MILITARY SCIENCE  MS

Department of Military Science
Office of the Provost

101. Leadership: The Military Profession
Fall, Spring, Summer. 1(1-1)
Analysis of military profession from several academic perspectives. Technical, ethical, and personal ramifications of officership. Introduction to military leadership. Lab introduces military skills.
R: MS 101, MS 102
QA: MS 101, MS 102

102. Leadership: Land Navigation
Fall, Spring. 1(1-1)
Military topographic and special maps: intersection, resection, modified resection, and polar coordinates. Tactical operation overlays. Preview of small unit leader's role in the Army. Lab: use of lenticular compass.
R: MS 102, MS 202

201. Leadership Assessment Program, the Military Leader
Fall, Spring, Summer. 1(1-1)
Individual leadership development using standardized assessment technology. Administration, personal relations, and decision making. Military writing and professional obligations. Lab includes rappelling and marksmanship.
R: MS 201 QA: MS 201, MS 202

202. Leadership: First Aid/Fitness Training
Fall, Spring, Summer. 1(1-1)
Emergency first aid and including casualty evaluation, lifesaving measures, CPR, and environmental injury prevention. Leader's role in implementing Army Physical Fitness Program. Individual and group fitness programs. Lab hands on leadership training.
R: MS 201 QA: MS 102, MS 201

112. Chamber Music
Fall, Spring. 1(0-2) 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 chamber music literature chosen from various historical periods and styles.
QA: MUS 112

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 marching band literature at football games.
QA: MUS 118A

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 drum line literature at basketball and hockey games.
QA: MUS 118B

116. Campus 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 band literature chosen from baroque period to the present.
QA: MUS 118F
139. **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.  
QA: MUS 195

140. **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.  
QA: MUS 196

141. **Music in Elementary Education**  
Fall, Spring (3-2-2)  
Aural elements of music. How elementary pupils and classroom teachers perceive, sort, and classify musical sounds as encountered in selected genres and styles of musical art.  
QP: MUS 135

142. **Class Instruction in Piano I**  
Fall, Spring, (1-1-1)  
R: Open only to students in School of Music. Use of the piano as a teaching tool.  
QP: NOTATION QA: MUS 142G

143. **Class Instruction in Piano II**  
Spring, (1-1-1)  
P: MUS 141. R: Open only to students in School of Music. Use of the piano as a teaching tool.  
QP: MUS 141G QA: MUS 142G, MUS 143G

144. **Class Instruction in Voice I: Music Majors**  
Fall, (1-1)  
C: MUS 151 R: Open only to students in School of Music with an emphasis in voice.  
QA: MUS 141F

145. **Class Instruction in Voice II: Music Majors**  
Spring, (1-1)  
P: MUS 143, C: MUS 151 R: Open only to students in School of Music with an emphasis in voice.  
QP: MUS 141F QA: MUS 142F, MUS 143F

146. **Class Instruction in Violin**  
Fall, (1-1)  
R: Not open to students in School of Music with an emphasis in voice.  
Rules of pronunciation. Vocal techniques.  
QA: MUS 141P

147. **Class Instruction in Violin**  
Fall, Spring, (2-2-1)  
R: Not open to students in School of Music.  
Basic notation, performance, improvisation, and transcription. Repertoire includes folk songs, simple classics, and blues.  
QA: MUS 147

148. **Class Instruction in Violin**  
Fall, Spring, (2-2-1)  
P: MUS 147. R: Not open to students in School of Music. Note reading and performance, folk songs, easy ragtime, jazz, and shorter classics.  
QP: MUS 147 QA: MUS 148

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 School of Music. Sight-reading, transposing, figured bass, keyboard harmony, and accompanying instrumentalists and vocalists.  
QA: MUS 356

150A. **Piano**  
Fall, Spring, (1-1) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Open only to students in School of Music. Audition required.  
Private instruction in piano.  
QA: MUS 150A

150B. **Pipe Organ**  
Fall, Spring, (1-0) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Open only to students in School of Music. Audition required.  
Private instruction in pipe organ.  
QA: MUS 150B

150C. **Harp**  
Fall, Spring, (1-1) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Open only to students in School of Music. Audition required.  
Private instruction in harp.  
QA: MUS 150C

151. **Voice**  
Fall, Spring, (1-1) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Open only to students in School of Music and students in Music secondary teaching minor. Audition required.  
Private instruction in voice.  
QA: MUS 151

152A. **Violin**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Not allowed to students in Music secondary teaching minor. Audition required.  
Private instruction in violin.  
QA: MUS 152A

152B. **Viola**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in viola.  
QA: MUS 152B

152C. **Cello**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in cello.  
QA: MUS 152C

152D. **Double Bass**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in double bass.  
QA: MUS 152D

153A. **Flute**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in flute.  
QA: MUS 153A

153B. **Oboe**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in oboe.  
QA: MUS 153B

153C. **Clarinet**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in clarinet.  
QA: MUS 153C

153D. **Saxophone**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in saxophone.  
QA: MUS 153D

153E. **Bassoon**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in bassoon.  
QA: MUS 153E

154A. **Trumpet**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in trumpet.  
QA: MUS 154A

154B. **Horn**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in horn.  
QA: MUS 154B

154C. **Trombone**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in trombone.  
QA: MUS 154C

154D. **Euphonium**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in euphonium.  
QA: MUS 154D

154E. **Tuba**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in tuba.  
QA: MUS 154E

155. **Percussion Instruments**  
Fall, Spring, (1-4) A student may earn a maximum of 16 credits in all enrollments for this course.  
R: Audition required.  
Private instruction in percussion instruments.  
QA: MUS 155

160. **Class Instruction in Guitar**  
Fall, Spring (1-1-0)  
R: Open only to students in Music Therapy and to other students in School of Music with a teacher certification option.  
Chorded, strumming and finger picking techniques. Accompanying and song leading with guitar. Reading of notation and tablature. Classical and popular styles.  
QA: MUS 141J

161. **Class Instruction in Stringed Instruments**  
Fall, Spring, (1-2-2)  
R: Open only to students in Music Therapy and to other students in School of Music with a teacher certification option.  
Techniques for playing and teaching stringed instruments.  
QA: MUS 141A, MUS 142A
162. Class Instruction in Flute and Saxophone  
Spring. 1(0-2)  
R: Open only to students in School of Music with a teacher certification option. Techniques for playing and teaching flute and saxophone.  
QA: MUS 143D, MUS 141D

