 319-1,2,3 Orchestral Studies (1.5 units)
- 380 Senior Recital (0 units)

***Guitar Performance***

- 200-level applied study (3 units)
- 300-level applied study (6 units)
- 376-1,2,3 Guitar Pedagogy (1.5 units)

- 370 Junior Recital (0 units)
- 374 Guitar Ensemble (4.5 units)
- 375-1,2,3 Lute and Guitar Literature (1.5 units)
- 380 Senior Recital (0 units)

**Courses Open to Undergraduates**

**STRINGS 141-0, 241-0, 341-0 Applied Violin**

**STRINGS 142-0, 242-0, 342-0 Applied Viola**

**STRINGS 143-0, 243-0, 343-0 Applied Cello**

**STRINGS 144-0, 244-0, 344-0 Applied Double Bass**

**STRINGS 151-0, 251-0, 351-0 Applied Harp**

**STRINGS 171-0, 271-0, 371-0 Applied Classical Guitar**

**STRINGS 305-0 Optional Recital (0)**

**STRINGS 311-0 Suzuki Pedagogy (.5)** Fundamental principles of Suzuki philosophy and materials, with emphasis on application to violin. Open to all string players.

**STRINGS 312-0 String Class Pedagogy (.5)** Group teaching strategies, materials, and techniques for violin, viola, cello, and double bass. Pedagogical applications to school settings and teaching college-level string techniques classes. Open to all string players.

**STRINGS 313-0 History of String Pedagogy (.5)** Historical survey of major violin, viola, cello, and double bass pedagogues from the early baroque through the 20th century and their contributions to contemporary pedagogical schools. Open to all string players.

**STRINGS 314-0 Comprehensive String Pedagogy (.5)** Survey and application of general principles of successful string teaching. Lecture, discussion, and demonstration format. Open to all string players.

**STRINGS 315-1,2,3 Beginning Violin and Viola Pedagogy (.5)** Developmental approach to teaching beginning through advanced precollege violin and viola students. Includes apprenticeship teaching and observations. Designed as a one-year sequence. Open to all violinists and violists.

**STRINGS 316-1,2,3 Beginning Cello and Double Bass Pedagogy (.5)** Developmental approach to teaching beginning through advanced precollege cello and double bass students.

**STRINGS 317-0 Principles of Advanced/College-Level Studio Teaching (.5)** In-depth analysis of pedagogy for advanced violin, viola, cello, or double bass playing. Observation of artist faculty. Open to all string players.

**STRINGS 318-1,2,3 Harp Pedagogy and Maintenance (.5)**  
**1.** Guests and master classes related to playing and teaching. **2.** Instrument maintenance and repair clinic with hands-on experience in routine maintenance and common repairs. **3.** Pedagogical instruction and demonstration of teaching techniques for all levels and ages.

**STRINGS 319-1,2,3 Orchestral Studies (Violin, Viola, Cello, Double Bass, Harp) (.5)**

**STRINGS 335-0 Selected Topics in Strings** Topics vary; announced before registration. May be repeated.

**STRINGS 370-0 Junior Recital (0)**

**STRINGS 374-0 Guitar Ensemble** Performance of the chamber literature for guitar: guitar duos, trios, and quartets; flute and guitar; voice and guitar; chamber works with strings; other instrumental combinations.

**STRINGS 375-1,2,3 Lute and Guitar Literature** Analytical and historical survey of the literature for plucked instruments from the 16th through the 20th centuries. The study of tablatures, instrument construction and tuning, performance practice, and style.

**STRINGS 376-1,2,3 Guitar Pedagogy** Principles of individual and group study. Survey of development of right- and left-hand technique from 16th-century lute and vihuela tutors through modern classical guitar methods. Interaction between musical texture and technical innovations; influence of fingering on stylistic inflection and ornamentation.

**STRINGS 380-0 Senior Recital** (0)

**STRINGS 392-0 Studio Ensembles** (.5) Small ensembles based on studio instruments.

**STRINGS 399-0 Independent Study** (.5–1)

### *Voice and Opera*

[www.music.northwestern.edu/programs/voiceandopera.html](http://www.music.northwestern.edu/programs/voiceandopera.html)

Students majoring in voice take a concentrated program of courses designed to prepare them for professional performance. In addition to individual instruction, students take courses in vocal pedagogy, conducting, opera workshop, repertoire, and diction. A senior recital is required, and students are urged to take advantage of the numerous other performance opportunities offered by the school.

The opera program generally presents three opera productions each year, including two with full orchestra.

### Major Studies Requirements

For a major in voice performance, 17 course units are required beyond the core degree requirements.

- 111-1,2,3 Phonetics and Diction (0 units)
- 210 Applied Voice (3 units)
- 211 Sophomore Practicum (0 units)
- 212 Opera Crew (0 units)
- 310 Applied Voice (6 units)
- 311 Vocal Solo Class (12 quarters, 0 units)
- 323 Study of the Vocal Mechanism (.5 unit)
- 351-1,2,3 Opera Workshop for Juniors (1.5 units)
- 352-1,2,3 Opera Workshop for Seniors (1.5 units)
- 380 Senior Recital (0 units)
- CONDUCT 364 Choral Organizations (4.5 units)

It is recommended that voice performance majors take 3 units of one foreign language and achieve a level-five competency in Keyboard Skills. See the voice program coordinator concerning the honors program in voice performance.

