

History 329—Topics in European History  
 History 403—Directed Individual Study  
 Italian 403—Directed Individual Study  
 Literature in Translation 295—Special Topics in  
 Literature and Translation  
 Literature in Translation 395—Literature in  
 Translation Seminar  
 Music 374—Supervised Study in Europe  
 Music 423—Directed Individual Study  
 Philosophy 395—Advanced Seminar  
 Philosophy 403—Directed Individual Study  
 Physics 403—Directed Individual Study  
 Politics 396—Seminar in Political Philosophy  
 Politics 403—Directed Individual Study  
 Religion 260—Seminar in the Christian Tradition  
 Religion 350—Seminar in Biblical Studies  
 Religion 370—Seminar in Judaism  
 Religion 403—Directed Individual Study  
 Spanish 395—Peninsular Seminar  
 Spanish 403—Directed Individual Study

★**MEDIEVAL AND RENAISSANCE STUDIES 110 (3)—  
 Medieval and Renaissance Culture**

A survey of the various rituals, customs, and traditions forming the foundations of Western civilization following the fall of the Roman Empire. This course examines the political, economic, artistic, literary, musical, religious, philosophical and social movements of the Middle Ages and the Renaissance. *Staff.*

*Spring 2000 and alternate years*

**MEDIEVAL AND RENAISSANCE STUDIES 395 (3)—  
 Seminar in Medieval and Renaissance Studies**

*Prerequisite: Permission of the instructor.* A seminar concentrating on topics or concepts relevant to Medieval and Renaissance studies. Topics will be offered according to the interests of participating faculty. This course may be repeated for degree credit with permission and if the topics are different. *Staff.*

**MEDIEVAL AND RENAISSANCE STUDIES 403 (3)—  
 Directed Individual Study**

*Prerequisite: Permission of the instructor.* Individual study of selected topics in Medieval and Renaissance studies. May be repeated for degree credit with permission and if the topics are different. *Staff.*

**MEDIEVAL AND RENAISSANCE STUDIES 473 (3)—  
 Senior Thesis**

*Prerequisites: Permission of the program director(s) and the major adviser.* Individual research devoted to an original topic dealing with issues pertinent to Medieval and Renaissance studies. The focus of this thesis should coincide with the area of study in which the student has done the most work and should be grounded in interdisciplinary themes. Projects should be approved no later than September 30 of the senior year. *Staff.*

*Winter*

**MEDIEVAL AND RENAISSANCE STUDIES 493 (3-3)—  
 Honors Thesis**

*Prerequisites: Senior standing, cumulative grade-point average of 3.300, and permission of the Medieval and Renaissance Studies Committee.* Honors thesis devoted to a specialized topic in Medieval and Renaissance Studies. Applications for honors should be submitted no later than May 1 of the junior year. *Staff.*

*Fall-Winter*

## MUSIC

PROFESSORS SPICE, GAYLARD  
 ASSOCIATE PROFESSOR KOLMAN  
 ASSISTANT PROFESSOR VOSBEIN

### MAJOR

A major in **music** major leading to a Bachelor of Arts degree requires at least 41 credits as follows:

1. Music 131, 132, 161, 162, 260, thesis (473 or 493), and completion of one of the following sequences:
  - a. *Theory-Composition:* Music 261, 263, 333, 361, 362, 397 and one course chosen from Music 231, 232, 331, 332, 374
  - b. *History:* Music 333, 395, 396; one course chosen from Music 220, 221; one course chosen from Music 231, 232; one course chosen from Music 261, 263; and one course chosen from Music 331, 332, 374
  - c. *Performance:* Music 395, 396; ten credits chosen from applied music courses at the 200-level or above; one course chosen from Music 231, 232; and one course chosen from Music 331, 332, 333, 374
2. Enrollment in ensemble courses (108-115) is required every fall and winter term
3. Demonstrated piano proficiency by the end of the junior year

**Note:** Limits of eight credits in ensemble courses (Music 108-115) and of nine credits for non-majors and 12 credits for majors from applied music courses (Music 141-143, 241-243, 341-343, 441-443) allowable toward a degree. Credits taken in excess of these limits will be treated as repeats of the earliest unrepeated credit of each kind. A fee is charged for applied music; music majors are entitled to take one applied music course per term without charge.