163. Class Instruction in Clarinet  
Fall. 1(1-1)  
R: Open only to students in School of Music with a teacher certification option. Techniques for playing and teaching clarinet.  
QA: MUS 142B

164. Class Instruction in Double Reed Instruments  
Spring. 1(0-2)  
R: Open only to students in School of Music with a teacher certification option. Techniques for playing and teaching reed instruments.  
QA: MUS 142D, MUS 141E

165. Class Instruction in High Brass Instruments  
Fall. 1(0-2)  
R: Open only to students in School of Music with a teacher certification option. Techniques for playing and teaching trumpet and horn.  
QA: MUS 141C, MUS 142B

166. Class Instruction in Low Brass Instruments  
Spring. 1(0-2)  
R: Open only to students in School of Music with a teacher certification option. Techniques for playing and teaching trombone, euphonium, and tuba.  
QA: MUS 142C, MUS 143B

167. Class Instruction in Percussion Instruments  
Fall. 2(1-2)  
R: Open only to students in Music Theory and to other students in School of Music with a teacher certification option. Techniques for playing and teaching percussion instruments.  
QA: MUS 14B, MUS 143C

159. Fundamentals of Music  
Fall, Spring. 3(3-0)  
P: MUS 180.  
Conceptual and notational presentation of the basic components of musical structure. No previous familiarity with music is assumed.  
QA: MUS 180

181. Musicianship I  
Spring. 3(3-0)  
P: MUS 180.  
Hierarchical musical structure through species counterpoint and figured bass. Linear and vertical aspects of counterpoint.  
QA: MUS 181 QA: MUS 182

182. Ear Training and Sight Singing I  
Fall. 1(1-1)  
Diction, melody singing using solfège (movable do) syllables, intonation to locate, error detection, quarter note values in rhythm, part singing.  
QA: MUS 183

183. Ear Training and Sight Singing II  
Spring. 1(1-1)  
P: MUS 182.  
Diction, singing melodies in major and minor keys. Simple modulation, harmonic alteration, error detection, rhythms, triads and components, part singing.  
QA: MUS 183 QA: MUS 184 QA: MUS 185

208. Basic Keyboard Tuning: Theory and Practice I  
Fall. 2(2-0)  
P: MUS 181, MUS 182 or concurrently. R: Not open to freshmen.  
Acoustics of intervals. Historical development of music scales and tuning systems. Classical and modern methods of keyboard tuning.  
QA: MUS 185 QA: MUS 268

209. Basic Keyboard Tuning: Theory and Practice II  
Spring. 2(2-0)  
P: MUS 208. R: Not open to freshmen.  
Acoustics of intervals. Historical development of music scales and tuning systems. Classical and modern methods of keyboard tuning.  
QA: MUS 208 QA: MUS 268, MUS 210

211. History of Western Music Since 1750  
Fall. 1.5(1-1)  
P: MUS 181. R: Not open to freshmen. Open only to students in 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.  
QA: MUS 192 QA: MUS 224

212. History of Western Music to 1750  
Spring. 1.5(1-1)  
P: MUS 211. R: Not open to freshmen. Open only to students in School of Music.  
Literature of the cultivated tradition and its theory in sociopolitical context.  
QA: MUS 224 QA: MUS 226

230. Beginning Jazz Improvisation I  
Fall. 2(2-0)  
P: MUS 181. R: Not open to freshmen.  
Keys, modes, chord progressions as improvisational tools. Blues form in basic keys. Aural transcription of recorded solos.  
QA: MUS 192 QA: MUS 231

231. Beginning Jazz Improvisation II  
Spring. 2(2-0)  
P: MUS 250. R: Not open to freshmen.  
Performance of complete tunes using II-V-I progressions in all major and minor keys. Transcriptions of recorded solos.  
QA: MUS 231 QA: MUS 232

241. Advanced Class Instruction in Piano I  
Fall. 1(1-1)  
P: MUS 142. R: Not open to freshmen. Open only to students in School of Music with an emphasis in voice.  
Use of the piano as a teaching tool in school music.  
QA: MUS 193G QA: MUS 194

242. Advanced Class Instruction in Piano II  
Spring. 1(1-1)  
P: MUS 241. R: Not open to freshmen. Open only to students in School of Music with an emphasis in voice.  
Use of the piano as a teaching tool in school music.  
QA: MUS 241 QA: MUS 242

245. Music in Special Education  
Fall. 2(2-0)  
P: CEP 240. R: Not open to students in the School of Music. Open to all students with special needs.  
Methods of using music experience in the educational, social, emotional and physical development of students.  
QA: MUS 245 QA: MUS 215

248. German Diction for Singers I  
Fall. 1(1-1)  
P: MUS 151. R: Not open to freshmen. Open only to students in School of Music.  
German lyric diction. Rules of pronunciation. Performance of German art songs in class.  
QA: MUS 151 QA: MUS 261

249. French Diction for Singers I  
Fall. 1(1-1)  
P: MUS 151. R: Not open to freshmen. Open only to students in School of Music.  
QA: MUS 151 QA: MUS 262

250. Introduction to School Music  
Fall, Spring. 2(0-2)  
R: Not open to freshmen. Open only to students in the School of Music with a teacher certification option and to students with a Music teaching minor.  
Historical foundations, current trends, and teaching responsibilities in school music at all curricular levels.  
QA: MUS 250

Fall. 3(3-0)  
R: Not open to freshmen.  
History, philosophy and scope of the practice of music therapy. Use of music in treating people with special needs. Field trips required.

271. Music Therapy: Instrumental, Vocal and Movement Techniques  
Fall. 3(3-0)  
P: MUS 260. R: Not open to freshmen.  
Creative and expressive techniques involving percussion instruments, autoharp, handchimes, song leading, creative movement, folk dance.  
QA: MUS 260

281. School of Music with a Teacher Certification Option  
Fall. 2(2-0)  
P: MUS 283.  
Certification preparation for instrument and ensemble teaching.  
QA: MUS 281 QA: MUS 282

281. School of Music with a Teacher Certification Option II  
Spring. 2(2-0)  
P: MUS 283.  
Certification preparation for instrument and ensemble teaching.  
QA: MUS 281 QA: MUS 282

281. School of Music with a Teacher Certification Option III  
Spring. 2(2-0)  
P: MUS 283.  
Certification preparation for instrument and ensemble teaching.  
QA: MUS 281 QA: MUS 282

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.

