

- 851 Immunology**
Fall of odd years. 3(3-0) R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. SA: MPH 851
Functional aspects of immune responses; synthesis, structure, and function of effector molecules; cell-cell interactions; current advances and research techniques.
- 855 Molecular Evolution: Principles and Techniques**
Fall of odd years. 3(3-0) Interdepartmental with Zoology; Plant Biology. Administered by Department of Zoology. RB: (ZOL 341 or ZOL 445)
Current techniques used to characterize and compare genes and genomes. Genetic variation, assays of variation. Data analysis and computer use to conduct a phylogenetic analysis to compare organisms and infer relationships.
- 861 Advanced Microbial Pathogenesis**
Spring of odd years. 3(3-0) RB: (MMG 461 or MMG 409)
Molecular basis of microbial virulence. Virulence factors of microorganisms and the relationship of these factors to disease; host-pathogen interactions.
- 890 Special Problems in Microbiology**
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. Approval of department. SA: MPH 890
Individualized laboratory or library research.
- 892 Seminar**
Fall, Spring. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, College of Human Medicine, College of Natural Science, College of Osteopathic Medicine, or College of Veterinary Medicine. SA: MPH 892
Student review and presentation of selected topics in microbiology and public health.
- 899 Master's Thesis Research**
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open only to graduate students in Microbiology and Public Health. SA: MPH 899
Master's thesis research.
- 991 Topics in Microbiology**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. SA: MPH 991
Topics are selected from traditional subdisciplines such as bacteriology, virology, cell biology, and immunology or from transecting subdisciplines such as microbial genetics, physiology, molecular biology and ecology.
- 999 Doctoral Dissertation Research**
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 120 credits in all enrollments for this course. R: Open only to graduate students in Microbiology and Molecular Genetics. SA: MPH 999
Doctoral dissertation research.

MILITARY SCIENCE MS

Department of Military Science Office of the Provost

- 101B Leadership: The Military Profession**
Spring. 1(1-2) SA: MS 101 Not open to students with credit in MS 101A.
Introduction to military leadership and fundamental concepts of leadership. Application of leadership doctrine. The role of the U.S. Army, Army Reserves, and National Guard. Leadership laboratory introduces basic military skills.
- 110 Army Leadership and Officer Development**
Fall. 1 to 2 credits. SA: MS 101, MS 101A Not open to students with credit in MS 101B.
Duties and responsibilities of the Army officer and noncommissioned officer. Organizational structure of the Army, Army Reserve, and National Guard. The Army's role in joint operations. Introduction to Army values, leadership, customs, and traditions.
- 120 Introduction to Army Leadership and Problem Solving**
Spring. 1 to 2 credits. RB: (MS 101A or MS 101B)
Fundamentals of basic Army leadership. Military problem solving process. Military briefing and writing skills. Goal setting and time management. Introduction to the Army's developmental counseling program.
- 201B Leadership: The Military Leader**
Spring. 1(1-2) SA: MS 201 Not open to students with credit in MS 201A.
Introduction to effective leadership. Communications. Value of the United States Army. Responsibilities of military officers and professionalism. Laboratory includes tactics, marksmanship training, and military skills.
- 210 Values and Ethics of Army Leaders**
Fall. 1 to 2 credits. RB: (MS 120) SA: MS 201, MS 201A Not open to students with credit in MS 201B.
Application of military case studies. Critical dilemmas in combat situations and the ethical decisions Army leaders make to ensure mission success. Understanding how to improve Army organizations and soldier performance. Introduction to the Army's leadership development program, battle drills, land navigation, and combat decision making.
- 220 Challenges in Army Leadership**
Spring. 1 to 2 credits. RB: (MS 201A or MS 201B) Not open to students with credit in MS 202A or MS 202B.
Application of military case studies. Recognizing challenging situations for military leaders and units. Applying sound ethical leadership practices to implement decisions. Understanding basic military small unit tactics.

- 310 Leading and Problem Solving in Army Units**
Fall. 3 to 4 credits. RB: (MS 101B or MS 110) and (MS 120) and (MS 201B or MS 210) and (MS 220) Completion of basic training, or the leader training course. SA: MS 301
Planning and executing military activities in small Army units. Recognizing and analyzing problems in challenging situations. Implementing the skills required to communicate decisions and supervise subordinates. Applying fundamentals of map reading and land navigation.
- 320 Army Small Unit Tactics and Leadership**
Spring. 3 to 4 credits. RB: (MS 310) SA: MS 302
Fundamentals of military tactics and battle drills. Applying troop leading procedures to military tactical operations. Implementing tactical skills and making decisions to lead small Army units on the battlefield. Integrate terrain analysis into military planning and operations.
- 410 Adaptive Army Leadership**
Fall. 3 to 4 credits. RB: (MS 320) SA: MS 401
Application of military case studies. Skills and attributes military leaders use to make decisions in combat situations. Practical exercises in problem solving and crisis counseling. Fundamentals of Army Training Management, the military justice system, and the law of land warfare.
- 420 Army Leadership in a Complex World**
Spring. 3 to 4 credits. RB: (MS 410) SA: MS 402
Application of military case studies to the principles of the law of land warfare, and rules of engagement in the face of international terrorism. Importance of ethics in military leadership. Integration of the media into military operations. Evaluation of interaction with non-governmental organizations, civilians, and host nation support on the battlefield.
- 490 Independent Study in Military Science**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department.
Individual research in areas related to military science.

MUSIC

MUS

School of Music College of Arts and Letters

- 112 Chamber Music**
Fall, Spring. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to students in the School of Music.
Rehearsal and performance of a broad range of chamber music literature.
- 113 Philharmonic Orchestra**
Fall, Spring. 1(0-5) A student may earn a maximum of 10 credits in all enrollments for this course. RB: High school and/or youth orchestra experience/or other college or university ensemble experience R: Audition required.
Rehearsal and performance of symphonic and operatic repertoire.