*HONORS: An Honors Program in music is offered for qualified students; see department head for details.*

### MUSIC 100 (3)—Fundamentals of Music Theory

Students are introduced to the practical aspects of musical performance through the study of scales, intervals, keys, chords, conventional meters and rhythm and basic ear training. Not open to students already qualified for Music 161. *Kolman.*

*Spring*

### MUSIC 101 (1)—Fundamentals of Voice Production

*Prerequisite: Permission of the instructor.* Introduction to correct vocal production through proper breathing, vowel placement, enunciation, projection, and phrasing. *Williamson.*

*Spring*

### MUSIC 108 (1)—Supervised Piano Accompanying

*Prerequisite: Permission of the instructor.* A practical course in the skills of piano accompaniment including sight reading, score reading, study of style, methods of expression, transposition, and rehearsal techniques. Students are expected to accompany solo vocalists and instrumentalists, play in chamber ensembles or accompany the University choruses. A faculty member is assigned to coach and tutor the student. This course may be repeated. *Gaylard.*

*Fall, Winter, Spring*

**MUSIC 109 (1)—University Chorus**

*Prerequisite: Permission of the instructor.* This course may be repeated. *Williamson.*

*Fall, Winter*

**MUSIC 110 (1)—University Chamber Singers**

*Prerequisite: Permission of the instructor.* This course may be repeated. *Spice.*

*Fall, Winter*

**MUSIC 112 (1)—Chamber Ensembles**

*Prerequisite: Permission of the instructor.* This course may be repeated. Small chamber groups consisting of vocalists and instrumentalists are created to perform music from various historical periods. During fall and winter terms students must be enrolled in orchestra or wind ensemble to participate in chamber ensembles. *Staff.*

*Fall, Winter, Spring*

**MUSIC 113 (1)—University Wind Ensemble**

*Prerequisite: Permission of the instructor.* This course may be repeated. The University Wind Ensemble consists of wind and percussion players who perform band repertoire in concerts on and off campus. *Kolman.*

*Fall, Winter*

**MUSIC 114 (1)—University-Shenandoah Symphony Orchestra**

*Prerequisite: Permission of the instructor.* This course may be repeated. Students who play an orchestral instrument may join the U-SSO which is comprised of university students as well as residents of the community. *Kolman.*

*Fall, Winter*

**MUSIC 115 (1)—University Jazz Ensemble**

*Prerequisite: Permission of the instructor.* This course may be repeated. The University Jazz Ensemble is made up of woodwind, brass and rhythm section players and performs in a wide range of styles, from early swing to contemporary sounds. *Vosbein.*

*Fall, Winter*

**MUSIC 117 (1)—Fundamentals of Conducting**

*Prerequisites: Music 161 and 162 or permission of the instructor.* A course designed to acquaint the student with the fundamental elements of conducting technique, such as beat patterns, cueing, gestures of expression and dynamics, transposition techniques, and score reading. *Kolman.*

*Spring*

**★MUSIC 120 (3)—Introduction to Music**

Development of musical understanding and enjoyment through acquiring skills in listening to music. Emphasis is placed upon learning to hear, to recognize, and to relate the various elements of music. *Gaylard, Spice.*

*Fall, Winter*

**★MUSIC 131 (3)—Music History I**

*Prerequisite: Music major or permission of the instructor.* A survey of music from the Middle Ages through the Baroque period. *Spice.*

*Fall 1999 and alternate years*

**★MUSIC 132 (3)—Music History II**

*Prerequisite: Music major or permission of the instructor.* A survey of music from the Classical period to the present. *Spice.*

*Winter 2000 and alternate years*

**Note:** A limit of nine credits for non-majors and 12 credits for majors in applied music courses (140's, 240's, 340's, 440's) is allowable toward a degree. Available in brass, percussion, piano, strings, voice, woodwinds. A fee is charged for applied music. A music major is entitled to one applied music course per term without charge. Special departmental permission is required for students wanting two-credit applied music courses.