308. Advanced Keyboard Tuning: Theory and Practice I  
Fall. 3(2-0)  
P: MUS 208. R: Not open to freshmen and sophomores.  
QA: MUS 210 QA: MUS 308

309. Advanced Keyboard Tuning: Theory and Practice II  
Spring. 3(2-0)  
P: MUS 308. R: Not open to freshmen and sophomores.  
QA: MUS 308 QA: MUS 309, MUS 310

330. Advanced Jazz Improvisation I  
Fall. 2(2-0)  
P: MUS 201. R: Not open to freshmen and sophomores.  
Secondary dominant chord progressions and tritone substitution. Transcription of recorded jazz solos.  
QA: MUS 233 QA: MUS 331

331. Advanced Jazz Improvisation II  
Spring. 2(2-0)  
P: MUS 330. R: Not open to freshmen and sophomores.  
Pentatonic scales and pentatonic relationships within II-V-I progressions. Aleatoric approaches to improvisation. Non-traditional chord progressions. Transcription of recorded jazz solos.  
QA: MUS 331 QA: MUS 332, MUS 333
Descriptions—Music of Courses

335. Ensemble Conducting I
Fall, 2(2-1) P: MUS 181. R: Open only to students in the School of Music with a teacher certification option and to students with a Music teaching minor. Introduction to conducting and rehearsal techniques. QA: MUS 335

336. Ensemble Conducting II
Spring, 2(2-1) P: MUS 335. R: Open only to students in the School of Music with a teacher certification option and to students with a Music teaching minor. Advanced conducting and rehearsal techniques as applied to music literature from each of the stylistic periods. QA: MUS 336

337. Conducting for Music Performance Majors
Fall, Spring, 1(1-1) R: Open only to Music Performance majors. Beat patterns, clefs, and transpositions of string, wind, and percussion instruments. Score reading and analysis. Rehearsal techniques. QA: MUS 436

338. Teaching School Music
Spring, 3(2-2) P: MUS 260. R: Open only to students in the School of Music with a teacher certification option and to students with a Music teaching minor. Techniques for developing instructional and management skills for teaching music in grades K through 12. QA: MUS 347, MUS 348

339. Methods and Literature for Voice
Fall, 3(3-0) P: Four semesters of MUS 151. R: Open only to majors in School of Music. Methods and literature for teaching vocal music. QA: MUS 349

340. Methods and Literature for Voice
Spring, 2(2-1) P: Four semesters of MUS 151. R: Open only to majors in School of Music. Methods of teaching voice. Literature for both private lessons and classrooms. QA: MUS 347, MUS 348

341. String Pedagogy
Spring, 2(2-1) R: Open only to majors in School of Music. Principles, techniques, and materials for teaching stringed instruments. QA: MUS 349

342. Keyboard Methods and Literature I
Fall, 2(2-0) P: Four semesters of MUS 150A. R: Open only to majors in School of Music. Beginning and intermediate methods and literature for teaching piano. Observation and teaching of beginning piano students. QA: MUS 347

343. Keyboard Methods and Literature II
Spring, 2(2-0) P: MUS 346. R: Open only to majors in School of Music. Intermediate and advanced methods and literature for teaching piano. Observation and teaching of piano students. QA: MUS 348, MUS 349

344. Piano Accompanying
Fall, Spring, 1(0-0) A student may earn a maximum of 6 credits in all enrollments for this course. P: MUS 149. R: Not open to freshmen. Open only to students in School of Music. Accompaniment of instrumental and vocal solists. QA: MUS 357

345. Piano Performance
Fall, Spring, 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. C: MUS 150A or MUS 350A R: Open only to students in 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: MUS 150A. R: Open only to majors in School of Music, approval of school. Private instruction in piano. QA: MUS 350A

350B. Pipe Organ
Fall, Spring, 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P: MUS 150B. R: Open only to majors in School of Music, approval of school. Private instruction in pipe organ. QA: MUS 350B

350C. Harp
Fall, Spring, 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P: MUS 150C. R: Open only to majors in School of Music, approval of school. Private instruction in harp. QA: MUS 150C QA: MUS 350C

351. Voice
Fall, Spring, 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P: MUS 151. R: Open only to majors in School of Music and to students in Music secondary teaching minor, approval of school. Private instruction in voice. QA: MUS 151 QA: MUS 351

352A. Violin
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 152A. R: Open only to majors in School of Music, approval of school. Private instruction in violin. QA: MUS 152A QA: MUS 352A

352B. Viola
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 152B. R: Open only to majors in School of Music, approval of school. Private instruction in viola. QA: MUS 152B QA: MUS 352B

352C. Cello
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 152C. R: Open only to majors in School of Music, approval of school. Private instruction in cello. QA: MUS 152C QA: MUS 352C

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: MUS 152D. R: Open only to majors in School of Music, approval of school. Private instruction in double bass. QA: MUS 152D QA: MUS 352D

353A. Flute
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 153A. R: Open only to majors in School of Music, approval of school. Private instruction in flute. QA: MUS 153A QA: MUS 353A

353B. Oboe
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 153B. R: Open only to majors in School of Music, approval of school. Private instruction in oboe. QA: MUS 153B QA: MUS 353B

353C. Clarinet
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 153C. R: Open only to majors in School of Music, approval of school. Private instruction in clarinet. QA: MUS 153C QA: MUS 353C

353D. Saxophone
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 153D. R: Open only to majors in School of Music, approval of school. Private instruction in saxophone. QA: MUS 153D QA: MUS 353D

353E. Bassoon
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 153E. R: Open only to majors in School of Music, approval of school. Private instruction in bassoon. QA: MUS 153E QA: MUS 353E

354A. Trumpet
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 154A. R: Open only to majors in School of Music, approval of school. Private instruction in trumpet. QA: MUS 154A QA: MUS 354A

354B. Horn
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 154B. R: Open only to majors in School of Music, approval of school. Private instruction in horn. QA: MUS 154B QA: MUS 354B

354C. Trombone
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 154C. R: Open only to majors in School of Music, approval of school. Private instruction in trombone. QA: MUS 154C QA: MUS 354C