Music—MUS

- 114 Marching Band**
Fall, 1(0-9) A student may earn a maximum of 6 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of marching band literature at football games.
- 115 Spartan Brass**
Spring, 1(0-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of brass literature at basketball and hockey games.
- 116 Campus Band**
Fall, Spring, 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of broad range of band literature chosen from baroque period to the present.
- 117 Concert Band**
Fall, Spring, 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of wind literature from various historical periods and styles.
- 118 Wind Symphony**
Fall, Spring, 1(0-6) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of wind literature from various periods and styles.
- 119 Symphony Band**
Fall, Spring, 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of a broad range of wind and percussion literature.
- 120 Symphony Orchestra**
Fall, Spring, 1(0-6) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of symphonic and operatic repertoire.
- 122 Concert Orchestra**
Fall, Spring, 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of symphonic and concert literature written for large orchestra. Conducted by staff conductors under the supervision of faculty.
- 123 Collegiate Choir**
Fall, Spring, 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of representative literature for mixed choir with emphasis on vocal jazz and contemporary styles of choral music. No vocal jazz experience necessary.
- 124 Choral Union**
Fall, Spring, 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
University and community chorus. One evening rehearsal per week, culminating in performance of a major work with orchestra.
- 125 Glee Club, Men and Women**
Fall, Spring, 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of broad range of choral literature chosen from medieval period to the present.
- 126 State Singers**
Fall, Spring, 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Mixed choir performing music from all periods.
- 127 University Chorale**
Fall, Spring, 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Mixed chamber choir for experienced singers performing representative literature from all periods.
- 129 Percussion Ensemble**
Fall, Spring, 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of representative works for percussion and mallet ensembles.
- 130 Jazz Band**
Fall, Spring, 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance in large jazz ensemble. Literature from classic bands of Ellington and Basie to contemporary composers.
- 131 Jazz Combo**
Fall, Spring, 1(1-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance in small jazz ensembles. Literature from all historical periods of jazz.
- 141 Class Instruction in Piano I**
Fall, Spring, 1(1-1) R: Open only to students in the School of Music.
Use of the piano as a teaching tool.
- 142 Class Instruction in Piano II**
Spring, 1(1-1) RB: (MUS 141) R: Open only to students in the School of Music.
Use of the piano as a teaching tool.
- 143 Class Instruction in Voice I: Music Majors**
Fall, 1(1-1) R: Open only to students in the School of Music with an emphasis in voice. C: MUS 151 concurrently.
English lyric diction. Rules or pronunciation. Performance of English language songs in class.
- 144 Class Instruction in Voice II: Music Majors**
Spring, 1(1-1) P:M: (MUS 143) R: Open only to students in the School of Music C: MUS 151 concurrently.
Italian lyric diction. Rules of pronunciation. Performance of Italian language songs in class.
- 145 Class Instruction in Voice I**
Fall, Spring, 1(1-1) R: Not open to students in the School of Music
Rules of pronunciation. Vocal techniques.
- 146 Class Instruction in Voice II**
Spring, 1(1-1) P:M: (MUS 145) R: Not open to students in the School of Music
Vocal techniques and exploration of vocal literature.
- 147 Class Instruction in Elementary Piano I**
Fall, Spring, 2(2-1) R: Not open to students in the School of Music.
Basic notation, performance, improvisation, and transposition. Repertoire includes folksongs, simple classics, and blues.
- 149 Keyboard Skills**
Fall, Spring, 1(0-2) A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to students in the School of Music.
Sight-reading, transposing, figured bass, keyboard harmony, and accompanying instrumentalists and vocalists.
- 150A Piano**
Fall, Spring, 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in piano.
- 150C Harp**
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in harp.
- 150J Piano: Jazz**
Fall, Spring, 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in piano.
- 151 Voice**
Fall, Spring, 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in voice.
- 151J Voice: Jazz**
Fall, Spring, 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in voice.
- 152A Violin**
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in violin.
- 152B Viola**
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in viola.
- 152C Cello**
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in cello.
- 152D Double Bass**
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in double bass.

- 152J Stringed Instruments: Jazz**
Fall, Spring. 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in a stringed instrument.
- 153A Flute**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in flute.
- 153B Oboe**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in oboe.
- 153C Clarinet**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in clarinet.
- 153D Saxophone**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in saxophone.
- 153E Bassoon**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in bassoon.
- 153J Woodwind Instruments: Jazz**
Fall, Spring. 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in a woodwind instrument.
- 154A Trumpet**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in trumpet.
- 154B Horn**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in horn.
- 154C Trombone**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in trombone.
- 154D Euphonium**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in euphonium.
- 154E Tuba**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in tuba.
- 154J Brass Instruments: Jazz**
Fall, Spring. 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in a brass instrument.
- 155 Percussion Instruments**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 16 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in percussion instruments.
- 155J Percussion Instruments: Jazz**
Fall, Spring. 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to students in the School of Music.
Private instruction in percussion instruments.
- 160 Class Instruction in Guitar**
Fall, Spring. 1(1-0) R: Open only to students in the Music Therapy major and to other students in the School of Music with a teacher certification option.
Chording, strumming, and finger picking techniques. Accompanying and song leading with guitar. Reading of notation and tablature. Classical and popular styles.
- 162 Class Instruction in Flute and Saxophone**
Spring. 1(0-2) R: Open only to students in the School of Music with a teacher certification option.
Techniques for playing and teaching flute and saxophone.
- 163 Class Instruction in Clarinet**
Fall. 1(0-2) R: Open only to students in the School of Music with a teacher certification option.
Techniques for playing and teaching clarinet.
- 164 Class Instruction in Double Reed Instruments**
Spring. 1(0-2) R: Open only to students in the School of Music with a teacher certification option.
Techniques for playing and teaching oboe and bassoon.
- 165 Class Instruction in High Brass Instruments**
Fall. 1(0-2) R: Open only to students in the School of Music with a teacher certification option.
Techniques for playing and teaching trumpet and horn.
- 166 Class Instruction in Low Brass Instruments**
Spring. 1(0-2) R: Open only to students in the School of Music with a teacher certification option.
Techniques for playing and teaching trombone, euphonium, and tuba.
- 171 Class Instruction in Stringed Instruments I**
Fall. 1(1-1) R: Open only to Music majors.
Techniques for playing and teaching stringed instruments at the elementary level.
- 172 Class Instruction in Stringed Instruments II**
Spring. 1(1-1) P:M: (MUS 171) SA: MUS 161
Techniques for playing and teaching stringed instruments at the intermediate level and beyond.
- 173 Class Instruction in Percussion Instruments I**
Fall, Spring. 1(1-1) R: Open only to students in the School of Music.
Techniques for playing and teaching percussion instruments at the elementary level.
- 174 Class Instruction in Percussion Instruments II**
Spring. 1(1-1) P:M: (MUS 173)
Techniques for playing and teaching percussion instruments at the intermediate level and beyond.
- 175 Understanding Music**
Fall, Spring. 2(2-0)
An active and creative approach to understanding the elements of music in a wide variety of music styles. No prior musical skills required.
- 177 Introduction to Music Education**
Fall, Spring. 2(2-1) SA: MUS 260
Historical foundations, current trends, and teaching responsibilities in music education at all curricular levels.
- 178 Music Theory For Non Music Majors I**
Fall. 2(2-1) R: Not open to music majors. Not open to students with credit in MUS 180.
Basic components of both written and aural music. No previous musical knowledge assumed.
- 179 Music Theory For Non Music Majors II**
Spring. 3(3-1) P:M: (MUS 178) R: Not open to music majors. Not open to students with credit in MUS 180 or MUS 181.
Common chords and chord progressions, harmonizing melodies, basic musical forms including some popular and jazz forms, introductory compositional techniques.
- 180 Fundamentals of Music**
Fall. 2(2-1) R: Open only to students in the School of Music.
Conceptual and notational presentation of the basic components of musical structure.
- 181 Musicianship I**
Spring. 3(3-1) P:M: (MUS 180) R: Open only to students in the School of Music
Hierarchical musical structure through species counterpoint and figured bass. Linear and vertical aspects of tonality.
- 182 Ear Training and Sight Singing I**
Fall. 1(1-1) R: Open only to students in the School of Music.
Dictation, melody singing using solfège (movable do) syllables, intervals to octave, error detection, quarter note values in rhythm, part singing.
- 183 Ear Training and Sight Singing II**
Spring. 1(1-1) RB: (MUS 182) R: Open only to students in the School of Music.
Dictation, singing melodies in major and minor keys. Simple modulation, chromatic alteration, error detection, rhythms, triads and components, part singing.