### Courses Open to Undergraduates

**VOICE 102-0 Beginning Voice** Class instruction for Music Theatre Certificate students. Basic music skills required. Prerequisite: admission to the Music Theatre Program.

**VOICE 110-0, 210-0, 310-0 Applied Voice** Lessons consist of individual instruction, with each student receiving the equivalent of 50 minutes of instruction weekly.

**VOICE 111-1,2,3 Phonetics and Diction** (0) Required of freshman and transfer students majoring in voice. Three quarters: Italian, German, French.

**VOICE 202-0 Intermediate Voice** Private instruction for Music Theatre Certificate students. Prerequisites: admission to the Music Theatre Program and 102 or equivalent.

**VOICE 211-0 Sophomore Practicum** (0)

**VOICE 212-0 Opera Crew** (0) One quarter required for voice majors. Students work crew for one opera production during sophomore year.

**VOICE 305-0 Optional Recital** (0)

**VOICE 311-0 Vocal Solo Class** (0) Weekly recital hour. Required for any student registered for full-credit private voice lessons.

**VOICE 323-0 Study of the Vocal Mechanism** (.5) Lectures, readings, discussions, and demonstrations of basic vocal physiology, common vocal problems, and use of exercises and songs for vocal improvement. Prerequisite: major in voice with junior or senior standing, or consent of instructor.

**VOICE 335-0 Selected Topics in Voice** Topics vary; announced before registration. May include chanson, recitative, and non-English languages. May be repeated.

**VOICE 351-1,2,3 Opera Workshop for Juniors** (.5) Advanced techniques for the performance of arias; methods of text and character analysis; audition techniques; study of opera scenes. Must be taken sequentially.

**VOICE 352-1,2,3 Opera Workshop for Seniors** (.5) Specialty seminars (stage makeup, combat, etc.); audition techniques, opera scene work and performance. Prerequisites: 351-1,2,3. Must be taken sequentially.

**VOICE 370-0 Junior Recital** (0)

**VOICE 380-0 Senior Recital** (0)

**VOICE 393-0 Repertoire Studies** (.5) Topics vary by quarter and may include the German *Lied*, *chanson*, oratorio repertoire, and recitative.

**VOICE 399-0 Independent Study** (.5–1) Permission of instructor and department required.

### *Wind and Percussion Instruments*

[www.music.northwestern.edu/programs/windsandpercussion.html](http://www.music.northwestern.edu/programs/windsandpercussion.html)

Designed to prepare students for professional performance and teaching as well as for advanced study, the major in wind and percussion instruments offers a concentrated curriculum emphasizing applied studies, frequent master classes, required participation in large and small

ensembles, and a required senior recital. Students anticipating graduate study in wind or percussion performance are advised to elect additional courses in 300-level theory and history.

### Major Studies Requirements

For a major in wind and percussion performance, 16.5 course units are required beyond the core degree requirements.

- 200-level applied study (3 units)
- 300-level applied study (6 units)
- Large ensemble (4.5 units)
- 380 Senior Recital (0 units)
- CONDUCT 374 Band Organizations or CONDUCT 393 Orchestral Organizations (4.5 units)
- CONDUCT 391 Chamber Music (3 units)

### Courses Open to Undergraduates

**WIND PER 111-0, 211-0, 311-0 Applied Flute**

**WIND PER 112-0, 212-0, 312-0 Applied Oboe**

**WIND PER 113-0, 213-0, 313-0 Applied Clarinet**

**WIND PER 114-0, 214-0, 314-0 Applied Saxophone**

**WIND PER 115-0, 215-0, 315-0 Applied Bassoon**

**WIND PER 121-0, 221-0, 321-0 Applied Trumpet**

**WIND PER 122-0, 222-0, 322-0 Applied French Horn**

**WIND PER 123-0, 223-0, 323-0 Applied Euphonium**

**WIND PER 124-0, 224-0, 324-0 Applied Trombone**

**WIND PER 125-0, 225-0, 325-0 Applied Tuba**

**WIND PER 131-0, 231-0, 331-0 Applied Percussion**

**WIND PER 305-0 Optional Recital (0)**

**WIND PER 335-0 Selected Topics in Winds and Percussion**

Topics vary; announced before registration. May be repeated.

**WIND PER 339-0 Performance Practices and Criticism**

Performance and criticism of woodwind, brass, and percussion repertoire in a master class setting. Team-taught.

**WIND PER 347-0 Percussion Pedagogy and Performance**

Methods, materials, and writings related to percussion playing and teaching. Prerequisite: 300-level standing in percussion performance or consent of instructor.

**WIND PER 352-0 Preparing for an Audition (.5)**

**WIND PER 354-0 Woodwind Instrument Repair (.5)**

**WIND PER 357-0 Reedmaking for Single Reed Instruments (.5)**

**WIND PER 359-0 Teaching Techniques (.5)**

**WIND PER 360-0 Bass Clarinet (.5)**

**WIND PER 361-0 English Horn (.5)**

**WIND PER 362-0 Baroque Flute (.5)**

**WIND PER 370-0 Junior Recital (0)**

**WIND PER 380-0 Senior Recital (0)**

**WIND PER 390-0 Studio Class (0)**

**WIND PER 392-0 Studio Ensembles (.5)**

**WIND PER 393-0 Repertoire Studies (.5)** Includes clarinet orchestral studies, brass orchestral repertoire, and studies in woodwind and brass literature.

**WIND PER 399-0 Independent Study (.5–1)**