354D. Euphonium
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 154D. R: Open only to majors in School of Music, approval of school. Private instruction in euphonium. QA: MUS 154D QA: MUS 354D

354E. Tuba
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 154E. R: Open only to majors in School of Music, approval of school. Private instruction in tuba. QA: MUS 154E QA: MUS 354E

355. Percussion
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 24 credits in all enrollments for this course. P: MUS 155. R: Open only to majors in School of Music, approval of school. Private instruction in percussion. QA: MUS 155 QA: MUS 355

356. Methods and Materials of Elementary Music
Fall, Spring, 2(2-0) R: Not open to freshmen and sophomores. Not open to students in the School of Music. How children learn music from early childhood to grade three. QA: MUS 135
384. Methods and Materials of Elementary Music I
Spring. 2(2-0)
P: MUS 363. R: Not open to freshmen and sophomores.
Not open to students in the School of Music.
How children learn music in grades 4-6.
QP: MUS 135 QA: MUS 345

370. Music Therapy: Behavior Measurement and Assessment
Fall. 3(3-1)
P: MUS 270. R: Open only to Music Therapy majors.
QP: MUS 400

371. Music Therapy: Treatment Planning and Case Management
Spring. 3(3-1)
P: MUS 370. R: Open only to Music Therapy majors.

380. Musical Styles and Forms
Fall. 3(3-1)
P: MUS 281. R: Open only to majors in School of Music.
Form in pre-20th-century Western music. Stylistic analysis of representative medieval, Renaissance, baroque, and 18th and 19th century compositions.
QP: MUS 282 QA: MUS 380

381. 20th Century Music Theory
Spring. 3(3-1)
QP: MUS 381

408. Piano Technology I
Fall. 3(3-2)
P: MUS 298. R: Open only to majors in School of Music.
Restoring the original tone of old pianos. Repairing or replacing all worn parts. Advanced concert tuning and tone regulation.
QP: MUS 310 QA: MUS 408

409. Piano Technology II
Spring. 3(3-2)
P: MUS 298. R: Open only to majors in School of Music.
Restoring the original tone of old pianos. Repairing or replacing all worn parts. Advanced concert tuning and tone regulation.
QP: MUS 408 QA: MUS 409, MUS 410

412. History of Oratorio
Spring of odd-numbered years. 2(2-0)
P: MUS 211. R: Open only to majors in School of Music.
History and literature of oratorio since 1600.
QP: MUS 226 QA: MUS 412

413. Keyboard Literature to Mid-19th Century
Fall of even-numbered years. 2(2-1)
P: MUS 218. R: Open only to majors in School of Music.
Keyboard styles and works of representative composers such as Bach, Chopin, Mozart, Haydn and Beethoven.
QP: MUS 182 QA: MUS 415C

414. Keyboard Literature since the Mid-19th Century
Spring of even-numbered years. 2(2-1)
P: MUS 413. R: Open only to majors in School of Music.
Keyboard styles and works of representative composers such as Schumann, Chopin, Ives and Prokofiev.
QP: MUS 228 QA: MUS 416C, MUS 417C

415. Art Song Literature: German
Fall of even-numbered years. 2(2-1)
P: MUS 281. R: Open only to majors in School of Music.
Standard art song repertoire with emphasis on German Lieder. Performance of art songs in class.
QP: MUS 182 QA: MUS 415E

416. Art Song Literature: European and American
Spring of even-numbered years. 2(2-1)
P: MUS 181. R: Open only to majors in School of Music.
Standard art song repertoire with emphasis on Italian, French, and twentieth century art songs. Performance of art songs in class.
QP: MUS 182 QA: MUS 416E

420. Music of the 18th Century
Fall of even-numbered years. 2(2-0)
P: MUS 212. R: Open only to freshmen and sophomores. Open only to Music majors.
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.
QP: MUS 182 QA: MUS 417A

421. 19th Century European-American Music Literature
Spring of even-numbered years. 2(2-0)
P: MUS 212. R: Not open to freshmen and sophomores. Late classical and romantic period traditions: styles, genres, forms, theories, aesthetics, performance practices, instruments and masterworks in sociopolitical context. Aural and score analysis of representative works.
QP: MUS 212 QA: MUS 415B

422. 20th Century European and American Music Literature
Spring of odd-numbered years. 2(2-0)
P: MUS 212. R: Not open to freshmen and sophomores. Twentieth-century styles, genres, forms, theories, aesthetics, performance practices, instruments and masterworks in sociopolitical context. Aural and score analysis of representative works.
QP: MUS 212 QA: MUS 416B

423. History of Opera
Fall of odd-numbered years. 2(2-0)
P: MUS 212. R: Open only to majors in School of Music.
Musical, cultural, and social significance of opera since 1600.
QP: MUS 226 QA: MUS 411

427. Music of Asia, the Pacific, and the Americas
Fall. 2(2-0)
P: MUS 212. R: Open only to majors in School of Music.
Music in the cultures of the Asian continent and Pacific islands. Techniques of ethnomusicology, listening and analysis.
QP: MUS 226

428. Music of Africa, Europe, and the Americas
Spring. 2(2-0)
P: MUS 212. R: Open only to majors in School of Music.
Music in the cultures of Africa, Europe, and the Americas with emphasis on folk and vernacular traditions. Techniques of ethnomusicology, listening and analysis.
QP: MUS 226

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.
QP: MUS 495

440. Electronic and Computer Music Literature
Fall. 3(3-0)
P: MUS 281. R: Open only to freshmen and sophomores.
Music literature composed with tape recorders, synthesizers and computers.
QP: MUS 282 QA: MUS 440

441. Introduction to Computer Music
Fall. 3(3-0)
P: MUS 281. R: Not open to freshmen.
QP: MUS 382 QA: MUS 449

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: MUS 441.
Independent composition or research in computer music. Assigned use of computer music studios.
QP: MUS 441 QA: MUS 442

448. Advanced Keyboard Methods and Literature I
Fall. 2(2-0)
P: MUS 347. R: Open only to majors in School of Music.
Advanced piano literature for private lessons and classrooms.
QA: MUS 462

449. Advanced Keyboard Methods and Literature II
Spring. 2(2-0)
P: MUS 348. R: Open only to majors in School of Music.
Advanced piano literature for private lessons and classrooms.
QA: MUS 463, MUS 464