Music—MUS

- 185 Freshman Jazz Studies: Listening and Assimilation**
Fall. 2(2-0)
Introduction to jazz. Listening and appreciating jazz. Jazz styles and history.
- 200 Introduction to Music Theory**
Fall. 1(1-1) R: Open only to graduate students in the School of Music. SA: MUS 800
Elements of music theory, with emphasis on voice-leading and harmonic analysis in diatonic and chromatic music.
- 201 Aural Skills**
Spring. 1(1-1) R: Open only to graduate students in the School of Music. SA: MUS 801
Ear training in the areas of melody, harmony, and rhythm. Sight singing using the solfege system. Computer-aided drill programs.
- 211 History of Western Music to 1750**
Fall. 3(3-0) P:M: (MUS 181) R: Not open to freshmen. Open only to students in the School of Music.
Music from ancient Greece through the Baroque. Literature and theory of plainsong, instrumental and vocal traditions, and vocal polyphony before 1750 in sociopolitical context.
- 212 History of Western Music Since 1750**
Spring. 3(3-0) P:M: (MUS 181) RB: (MUS 211) R: Not open to freshmen. Open only to students in the School of Music.
Literature of the cultivated tradition and its theory in sociopolitical context.
- 230 Beginning Jazz Improvisation I**
Fall. 2(2-0) P:M: (MUS 181) R: Not open to freshmen.
Keys, modes, chord progressions as improvisational tools. Blues form in basic keys. Aural transcription of recorded solos.
- 231 Beginning Jazz Improvisation II**
Spring. 2(2-0) P:M: (MUS 230) R: Not open to freshmen.
Performance of complete tunes using II,-V-I progressions in all major and minor keys. Transcriptions of recorded jazz solos.
- 241 Advanced Class Instruction in Piano I**
Fall. 1(1-1) P:M: (MUS 142) R: Not open to freshmen. Open only to students in the School of Music.
Use of the piano as a teaching tool in school music.
- 242 Advanced Class Instruction in Piano II**
Spring. 1(1-1) P:M: (MUS 241) R: Not open to freshmen. Open only to students in the School of Music.
Continuation of MUS 241.
- 248 German Diction for Singers**
Fall. 1(1-1) P:M: (MUS 151) R: Open only to students in the School of Music.
German lyric diction. Rules of pronunciation. Performance of German art songs in class.
- 249 French Diction for Singers**
Spring. 1(1-1) P:M: (MUS 151) R: Open only to students in the School of Music.
French lyric diction. Rules of pronunciation. Performance of French art songs in class.
- 270 Music Therapy: Foundations and Principles**
Fall. 3(3-0)
History, philosophy and scope of the practice of music therapy. Use of music in promoting health and treating people with special needs. Field trips required.
- 271 Music Therapy: Instrumental, Vocal and Movement Techniques**
Spring of even years. 3(3-0) RB: (MUS 270)
Creative and expressive techniques involving percussion instruments, autoharp, handchimes, song leading, creative movement, folk dance.
- 277 Principles of Music Education**
Fall, Spring. 3(2-2) P:M: (MUS 177) SA: MUS 339
Techniques for developing instructional and management skills for teaching music. On- and off-campus clinical experiences required.
- 280 Musicianship II**
Fall. 3(3-1) P:M: (MUS 181)
Techniques of diatonic modulation and soprano harmonization. Chromatic techniques.
- 281 Musicianship III**
Spring. 3(3-1) P:M: (MUS 280)
Research base for formal categorization. Large-scale principles of musical organization. Chromatic substitution and chords derived from voice-leading.
- 282 Advanced Ear Training and Sight Singing I**
Fall. 1(1-1) P:M: (MUS 183)
Dictation including recognition of triads, functions, cadences, seventh-chord harmonies, chord components. Two-and four-part dictation and singing.
- 283 Advanced Ear Training and Sight Singing II**
Spring. 1(1-1) P:M: (MUS 282)
Recognition of harmonic functions in major keys, minor keys, and modulations. Dictation in two-and four-part textures including augmented-sixth chords and nonharmonic tones.
- 290 Independent Study**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Approval of school.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
- 301 Advanced Jazz Musicianship I**
Fall. 2(2-0) P:M: (MUS 231) R: or audition.
Secondary dominants, borrowed chords and tritone substitutions. Transcriptions of recorded jazz solos.
- 302 Advanced Jazz Musicianship II**
Spring. 2(2-0) P:M: (MUS 301)
Pentatonic scale relationships within II-V-I progressions, Aleatoric approaches to improvisation, non-traditional chord progressions, transcription of recorded jazz solos.
- 303 Advanced Jazz Musicianship III**
Fall. 2(2-0) P:M: (MUS 302)
Continuation of Advanced Jazz Musicianship II.
- 304 Advanced Jazz Musicianship IV**
Spring. 2(2-0) P:M: (MUS 303) R: Open only to juniors or seniors in Music.
Continuation of Advanced Jazz Musicianship III.
- 335 Ensemble Conducting I**
Fall. 2(2-2) P:M: (MUS 281) R: Open only to students in the School of Music with a teacher certification option and to students with a major in Music Therapy or Composition and Music Theory.
Introduction to conducting and rehearsal techniques.
- 336A Ensemble Conducting II: Instrumental**
Spring. 2(2-2) P:M: (MUS 335) R: Open only to students in the School of Music with a teacher certification option and students with a major in Composition and Music Theory. SA: MUS 336
Advanced conducting and rehearsal techniques as applied to music literature from each of the stylistic periods.
- 336B Ensemble Conducting II: Choral**
Spring. 2(2-2) P:M: (MUS 335) R: Open only to students in the School of Music with a teacher certification option and to students with a major in Composition and Music Theory. SA: MUS 336
Advanced conducting and rehearsal techniques as applied to music literature from each of the stylistic periods.
- 337 Conducting for Music Performance Majors**
Spring. 1(1-1) P:M: (MUS 281) R: Open only to Music Performance majors.
Beat patterns, clefs, and transpositions of string, wind, and percussion instruments. Score reading and analysis. Rehearsal techniques.
- 340 Methods and Literature for Voice**
Fall. 3(3-0) RB: Four semesters of MUS 151. R: Open only to majors in the School of Music.
Methods of teaching voice. Literature for both private lessons and classrooms.
- 341 String Pedagogy**
Spring. 2(2-1) R: Open only to majors in the School of Music.
Principles, techniques, and materials for teaching stringed instruments.
- 346 Keyboard Methods and Literature I**
Fall. 2(2-0) RB: Four semesters of MUS 150A. R: Open only to majors in the School of Music.
Beginning and intermediate methods and literature for teaching piano. Observation and teaching of beginning piano students.
- 347 Keyboard Methods and Literature II**
Spring. 2(2-0) P:M: (MUS 346) R: Open only to majors in the School of Music.
Intermediate and advanced methods and literature for teaching piano. Observation and teaching of piano students.
- 348 Piano Accompanying**
Fall, Spring. 1(0-3) A student may earn a maximum of 8 credits in all enrollments for this course. RB: (MUS 149) R: Not open to freshmen. Open only to students in the School of Music.
Accompaniment of instrumental and vocal soloists.
- 349 Piano Performance**
Fall, Spring. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to students in the School of Music.
Critique and analysis of individual performances in a group setting.

- 350A Piano**
Fall, Spring. 2 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P:M: (MUS 150A) R: Open only to majors in the School of Music.
Private instruction in piano.
- 350C Harp**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P:M: (MUS 150C) R: Open only to majors in the School of Music.
Private instruction in harp.
- 350J Applied Jazz Piano**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. P:M: (MUS 150J)
Continuation of MUS 150J. Further refinement of listening skills. Technical analysis of more advanced forms of jazz styles and improvisation. Advanced techniques pertaining to the use of piano in contemporary settings.
- 351 Voice**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P:M: (MUS 151) R: Open only to majors in the School of Music.
Private instruction in voice.
- 351J Applied Jazz Vocals**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. P:M: (MUS 151J)
Continuation of MUS 151J. Advanced vocal technique. Performance experience in jazz idiom. Performance of advanced technical exercises and assigned jazz repertoire.
- 352A Violin**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 152A) R: Open only to majors in the School of Music.
Private instruction in violin.
- 352B Viola**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 152B) R: Open only to majors in the School of Music.
Private instruction in viola.
- 352C Cello**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 152C) R: Open only to majors in the School of Music.
Private instruction in cello.
- 352D Double Bass**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 152D) R: Open only to majors in the School of Music.
Private instruction in double bass.
- 352J Applied Jazz Strings**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. P:M: (MUS 152J)
Continuation of MUS 152J. Further refinement of listening skills. Technical analysis of advanced forms of jazz styles and improvisation. Significant be-bop and hard-bop compositions. Advanced techniques pertaining to use of string instruments in contemporary settings.
- 353A Flute**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 153A) R: Open only to majors in the School of Music.
Private instruction in flute.
- 353B Oboe**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 153B) R: Open only to majors in the School of Music.
Private instruction in oboe.
- 353C Clarinet**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 153C) R: Open only to majors in the School of Music.
Private instruction in clarinet.
- 353D Saxophone**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 153D) R: Open only to majors in the School of Music.
Private instruction in saxophone.
- 353E Bassoon**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 153E) R: Open only to majors in the School of Music.
Private instruction in bassoon.
- 353J Applied Jazz Woodwinds**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. P:M: (MUS 153J)
Continuation of MUS 153J. Further refinement of listening skills. Technical analysis of more advanced forms of jazz styles and improvisation. Significant, be-bop and hard-bop compositions. Advanced techniques pertaining to the use of woodwinds in contemporary settings.
- 354A Trumpet**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 154A) R: Open only to majors in the School of Music.
Private instruction in trumpet.
- 354B Horn**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 154B) R: Open only to majors in the School of Music.
Private instruction in horn.
- 354C Trombone**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 154C) R: Open only to majors in the School of Music.
Private instruction in trombone.
- 354D Euphonium**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 154D) R: Open only to majors in the School of Music.
Private instruction in euphonium.
- 354E Tuba**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 154E) R: Open only to majors in the School of Music.
Private instruction in tuba.
- 354J Applied Jazz Brass**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. P:M: (MUS 154J)
Continuation of MUS 154J. Further refinement of listening skills. Technical analysis of more advanced forms of jazz styles and improvisation. Significant be-bop and hard-bop compositions. Advanced techniques pertaining to the use of jazz brass in contemporary settings.
- 355 Percussion**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P:M: (MUS 155) R: Open only to majors in the School of Music.
Private instruction in percussion.
- 355J Applied Jazz Percussion**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course. P:M: (MUS 155J)
Continuation of MUS 155J. Further refinement of listening skills. Technical analysis of more advanced forms of jazz styles and improvisation. Significant be-bop and hard-bop compositions. Advanced techniques pertaining to the use of jazz percussion in contemporary settings.
- 370 Music Therapy: Behavior Measurement and Assessment**
Fall of odd years. 3(3-1) P:M: (MUS 270) R: Open only to Music Therapy majors.
Observation and assessment of behavior. Principles of behavioral change. Design of treatment. Ethics and standards of clinical practice. Clinical practicum required.
- 371 Music Therapy: Treatment Planning and Case Management**
Spring of even years. 3(3-1) P:M: (MUS 270) R: Open only to Music Therapy majors.
Design and evaluation of treatment programs. Goals and objectives of treatment. Group techniques. Clinical Practicum required.
- 380 Musical Styles and Forms**
Spring. 3(3-0) P:M: (MUS 281 and MUS 212) R: Open only to majors in the School of Music.
Form in pre-20th century Western music. Stylistic analysis of representative medieval, renaissance, baroque, and 18th and 19th century compositions.
- 381 20th Century Music Theory (W)**
Fall. 3(3-1) P:M: (MUS 281) and completion of Tier I writing requirement.
Western art music and jazz. Stylistic and formal analysis of representative compositions and jazz improvisations. Post-tonal theory. Jazz nomenclature and harmonic practice.
- 400 Jazz Arranging and Composition I**
Fall. 2(2-0) P:M: (MUS 281)
Jazz instrumental writing focusing on voicing concepts for standard jazz chord progressions, melody, counter-melody, and standard forms. Beginning orchestration techniques emphasizing form.
- 401 Jazz Arranging and Composition II**
Spring. 2(2-0) P:M: (MUS 400)
Jazz instrumental writing focusing on orchestration and arranging concepts for large jazz ensembles. Voicing of chords within and across sections. Orchestration techniques which emphasize form.
- 410 Jazz History**
Fall. 2(2-0) P:M: (MUS 212)
Survey of jazz from its beginnings in African American aural traditions to the present.