457. Teaching Instrumental Music in the Elementary School
Fall. 3(2-2)
P: MUS 339. R: Open only to seniors and graduate students in the School of Music and to seniors and graduate students with a Music teaching minor.
Techniques for developing instrumental music programs in grades 4-6. Topics include curriculum, pedagogy, materials, and program administration. Clinical experiences in schools required.
QP: MUS 250 QA: TE 320

458. Teaching Instrumental Music in the Secondary School
Spring. 3(2-2)
P: MUS 339. R: Open only to seniors and graduate students in the School of Music and to seniors and graduate students with a Music teaching minor.
Techniques for developing instrumental music programs in grades 7-12. Topics include curriculum, pedagogy, materials, and program administration. Clinical experiences in schools required.
QP: MUS 250 QA: TE 335

460. Computers in School Music
Spring. 2(2-0)
P: MUS 339. R: Not open to freshmen and sophomores. Open only to students in the School of Music with a teacher certification option and to students with a Music teaching minor.
Techniques and principles of computer-assisted music instruction in school programs. Emphasis on appropriate software and hardware for teaching and management.
QA: MUS 431

461. Marching Band Methods
Spring. 2(2-0)
P: MUS 281. R: Not open to freshmen and sophomores. Open only to students in the School of Music with a teacher certification option and to students with a Music teaching minor.
Administration of school marching bands. Technical and philosophical aspects.
QA: MUS 430

462. Suzuki Methods and Materials
Spring. 2(2-2)
P: MUS 320. R: Open only to majors in School of Music.
Beginning levels of Suzuki violin pedagogy.

Music—Descriptions of Courses
Descriptions—Music of Courses

465. Music in Early Childhood
Fall, Spring, 2(2-0)
P: MUS 260. R: Not open to freshmen and sophomores. Open only to students in the School of Music with a music teaching minor and to students with a Music teaching minor. Music learning activities and teaching strategies for children ages three to six.
QP: MUS 260

466. Literature for Teaching General Music, K-8
Fall, Winter, 2(2-1)
P: TE 401. R: Open only to seniors in the School of Music with a teacher certification option and to seniors with a Music teaching minor. Musical materials for listening and performance in general music classes, K-8. Composed music from classic styles, folk music, and music of diverse cultures.
QP: TE 321, TE 335, TE 336, MUS 345 QA: MUS 404

467. Teaching General Music in the Elementary School
Fall, 3(3-2)
P: MUS 392. R: Open only to seniors and graduate students in the School of Music with a teacher certification option and to seniors and graduate students with a Music teaching minor. Techniques for teaching general music to students in grades K-8. Topics include curriculum, pedagogy, materials, and program administration. Clinical experience in schools required.
QP: MUS 260 QA: TE 321

468. Teaching Choral Music in the Secondary School
Spring, 3(3-2)
P: MUS 393. R: Open only to seniors and graduate students in the School of Music with a teacher certification option and to seniors and graduate students with a Music teaching minor. Techniques for developing choral music programs in grades 7-12. Topics include curriculum, pedagogy, materials, and program administration. Clinical experience in schools required.
QP: MUS 250 QA: TE 336

470. Music Therapy: Mental and Behavioral Disorders
Fall, 3(3-1)
P: MUS 371. R: Open only to Music Therapy majors. Use of music therapy to treat clients with mental and behavioral disorders. Clinical practicum required.
QA: MUS 470

471. Music Therapy: Physical and Developmental Disabilities
Spring, 3(3-1)
P: MUS 470. R: Open only to Music Therapy majors. Use of music therapy to treat clients with physical and developmental disabilities. Clinical practicum required.
QA: MUS 471, MUS 472

476. Psychology of Music: Foundations
Fall, 3(3-0)
QA: PSY 468

477. Psychology of Music: Research Methodology and Application
Spring, 2(2-3)
QP: PSY 468 QA: PSY 487

490. Counterpoint
Fall, Spring, 2(2-0)
P: MUS 381. R: Open only to majors in School of Music. Creative and analytical work with two-and-three-part counterpoint in the style of J.S. Bach.
QA: MUS 386, MUS 387, MUS 388

493. Composition
Fall, Spring, 2 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: MUS 281. R: Open only to majors in School of Music.
Private instruction in music composition.
QP: MUS 282 QA: MUS 425

494. Instrumentation and Basic Orchestration
Fall, 3(3-0)
P: MUS 381. R: Open only to majors in School of Music. Year families of orchestral instruments: strings, woodwinds, brass, and percussion. Acoustics, notation, range, articulation, dynamics, technique, and timbre for individual instruments and orchestral sections.
QP: MUS 282 QA: MUS 385

498. Advanced Orchestration
Spring, 2(2-0)
P: MUS 384. R: Open only to majors in School of Music. Transmission techniques. Orchestral devices and styles. Additional percussion material, harp, and auxiliary instruments.
QP: MUS 383 QA: MUS 384, MUS 385

499. 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.
QP: MUS 490

491. Special Topics in Music
Fall, Spring, 1 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
R: Approval of school.
Special topics supplementing regular course offerings proposed by faculty for group study.
QP: MUS 499

492. Music Therapy: Clinical Practicum
Fall, Spring, Summer. 1 credit.
P: 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.
QP: MUS 472 QA: MUS 400

500. Introduction to Music Theory
Fall, 1(1-1)
R: Open only to graduate students in School of Music. Elements of music theory, with emphasis on voice-leading and harmonic analysis in diatonic and chromatic music.

501. Aural Skills
Spring, 1(1-1)
R: Open only to graduate students in School of Music. Ear training in the areas of melody, harmony, and rhythm. Sight singing using the solfege system. Computer-aided drill programs.