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- 411 Audio Engineering for the Musician**
Fall. 2(2-0)
Basic audio concepts. Equipment used in various recording situations. Operation and artistic use of audio equipment.
- 413 Keyboard Literature to Mid-19th Century**
Fall of even years. 2(2-1) P:M: (MUS 281)
R: Open only to majors in the School of Music.
Keyboard styles and works of representative composers such as Bach, Couperin, Mozart, Haydn and Beethoven.
- 414 Keyboard Literature since the Mid-19th Century**
Spring of odd years. 2(2-1) P:M: (MUS 413)
R: Open only to majors in the School of Music.
Keyboard styles and works of representative composers such as Schumann, Chopin, Ives and Prokofiev.
- 415 Art Song Literature: German**
Fall of even years. 2(2-1) P:M: (MUS 181 and MUS 248) R: Open only to majors in the School of Music. Not open to freshmen or sophomores. C: MUS 350A concurrently, MUS 850A concurrently, MUS 351 concurrently, MUS 851 concurrently.
Standard art song repertoire with emphasis on German Lieder. Performance of art songs in class.
- 416 Art Song Literature: French, Spanish, and Italian**
Spring of odd years. 2(2-1) P:M: (MUS 144 and MUS 249 and MUS 281) R: Open only to majors in the School of Music. Not open to freshmen or sophomores. C: MUS 350A concurrently, MUS 850A concurrently, MUS 351 concurrently, MUS 851 concurrently.
Standard art song repertoire with emphasis on French, Spanish, and Italian art songs. Performance of art songs in class.
- 420 Music of the 18th Century**
Spring of even years. 2(2-0) P:M: (MUS 212) R: Not open to freshmen or sophomores. Open only to majors in the School of Music.
Late baroque and early classical traditions: styles, genres, forms, theories, aesthetics, performance practices, instruments, and masterworks in sociopolitical context. Aural and score analysis of representative works.
- 421 19th Century European-American Music Literature**
Spring of odd years. 2(2-0) P:M: (MUS 212) R: Not open to freshmen or sophomores. Open only to majors in the School of Music.
Late classical and romantic period traditions: styles, genres, forms, theories, aesthetics, performance practice, instruments and masterworks in sociopolitical context. Aural and score analysis of representative works.
- 422 20th Century European and American Music Literature**
Spring of odd years. 2(2-0) P:M: (MUS 212) R: Not open to freshmen or sophomores. Open only to majors in the School of Music.
Twentieth-century styles, genres, forms, theories, aesthetics, performance practices, instruments and masterworks in sociopolitical context. Aural and score analysis of representative works.
- 423 History of Opera**
Fall of odd years. 2(2-0) P:M: (MUS 212) R: Open only to majors in the School of Music.
Musical, cultural, and social significance of opera since 1600.
- 425 Music of South Asia and Its Diaspora**
Fall of odd years. 2(2-0) R: Not open to freshmen or sophomores.
Music associated with the cultures of South Asian India and Pakistan, and South Asian musical practices in its Diaspora.
- 426 Music of West Africa**
Spring of odd years. 2(2-0) R: Not open to freshmen or sophomores.
Music associated with the cultures of West Africa.
- 429 Music of East Asia**
Fall of even years. 2(2-0) R: Not open to freshmen or sophomores.
Music associated with the cultures of East Asia.
- 430 Music of the Caribbean**
Spring of even years. 2(2-0) R: Not open to freshmen or sophomores.
Music with the cultures of the Caribbean
- 431 Business of Music**
Fall, Spring. 2(2-0)
Fundamental structure of the music industry. Producers, managers, attorneys, and agents. Songwriting and music publishing. Agreements and contracts. Touring and performances. Marketing, merchandising, and advertising. Recording and distribution. Careers in music.
- 435 Opera Theatre**
Fall, Spring. 1 to 2 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of complete operas and operatic excerpts.
- 436 Popular Music of Black America**
Fall of even years. 2(2-0)
Black popular music from 1945 to the present. Influence on American popular music. Rhythm and blues, soul, funk, disco, rap, and their derivative forms. Role of African-American performers, songwriters and producers in the development of a multi billion-dollar music industry.
- 437 Black Music of Two Worlds**
Fall of odd years. 2(2-0)
Relationships among musics of West African peoples and their descendants in the United States, Latin America, and the Caribbean.
- 438 Jazz Pedagogy I**
Fall. 2(2-0) P:M: (MUS 281) R: Open only to juniors or seniors in Music.
Teaching theory and methodologies for jazz education in secondary schools.
- 439 Jazz Pedagogy II**
Spring. 2(2-0) P:M: (MUS 438)
Teaching theory and methodologies for jazz education in secondary schools.
- 441 Introduction to Computer Music**
Fall. 3(3-0) P:M: (MUS 281) R: Not open to freshmen or sophomores.
Digital synthesizers, samplers, and Musical Instrument Digital Interface. Computer sequencing and timbre editing software. Compositional techniques of computer music.
- 442 Independent Projects in Computer Music**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (MUS 441)
Independent composition or research in computer music. Assigned use of computer music studios.
- 448 Advanced Keyboard Methods and Literature I**
Fall. 2(2-0) RB: (MUS 347) R: Open only to majors in the School of Music.
Advanced piano literature for private lessons and classrooms.
- 449 Advanced Keyboard Methods and Literature II**
Spring. 2(2-0) RB: (MUS 448) R: Open only to majors in the School of Music.
Advanced piano literature for private lessons and classrooms.
- 455 Teaching Instrumental Music**
Spring. 3(3-1) P:M: (MUS 177)
Develop skills necessary for teaching elementary and secondary band. Role of the instrumental music educator purpose of instrumental music in the schools. Clinical experiences in schools required.
- 456 Teaching Stringed Instruments**
Fall. 3(2-2) P:M: (MUS 177)
Develop skills and knowledge for teaching string and orchestra programs in schools. Pedagogy, musicianship, curriculum, materials and program administration. Clinical experiences in schools required.
- 461 Marching Band Methods**
Spring. 2(2-0) R: Not open to freshmen or sophomores. Open only to students in the School of Music with a teacher certification option.
Administration of school marching bands. Technical and philosophical aspects.
- 462 Suzuki Methods and Materials**
Spring. 2(1-2) R: Open only to majors in the School of Music.
Beginning levels of Suzuki violin pedagogy.
- 463 Methods and Materials of Elementary Music I**
Fall, Spring. 2(2-0) R: Not open to freshmen or sophomores. Not open to students in the School of Music.
How children learn music from early childhood to grade three.
- 465 Music in Early Childhood**
Fall. 2(2-0) R: Not open to freshmen or sophomores. Open only to students in the School of Music with a teacher certification option.
Music learning activities and teaching strategies for children ages three to six.
- 467 Teaching General Music in the Elementary School**
Fall. 3(2-2) P:M: (MUS 277) R: Open only to students in the School of Music with a teacher certification option.
Techniques for teaching general music to students in grades K-6. Curriculum, pedagogy, materials, and program administration. Clinical experience in schools required.

- 468 Teaching Choral Music**
Spring. 3(2-2) P:M: (MUS 177) and (MUS 336A or MUS 336B)
Techniques for developing choral music programs. Curriculum, pedagogy, materials, and program administration. Clinical experiences in schools required.
- 469 Teaching Secondary Classroom Music**
Fall. 3(3-1) P:M: (MUS 177)
Techniques for teaching general music and elective music classes in middle schools and high schools. Clinical experiences in schools required.
- 470 Music Therapy: Mental and Behavioral Disorders**
Fall. 3(3-1) P:M: (MUS 371 or concurrently and PSY 280 or concurrently) R: Open only to Music Therapy majors.
Use of music therapy to treat clients with mental and behavioral disorders. Clinical practicum required.
- 471 Music Therapy: Physical and Developmental Disabilities**
Spring. 3(3-1) P:M: (MUS 470 and CEP 240 or concurrently) R: Open only to Music Therapy majors.
Use of music therapy to treat clients with physical and developmental disabilities, and medical music therapy. Clinical practicum required.
- 474 Aesthetic Theory and Modernism**
Fall. 4(4-0) Interdepartmental with Philosophy; English; History of Art; Linguistics and Languages; Romance Languages. Administered by Department of Philosophy. R: Not open to freshmen or sophomores.
Problems, assumptions, and arguments of modern aesthetic theory examined in the context of debates over modernity and modernist artistic practice.
- 476 Music Psychology**
Fall of even years. 3(3-0) R: Not open to freshmen.
Music as a socio-cultural phenomenon. Music in contemporary life. Psychoacoustical, neurophysiological, rhythmic, melodic, and harmonic foundations. Psychological aspects of performance, improvisation, and composition. Affect and meaning in music. Music and health.
- 477 Psychology of Music: Research Methodology and Application**
Spring. 2(2-0) P:M: (MUS 476)
Research projects and proposal writing. Application of elementary statistical concepts in evaluating responses to music.
- 480 Counterpoint**
Fall, Spring. 2(2-0) P:M: (MUS 381) R: Open only to majors in the School of Music.
Creative and analytical work with two- and three-part counterpoint in the style of J.S. Bach.
- 483 Composition**
Fall, Spring. 2 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P:M: (MUS 281) R: Open only to majors in the School of Music.
Private instruction in music composition.
- 484 Instrumentation and Basic Orchestration**
Fall. 2(2-1) P:M: (MUS 381) R: Open only to majors in the School of Music.
Four families of orchestral instruments: strings, woodwinds, brass, and percussion. Acoustics, notation, range, articulation, dynamics, technique, and timbre for individual instruments and orchestral sections.
- 490 Independent Study**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 15 credits in all enrollments for this course. R: Approval of school.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
- 491 Special Topics in Music**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 15 credits in all enrollments for this course. R: Approval of school.
Special topics supplementing regular course offerings proposed by faculty for group study.
- 493 Music Therapy: Clinical Practicum**
Fall, Spring, Summer. 1 credit. Fall: Offered at various a. Spring: sites around the U.S. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (MUS 471) R: Open only to Music Therapy majors.
Six months of internship in an approved music therapy clinical program at an accredited treatment center.
- 495 Student Teaching in Music**
Fall, Spring. 9 credits. Interdepartmental with Teacher Education. R: Open only to seniors in the Bachelor of Music Education major.
Supervised music teaching experience in schools. On-campus seminar required.
- 830 Research Methods and Materials in Music**
Fall. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate students in the School of Music.
Organization, presentation, and documentation of research. Encyclopedias, indices, databases, and other aids.
- 832 Seminar in Ethnomusicology**
Fall. 3(3-0) Fall: odd years.
Historical development of ethnomusicology. Theories and techniques of the discipline.
- 833 Fieldwork in Ethnomusicology**
Fall. 3(3-0) Fall: even years.
Fieldwork methods and experience. Theoretical issues. Research strategies and techniques.
- 835 Medieval Music**
Fall. 3(3-0) RB: (MSU 830) R: Open only to graduate students in School of Music.
European music to 1400. Emphasis on polyphonic music, with some attention to Gregorian chant and secular monophony.
- 836 Renaissance Music**
Spring. 3(3-0) R: Open only to graduate students in School of Music.
European music, sacred and secular, from 1400 to 1600.
- 837 17th-Century Music**
Fall. 3(3-0) RB: (MUS 830) R: Open only to graduate students in School of Music.
Instrumental and vocal music in Europe from 1600 to 1700. Development of genres and of national styles.
- 843 Seminar in Piano Pedagogy**
Fall, Spring. 2(2-0) A student may earn a maximum of 8 credits in all enrollments for this course. P:M: (MUS 346 and MUS 347 and MUS 448) RB: Bachelor of Music in Piano Performance, Piano Pedagogy or Music Education R: Open only to graduate students in Music. Must satisfactorily pass an audition and interview as required by piano department.
Advanced piano pedagogy methods and materials for teaching piano at all levels. Conceptualizing and implementing a practical teaching project. Topics will vary.
- 844 Secondary or Specialist Emphasis: Piano**
Fall, Spring. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Instruction in piano for students whose principal instrument is not piano.
- 845 Secondary or Specialist Emphasis: Voice**
Fall, Spring. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Instruction in vocal techniques for students whose principal emphasis is not voice.
- 846 Secondary or Specialist Emphasis: String**
Fall, Spring. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Instruction in violin, viola, cello, or double bass.
- 847 Secondary or Specialist Emphasis: Brass**
Fall, Spring. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Instruction in trumpet, trombone, euphonium, or tuba.
- 848 Secondary or Specialist Emphasis: Woodwind**
Fall, Spring. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Instruction in flute, clarinet, oboe, bassoon, or saxophone.
- 849 Piano Performance**
Fall, Spring. 1(1-0) A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Critique and analysis of individual performances of piano literature in a group setting.
- 850A Piano**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in piano and to master's students in Music Education.
Private instruction in piano.