503. 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.
P: Approval of school. Organization, presentation, and documentation of research. Encyclopedias, indices, databases, and other aids.
QA: MUS 524

507. Medieval Music
Fall, Spring, 3(3-0)
P: MUS 830 recommended. R: Open only to graduate students in School of Music. European music, sacred and secular, from 1400 to 1400. Emphasis on polyphonic music, with some attention to Gregorian chant and secular monophony.
QP: MUS 824, MUS 226, MUS 824 QA: MUS 915

509. Renaissance Music
Spring, 3(3-0)
R: Open only to graduate students in School of Music. European music, sacred and secular, from 1400 to 1400.
QP: MUS 824, MUS 226 QA: MUS 916, MUS 415A

510. 17th-Century Music
Fall, 3(3-0)
P: MUS 830 recommended. 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.
QP: MUS 824, MUS 226 QA: MUS 917, MUS 416A

514. 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. Approval of school. Audition required. Not open to students with an emphasis in piano.
Instruction in piano for students whose principal emphasis is not voice.
QA: MUS 849

515. 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. Not open to students with a emphasis in voice. Approval of school. Audition required. Instruction in vocal techniques for students whose principal emphasis is not voice.
QA: MUS 851

516. 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. Approval of school. Audition required. Instruction in violin, viola, cello, or double bass.
QA: MUS 849

517. 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. Approval of school. Audition required. Instruction in trumpet, trombone, euphonium, or tuba.
QA: MUS 847

518. Secondary or Specialist Emphasis: French Horn
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. Approval of school. Audition required. Instruction in trumpet, trombone, euphonium, or tuba.
QA: MUS 847

519. Secondary or Specialist Emphasis: Organ
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 organ or master's students in Music Education. Approval of school. Audition required. Private instruction in piano.
QA: MUS 850A

520. Organ
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 organ. Approval of school. Audition required. Private instruction in organ.
QA: MUS 850B
850C. Harp
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 harp. Approval of school. Audition required. Private instruction in harp. QM: MUS 850C

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. Approval of school. Audition required. Private instruction in voice. QM: MUS 850V

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. Approval of school. Audition required. Private instruction in violin. QM: MUS 850G

852B. 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. Approval of school. Audition required. Private instruction in double bass. QM: MUS 850D

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. Approval of school. Audition required. Private instruction in cello. QM: MUS 850C

852D. 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. Approval of school. Audition required. Private instruction in flute. QM: MUS 850F

852E. 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. Approval of school. Audition required. Private instruction in oboe. QM: MUS 850O

852F. 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. Approval of school. Audition required. Private instruction in clarinet. QM: MUS 850K

853A. 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. Approval of school. Audition required. Private instruction in saxophone. QM: MUS 850M

853A. 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. Approval of school. Audition required. Private instruction in trumpet. QM: MUS 850T

853B. 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. Approval of school. Audition required. Private instruction in horn. QM: MUS 850H

853C. 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. Approval of school. Audition required. Private instruction in trombone. QM: MUS 850P

853D. 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. Approval of school. Audition required. Private instruction in euphonium. QM: MUS 850Q

853E. 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. Approval of school. Audition required. Private instruction in tuba. QM: MUS 850R

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. Approval of school. Audition required. Private instruction in percussion. QM: MUS 850S

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. Approval of school. Audition required. Performance of pre-20th century chamber music under faculty direction. QM: MUS 813

857. 20th-Century Chamber Music
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 graduate students in School of Music. Approval of school. Audition required. Performance of 20th century chamber music under faculty direction. QM: MUS 857

858A. Seminar in Band 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. Approval of school. Audition required. Advanced band conducting, including score analysis and preparation. QM: MUS 858A

858B. Seminar in Orchestral 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. Approval of school. Audition required. Advanced conducting techniques for orchestral literature of all periods and styles (string orchestra, chamber orchestra, symphony orchestra). QM: MUS 858B

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. Approval of school. Audition required. Advanced conducting techniques for choral and instrumental music of all periods. QM: MUS 858C

859. Choral Techniques and Materials
Spring of odd-numbered 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. QM: MUS 859

860. Seminar in History and Philosophy of Music Education
Spring of even-numbered years, 2(2-0). R: Open only to graduate students in College of Arts and Letters and in College of Education. Major philosophies influencing American music education. Rise of music curricula and studies from Ancient Greece to the present. QM: MUS 860

861. Seminar in Psychology of Music Education
Fall, 2(2-0). R: Open only to graduate students in College of Arts and Letters and in College of Education. Psychological foundations of music teaching and learning. Psychological research on problems of music teaching. QM: MUS 861

862. Seminar in Music Curriculum Development
Fall, 2(2-0). R: Open only to graduate students in College of Arts and Letters and in College of Education. History and trends in music education curricula. Curriculum development and curricular models. QM: MUS 862

863. Seminar in Music Education Methodology
Spring of even-numbered years, 2(2-0). R: Open only to graduate students in College of Arts and Letters and in College of Education. Psychological, philosophical, and aesthetic theories of methods and pedagogy that undergird music education. QM: MUS 863
873. Thought, works, and influences of Heinrich Schenker. Methods of voice-leading through imitative techniques of linear analysis emphasizing the role of modern musical thought and their place in Western intellectual history.

QA: MUS 945

874. Advanced Methods and Materials in Elementary 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 elementary schools. Topics vary.

QA: MUS 821

875. Analysis of Musical Scores
Summer. 3 credits. 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.

QA: MUS 860

876. History of Music Theory
Fall of odd-numbered years. 3 credits. P: MUS 820 recommended. 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.

QA: MUS 943

877. Composition
Fall, Spring. 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. Study of contemporary music, with emphasis on compositional procedures.

QA: MUS 864

878. Computer Composition
Fall, Spring. 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. Advanced guided projects in creative writing of music.

QA: MUS 865

879. Independent Study
Fall, Spring, Summer. 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 School of Music. Directed research in support of Plan B master’s degree requirements.

QA: MUS 866

880. Music Therapy
Fall, Spring. 22 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. Focus on music therapy in clinical practice.

QA: MUS 950B

881. 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. Agenda varies.

QA: MUS 950C

882A. Seminar in Music History
Fall. 3 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. Approval of school. Various areas of music history, such as major composers, development of genres, criticism, or cultural context.

QA: MUS 860, MUS 812

883. 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. Directed research in support of Plan A master’s degree requirements.

QA: MUS 868

884. Early 20th Century Techniques
Spring, Fall. 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. Development of new musical ideas and the influence of modernism on contemporary music.

QA: MUS 950D

885. Private Instruction in 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 School of Music. Performance with an emphasis on piano.

QA: MUS 950E

886. Advanced Computer Music Projects
Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MUS 820 or MUS 441. R: Open only to graduate students in Music and Computer Science. Techniques and principles of composition and research with computers. Use of computer hardware and software.

QA: MUS 867

887. Advanced Guided Projects
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 School of Music. Directed research in support of Plan A master’s degree requirements.