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- 851 Voice**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in voice.
Private instruction in voice.
- 852A Violin**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in violin.
Private instruction in violin.
- 852B Viola**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in viola.
Private instruction in viola.
- 852C Cello**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in cello.
Private instruction in cello.
- 852D Double Bass**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in double bass.
Private instruction in double bass.
- 853A Flute**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in flute.
Private instruction in flute.
- 853B Oboe**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in oboe.
Private instruction in oboe.
- 853C Clarinet**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in clarinet.
Private instruction in clarinet.
- 853D Saxophone**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in saxophone.
Private instruction in saxophone.
- 853E Bassoon**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in bassoon.
Private instruction in bassoon.
- 854A Trumpet**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in trumpet.
Private instruction in trumpet.
- 854B Horn**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in horn.
Private instruction in horn.
- 854C Trombone**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in trombone.
Private instruction in trombone.
- 854D Euphonium**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in euphonium.
Private instruction in euphonium.
- 854E Tuba**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in tuba.
Private instruction in tuba.
- 855 Percussion**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to master's students in Music Performance with an emphasis in percussion.
Private instruction in percussion.
- 856 Chamber Music**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Performance of pre-20th century chamber music under faculty direction.
- 858A Seminar in Wind Conducting**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open only to graduate students in School of Music with a major in Music Conducting.
Advanced wind conducting, including core repertoire examination and execution with emphasis on score analysis and preparation.
- 858B Seminar in Orchestral Conducting**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to graduate students in School of Music with a major in Music Conducting.
Advanced conducting techniques for the orchestral literature of all periods for string, chamber, and symphony orchestras.
- 858C Seminar in Choral Conducting**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open only to graduate students in School of Music with a major in Choral Conducting.
Advanced conducting techniques for choral and instrumental music of all periods.
- 859 Choral Techniques and Materials**
Spring of even years. 3(3-0) A student may earn a maximum of 15 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Advanced development of choral proficiency. Demonstrations of choral techniques. Conducting by students. Examination and evaluation of new materials. Variable content.
- 860 Seminar in History and Philosophy of Music Education**
Spring of even years. 3(3-0)
Philosophical views regarding the nature of music education leading to the development of a personal, professional philosophy of music education.
- 861 Seminar in Psychology of Music Education**
Fall. 3(3-0)
Psychological foundations of music teaching and learning. Psychological research on problems in music teaching.
- 862 Seminar in Music Curriculum and Methodology**
Fall. 3(3-0)
Historical, philosophical, and psychological foundations of music education curriculum and methodology. Curriculum development and implementation.
- 864 Research in Music Education and Music Therapy**
Fall. 3(3-0)
Methods of research in music education and music therapy. Conceptualization and implementation of a study. Systematic information retrieval. Proposal writing.
- 865 Advanced Methods and Materials in Secondary Music Education**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
Current methods and materials for teaching music in secondary schools. Topics vary.
- 870 Contrapuntal Techniques I**
Fall of odd years. 3(3-0) R: Open only to graduate students in School of Music.
Techniques of voice-leading through imitative counterpoint. Compositional exercises modeled after sacred vocal polyphony of the sixteenth century, principally Palestrina and Victoria.
- 871 Contrapuntal Techniques II**
Spring of even years. 3(3-0) RB: (MUS 870) R: Open only to graduate students in School of Music.
Compositional exercises modeled after instrumental polyphony of the eighteenth century, principally J.S. Bach. Influence of fugal technique in the nineteenth and twentieth centuries.
- 872 Tonal Forms**
Fall. 2(2-0) R: Open only to graduate students in School of Music.
Music from the period of common practice and its relationship to music composition. Interplay of melody, harmony, rhythm, and timbre in various structural units.