QA: MUS 950F

888. Private Instruction in 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 School of Music. Performance with an emphasis in violin.

QA: MUS 950G

889. 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. Directed research in partial fulfillment of Plan A master’s degree requirements.

QA: MUS 869

890. 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.

QA: MUS 820

891. Current Studies in Music Therapy
Spring. 22 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to graduate students in Music Therapy and in Music Education. Evaluation of current research in such areas of music therapy as stress and pain reduction, and music psychotherapy.

QA: MUS 812

892. Education in Music Therapy
Spring. 22 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. Techniques of voice-leading through imitative counterpoint. Compositional exercises modeled after sacred vocal polyphony of the sixteenth century, principally Palestrina and Victoria.

QA: MUS 970

893. Contemporary Techniques I
Fall of odd-numbered years. 3 credits. P: MUS 870 R: Open only to graduate students in School of Music. Contemporary techniques of voice-leading through imitative counterpoint. Compositional exercises modeled after sacred vocal polyphony of the sixteenth century, principally J. S. Bach. Influence of fugal technique in the nineteenth and twentieth centuries.

QA: MUS 971

894. Contemporary Techniques II
Spring of odd-numbered years. 3 credits. P: MUS 870 R: Open only to graduate students in School of Music. Contemporary techniques of voice-leading through imitative counterpoint. Compositional exercises modeled after sacred vocal polyphony of the sixteenth century, principally J. S. Bach. Influence of fugal technique in the nineteenth and twentieth centuries.

QA: MUS 972

895. Tonal Forms
Fall. 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. Music from the period of common practice and its relationship to music composition, interpretation of melody and harmony, and use in various ensemble settings.

QA: MUS 880

896. Early 20th Century Techniques
Spring. 22 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. Development of new musical ideas and the influence of modernism on contemporary music.

QA: MUS 888

897. Schoenbergian Analysis
Fall. 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. Thought, works, and influences of Heinrich Schenker. Techniques of linear analysis emphasizing the role of long-range voice-leading musical structure.

QA: MUS 983

898. Advanced Musical Theory
Fall, Spring, Summer. 1 to 10 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. Academic research in support of Plan A master’s degree requirements.

QA: MUS 985

899. Advanced Musical Theory
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to doctoral students in School of Music. Performance with an emphasis in violin.

QA: MUS 986

900. 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. Approval of school. Audition required.

Private instruction in piano.

QA: MUS 987

901. Advanced Music Therapy Projects
Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MUS 820 or MUS 441. R: Open only to graduate students in Music and Computer Science. Techniques and principles of composition and research with computers. Use of computer hardware and software.

QA: MUS 867

902. Independent Study
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. Agenda varies.

QA: MUS 950C

903. Private Instruction in 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. Approval of school. Audition required.

Private instruction in voice.

QA: MUS 950D

904. 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 on violin. Approval of school. Audition required.

Private instruction in violin.

QA: MUS 950E

905A. 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. Approval of school. Audition required.

Private instruction in violin.

QA: MUS 950F
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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. Approval of School. Audition required. Private instruction in cello. QA: MUS 950C

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 Music Performance with an emphasis in double bass. Approval of school. Audition required. Private instruction in double bass. QA: MUS 950D

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. Approval of school. Audition required. Private instruction in flute. QA: MUS 950I

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. Approval of school. Audition required. Private instruction in oboe. QA: MUS 950J

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. Approval of school. Audition required. Private instruction in clarinet. QA: MUS 950K

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. Approval of school. Audition required. Private instruction in saxophone. QA: MUS 950L

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. Approval of school. Audition required. Private instruction in bassoon. QA: MUS 950M

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. Approval of school. Audition required. Private instruction in trumpet. QA: MUS 950N

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. Approval of school. Audition required. Private instruction in horn. QA: MUS 950O

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. Approval of school. Audition required. Private instruction in trombone. QA: MUS 950P

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. Approval of school. Audition required. Private instruction in euphonium. QA: MUS 950Q

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. Approval of school. Audition required. Private instruction in tuba. QA: MUS 950R

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. Approval of school. Audition required. Private instruction in percussion. QA: MUS 950S

960. Seminar in Measurement in Music Education
Spring of even-numbered years. 2(2-0)
P: MUS 884, MUS 865 or approval of School. R: Open only to graduate students in Music Education or approval of School. Theory and practice in measuring the outcomes of music instruction in the cognitive, affective and psychomotor domains. QP: MUS 811, MUS 956 QA: MUS 903

961. Seminar in Music Teacher Education
Fall. 3(3-0)
R: Open only to graduate students in College of Arts and Letters and in College of Education. Issues, techniques, and problems in the preparation of school music educators. QA: MUS 903

962. Seminar in Aesthetics in Music Education
Fall of even-numbered years. 2(2-0)
R: Open only to graduate students in College of Arts and Letters and in College of Education. Historical foundations of aesthetics. Concept of aesthetic education and implementation in the music classroom. QA: MUS 903

963. Seminar in Administration of Music Programs
Spring of odd-numbered years. 2(2-0)
R: Open only to graduate students in College of Arts and Letters and in College of Education. Techniques and problems in administrating music programs in schools, colleges, and universities. QA: MUS 554

964. Seminar in Music Education Trends
Fall of odd-numbered years. 2(2-0)
R: Open only to graduate students in College of Arts and Letters and in College of Education. Trends in music education, 1965-present. Comparison with former trends in American music education, 1900-1965. QA: MUS 955

965. Advanced Research Methods in Music Education
Fall. 3(3-0)
P: MUS 884, R: Open only to graduate students in College of Arts and Letters and in College of Education. Music education research projects using computerized statistical analysis. QP: MUS 811 QA: MUS 956

970. Pedagogy of Theory I
Fall of odd-numbered years. 2(2-0)
R: Open only to graduate students in School of Music. Organization, goals, and procedures for teaching music theory to undergraduates. Chance and sequencing of topics, pacing supplementary materials, educational philosophies, and relevance to performance. QA: MUS 843

971. Pedagogy of Theory II
Spring of odd-numbered 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. QA: MUS 844

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 18th century. QA: MUS 960

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. QA: MUS 961

974. Atonality, Serialism, and Set Theory
Spring, 2(2-0)
R: Open only to graduate students in School of Music. Atonal and serial musical systems. Related compositional and analytical systems. Serialism, Integral serialism, and set theory. QA: MUS 964

975. Readings in Music Theory
Spring of even-numbered 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. QA: MUS 953

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. QP: MUS 824 QA: MUS 824
Descriptions—Music of Courses

999. Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 40 credits in all enrollments for this course. R: Open only to doctoral students in School of Music. Approval of school.
QA: MUS 999

NATURAL SCIENCE NSC
College of Natural Science

201. Science Problem Solving Seminar I
Fall, 2(2-0)
P: Drew Section of MTH 0823 or MTH 115 or MTH 132 concurrently. R: Approval of college.
Problem solving principles and strategies used in the disciplines of science and mathematics. Activities reflecting the types of problems encountered. QA: NSC 201

202. Science Problem Solving Seminar II
Spring, 2(2-0)
P: NSC 201. R: Approval of college.
Continuation of NSC 201. QA: NSC 202

203. Drew Laboratory Directed Studies
Fall, Spring, 1 to 2 credits. A student may earn a maximum of 40 credits in all enrollments for this course.
P: NSC 202. R: Open only to Drew Laboratory students.
Using topics related to a faculty member's ongoing research, students explore the relationship between science and technology and social issues. QA: NSC 203

360. Special Problems
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Faculty directed individualized study of an interdisciplinary problem.

401. Science Laboratories for Secondary Schools
Fall, 4(2-6)
P: Open only to seniors in the College of Natural Science with at least one teacher certification option.
Laboratory equipment, supplies, demonstrations, exercises, and safety. Care of live organisms. Disposal of biological and chemical wastes. Field trips required.

490. Special Problems
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Faculty directed individualized study of an interdisciplinary problem.
QA: BS 490, NS 300

491. Selected Topics
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Selected interdisciplinary topics not normally covered in other courses.
QA: BS 490, PHS 405

499. Research
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to juniors and seniors in the College of Natural Science with a teacher certification option. Research in faculty laboratories. Oral and written presentations.

800. Problems in Biological or Physical Science for Teachers
Fall, Spring, Summer. 2 to 8 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Teacher Certification required. Approval of college. Supervised study of problems in biological or physical science. QA: BS 800, PHS 800

802. Essentials of Electron Microscopy
Fall, Spring, 2(2-0)
P: NSC 802. R: Approval of department.
Use of transmission microscope and preparative equipment. Preparation techniques for specimens, photographic and darkroom use, and interpretation of micrographs. QA: NSC 802

810. Transmission Electron Microscopy Laboratory
Fall, Spring, Summer. 3(1-4)
P: NSC 802. R: Approval of department.
Use of transmission microscope and preparative equipment. Preparation techniques for specimens, photographic and darkroom use, and interpretation of micrographs. QA: NSC 810

Fall, Spring, 3(1-4)
P: NSC 802 or concurrently. R: Approval of college.

825. Special Problems in Electron Microscopy
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 40 credits in all enrollments for this course.
P: NSC 802, NSC 810 or NSC 820. R: Approval of college.
Use of electron microscope techniques for selected research topics.
QP: NSC 802, NSC 810 or NSC 820 QA: NSC 801

850. Cell and Molecular Biology
Summer. 2 credits. R: Approval of college.
P: Secondary certification in biology, 3 years teaching experience; C: NSC 851 R: Approval of college.
Intensive lecture and laboratory exercises appropriate for secondary students. QA: NSC 851

851. Cell and Molecular Biology Laboratory
Summer. 3 credits. R: Approval of college.
P: Secondary certification in biology, 3 years teaching experience; C: NSC 850 R: Approval of college.
Generation of laboratory exercises appropriate for secondary students. QA: NSC 851

852. Interdisciplinary Seminar in Biological Science
Fall, Spring, Summer. 1 credit. R: Approval of college.
P: Secondary certification in biology, 3 years teaching experience; C: NSC 850 R: Approval of college.
Interrelationships of biological science and technology. Role of society in regulation of research and technological innovations. QA: NSC 852

855. Environmental and Behavioral Biology
Summer. 2 credits. Given only at W.K. Kellogg Biological Station.
P: Secondary certification in biology, 3 years teaching experience; C: NSC 854 R: Approval of college.
Biologic and anthropic behaviors of lakes, streams, forest ecosystems, and microbial ecosystems. QA: NSC 855

856. Environmental and Behavioral Biology Laboratory
Summer. 3 credits. Given only at W.K. Kellogg Biological Station.
P: Secondary certification in biology, 3 years teaching experience; C: NSC 855 R: Approval of college.
Laboratory and field examinations of lake, stream and forest ecosystems. QA: NSC 856

860. Problem Solving Techniques in Physical Science
Summer. 3 credits. QA: NSC 860, NSC 862, NSC 863. R: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. Approval of college.
Measurement and analysis of chemical, physical, and geological phenomena.

861. Chemistry for Teachers
Summer. 2 credits.
P: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. R: Approval of college.
Intensive lecture and laboratory study of basic chemistry from a modern viewpoint.

863. Earth Science for Teachers
Summer. 2 credits.
P: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. R: Approval of college.
Intensive lecture and laboratory study of basic earth sciences from a modern viewpoint.

864. Interdisciplinary Seminar in Physical Science
Summer. 3 credits.
P: NSC 860. R: Approval of college.
Interrelationships of the physical sciences. The role of society in regulation of science to technology transfer.

889. Research for Inservice Teachers
Fall, Spring, Summer. 3 to 8 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to inservice K-I2 teachers with bachelor's degrees.
Research in faculty laboratories. Oral and written presentations.

899. Master's Thesis Research
Fall, Spring, Summer. 3 to 8 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to Master's candidates in College of Natural Science. Approval of college.
QA: BS 899, PHS 899

901. Frontiers in Biological Science
Fall, Spring, 1 credit. A student may earn a maximum of 56 credits in all enrollments for this course. R: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. Approval of college. Weekend workshops with research faculty exploring background and latest findings in their area of research. QA: NSC 901

902. Frontiers in Physical Science
Fall, Spring, 1 credit. A student may earn a maximum of 40 credits in all enrollments for this course. R: Secondary certification in chemistry or physics or earth science or physical science, 3 years teaching experience. Approval of college. Weekend workshops with research faculty exploring background and latest findings in their area of research.