- 873 Early 20th Century Techniques**
Spring. 2(2-0) R: Open only to graduate students in School of Music.
Melodic, harmonic, rhythmic, and textural devices employed in early twentieth century music.
- 874 Schenkerian Analysis**
Fall. 2(2-0) R: Open only to graduate students in School of Music.
Thought, works, and influences of Heinrich Schenker. Techniques of linear analysis emphasizing the role of long-range voice-leading musical structure.
- 875 Analysis of Musical Scores**
Summer. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Analysis of choral, orchestral, and band music as a means of enhancing interpretation and performance.
- 876 History of Music Theory**
Fall of odd years. 3(3-0) RB: (MUS 830) R: Open only to graduate students in School of Music.
Principal western theories of music from Pythagoras to the present. Ideas contributing to the development of modern musical thought and their place in western intellectual history.
- 877 Scoring for Orchestra and Band**
Fall. 2(2-1) R: Open only to graduate students in the School of Music.
Theory and practice in scoring for orchestra and band.
- 878 Advanced Scoring for Orchestra and Band**
Spring. 2(2-1) RB: (MUS 877) R: Open only to graduate students in the School of Music.
Orchestra scoring from Bach to Boulez and band scoring from Sousa to Maslanka. Advanced scoring projects.
- 880 Composition**
Fall, Spring. 2(2-0) A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Advanced guided projects in creative writing of music.
- 881 Seminar in Composition**
Fall, Spring. 2(2-0) A student may earn a maximum of 20 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Study of contemporary music, with emphasis on compositional procedures.
- 882 Composition with Computers**
Fall. 2(2-1) R: Open only to graduate students in School of Music.
Current applications of microcomputers in musical composition.
- 883 Advanced Computer Music Projects**
Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: (MUS 882 or MUS 441) R: Open only to graduate students in School of Music and in Computer Science.
Techniques and principles of composition and research with computers. Use of computer hardware and software.
- 890 Independent Study**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Approval of school.
Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
- 891 Special Topics**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 25 credits in all enrollments for this course. R: Approval of school.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.
- 892A Seminar in Music History**
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Various areas of music history, such as major composers, development of genres, criticism, or cultural context.
- 896 Recital Performance**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to master's students in Music Performance. Approval of school.
Directed experience in recital performance in partial fulfillment of Plan B master's degree requirements.
- 897 Concert Conducting**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to master's students in the School of Music with a major in Music Conducting.
Directed experience in concert conducting in partial fulfillment of Plan B master's degree requirements.
- 898 Master's Research**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Open only to master's students in School of Music. Approval of school.
Directed research in support of Plan B master's degree requirements.
- 899 Master's Thesis Research**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Open only to master's students in School of Music. Approval of school.
Directed research in partial fulfillment of Plan A master's degree requirements.
- 935 Seminar in 18th Century Music**
Spring of odd years. 3(3-0) R: Open only to doctoral students in School of Music.
Research on topics in eighteenth-century music.
- 936 Seminar in 19th-Century Music**
Fall of even years. 3(3-0) R: Open only to doctoral students in School of Music.
Selected topics in 19th-century music.
- 937 Seminar in 20th-Century Music**
Spring of even years. 3(3-0) R: Open only to doctoral students in School of Music.
Selected topics in 20th-century music.
- 950A Piano**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in piano.
Private instruction in piano.
- 951 Voice**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in voice.
Private instruction in voice.
- 952A Violin**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in violin.
Private instruction in violin.
- 952B Viola**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in viola.
Private instruction in viola.
- 952C Cello**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in cello.
Private instruction in cello.
- 952D Double Bass**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in the Music Performance major with an emphasis in double bass.
Private instruction in double bass.
- 953A Flute**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in flute.
Private instruction in flute.
- 953B Oboe**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in oboe.
Private instruction in oboe.
- 953C Clarinet**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in clarinet.
Private instruction in clarinet.
- 953D Saxophone**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in saxophone.
Private instruction in saxophone.

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- 953E Bassoon**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in bassoon.
Private instruction in bassoon.
- 954A Trumpet**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in trumpet.
Private instruction in trumpet.
- 954B Horn**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in horn.
Private instruction in horn.
- 954C Trombone**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in trombone.
Private instruction in trombone.
- 954D Euphonium**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in euphonium.
Private instruction in euphonium.
- 954E Tuba**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in tuba.
Private instruction in tuba.
- 955 Percussion**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance with an emphasis in percussion.
Private instruction in percussion.
- 958A Seminar in Wind Conducting**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to doctoral students in School of Music with a major in Music Conducting.
Advanced wind conducting. Core repertoire examination and execution. Score analysis and preparation.
- 958B Seminar in Orchestral Conducting**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to doctoral students in School of Music with a major in Music Conducting.
Advanced conducting techniques for the orchestral literature of all periods for string, chamber, and symphony orchestras.
- 958C Seminar in Choral Conducting**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to doctoral students in School of Music with a major in Music Conducting.
Advanced conducting techniques for choral and instrumental music of all periods.
- 960 Seminar in Measurement in Music Education**
Spring of odd years. 3(3-0) RB: (MUS 864 and MUS 965) or approval of school. R: Open only to graduate students in Music Education.
Theory and practice of measuring musical behavior in terms of aptitude and achievement. Current trends in cognitive, affective, and psychomotor measurement in music.
- 961 Seminar in Music Teacher Education**
Fall of odd years. 3(3-0)
Issues, trends, and strategies for preparing prospective music educators.
- 962 Advanced Studies in the Philosophy of Music Education**
Fall of even years. 3(3-0)
Historic and contemporary views of the value and import of music and music education and their translation into practice.
- 965 Advanced Research Methods in Music Education**
Spring. 3(3-0) RB: (MUS 864)
Music education research projects using computerized statistical analysis.
- 970 Pedagogy of Theory**
Fall of odd years. 3(3-0) R: Open only to graduate students in the School of Music.
Organization, goals, and procedures for teaching music theory to undergraduates. Choice and sequencing of topics, pacing, supplementary materials, educational philosophies, and relevance to performance.
- 971 Pedagogy of Theory II**
Spring of even years. 2(2-0) R: Open only to graduate students in School of Music.
Organization, goals, and procedures for teaching music theory to undergraduates. Ear training and sight singing, and their application to general musicianship.
- 972 Analytical Studies I**
Fall. 3(3-0) R: Open only to graduate students in School of Music.
Melody, harmony, rhythm, color, texture, counterpoint, and structure in selected musical masterpieces from the 13th century to the early 19th century.
- 973 Analytical Studies II**
Spring. 3(3-0) R: Open only to graduate students in School of Music.
Melody, harmony, rhythm, color, texture, counterpoint, and structure in selected musical masterpieces from the nineteenth and twentieth centuries.
- 974 Atonality, Serialism, and Set Theory**
Spring. 2(2-0) R: Open only to graduate students in School of Music.
Atonal and paratonal music. Related compositional and analytical systems. Serialism, integral serialism, and set theory.
- 975 Readings in Music Theory**
Spring of odd years. 2(2-0) R: Open only to graduate students in School of Music.
Current topics in music theory. Research paper required.
- 980 Composition**
Fall, Spring. 2(2-0) A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Advanced guided projects in creative writing of music.
- 990 Doctoral Independent Study**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Approval of school.
Special projects, directed reading, and research arranged by an individual doctoral candidate and a faculty member in areas supplementing the regular course offerings.
- 991 Special Topics**
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 25 credits in all enrollments for this course. R: Approval of school.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for doctoral students.
- 992 Seminar in Musicology**
Spring. 3(3-0) A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to graduate students in School of Music.
Topics in musicology such as early notations, music editing, or historical performance practices.
- 996 Doctoral Recital Performance**
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in Music Performance. Approval of school.
Directed experience in recital performance in partial fulfillment of requirements for the Doctor of Musical Arts degree.
- 997 Doctoral Concert Conducting**
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in the School of Music with a major in Music Conducting. Approval of school.
Directed experience in concert conducting in partial fulfillment of requirements for the Doctor of Musical Arts degree.
- 998 Doctoral Music Composition**
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in the Music Composition major. Approval of school.
Directed experience in composition in partial fulfillment of requirements for the Doctor of Musical Arts degree.
- 999 Doctoral Dissertation Research**
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in the School of Music. Approval of school.
Doctoral dissertation research.