**MUSIC 141 (1-2), 142 (1-2), 143 (1)—Applied Music**

*Prerequisite: Permission of the instructor; seniors must have permission of the department head.* One credit is earned for a one-half hour private lesson and a minimum of five hours practice a week during fall and winter terms; a one hour private lesson and a minimum of 10 hours practice a week are required during the spring term. A two-credit course requires double the lesson and practice time. *Staff.*

*Fall-Winter-Spring*

**★MUSIC 161 (4)—Music Theory I**

*Prerequisite: Music major or permission of the instructor.* Study of scales, modes, chord progressions; harmonic analysis from the common practice period and aural skills. *Kolman.*

*Fall*

**★MUSIC 162 (4)—Music Theory II**

*Prerequisite: Music 161.* A continuation of Music 161, including the writing and analysis of musical progressions and the study of chromatic harmony. *Kolman.*

*Winter*

**★MUSIC 220 (3)—Music in the United States, 1607-1960**

A study of musical styles in America from the time of the first settlers. Topics include Puritan psalms, patriotic music, songs of the Civil War, spirituals, gospel, blues, ragtime, jazz, rock n'roll, musical comedy, popular song and various trends in Classical music from the Moravians to the avant-garde. The course will cover major works by Ives, Gershwin, Copland, and Ellington. *Gaylard.*

*Fall 1999 and alternate years*

**★MUSIC 221 (3)—History of Jazz**

A study of the development of jazz from its roots in turn-of-the-century New Orleans to contemporary styles. Strong emphasis is placed on listening and recognition of the performers and composers discussed. *Vosbein.*

*Fall*

**★MUSIC 231 (3)—Classical Music**

Stylistic study of music of the last half of the 18th century. Concentration on the symphonies, sonatas, concertos, chamber music and operas of Haydn, Mozart, and Beethoven. *Gaylard.*

*Fall 2000 and alternate years*

★**MUSIC 232 (3)—Romantic Music**

Topics in the 19th century including the symphony, the symphonic poem, program music, piano music, nationalism, song and opera. Composers such as Beethoven, Brahms, Chopin, Tchaikovsky, Wagner, and Mahler will be covered. *Gaylard.*

*Winter*

★**MUSIC 233 (3)—Introduction to 20th-Century Music**

*Prerequisite: Permission of the instructor.* A study and comparison of the various styles and composers of contemporary art music from 1912 to the present. *Vosbein.*

*Winter 2001 and alternate years*

**MUSIC 241 (1-2), 242 (1-2), 243 (1)—Applied Music**

*Prerequisite: Permission of the instructor.* One credit is earned for a one-half hour private lesson and a minimum of five hours practice a week during fall and winter terms; a one hour private lesson and a minimum of 10 hours practice a week are required during the spring term. A two-credit course requires double the lesson and practice time. *Staff.*

*Fall-Winter-Spring*

★**MUSIC 260 (3)—Analytical Techniques**

*Prerequisite: Music 162.* An analytical study of compositions focusing primarily on works from the classical and romantic periods. *Vosbein.*

*Fall*

★**MUSIC 261 (3)—Counterpoint**

*Prerequisite: Music 260.* Analytical study of the works of J. S. Bach and others, including inventions, fugues and canons. *Vosbein.*

*Winter 2000 and alternate years*

★**MUSIC 263 (3)—Form and Style**

*Prerequisite: Music 260.* Study of binary, ternary, sonata, rondo, and theme and variation forms. *Vosbein.*

*Winter 2001 and alternate years*

★**MUSIC 331 (3)—Renaissance Music**

A study of trends in musical style of the 15th and 16th centuries. The course will trace the development of the mass, motet, chanson, madrigal, and instrumental forms. Other topics include the effects of courtly life, musical printing, the Reformation, and the Counter-Reformation upon the role of music in Renaissance society. *Spice.*

*Fall 2000 and alternate years*

★**MUSIC 332 (3)—Baroque Music**

Stylistic study of music from 1600 through 1750, Monteverdi through Bach and Handel. The instrumental and vocal compositions of various European locales and composers are examined chronologically. *Spice.*

*Winter 2001 and alternate years*

★**MUSIC 333 (3)—20th-Century Musical Literature**

*Prerequisite: Music 260 and permission of the instructor.* Analysis of a small number of significant 20th century compositions, concentrating on listening and score study. *Vosbein.*

*Winter 2000 and alternate years*

**MUSIC 341 (1-2), 342 (1-2), 343 (1)—Applied Music**

*Prerequisite: Permission of the instructor.* One credit is earned for a one-half hour private lesson and a minimum of five hours practice a week during the fall and winter terms; a one hour private lesson and a minimum of 10 hours practice a week are required during the spring term. A two-credit course requires double the lesson and practice time. *Staff.*

*Fall-Winter-Spring*

**MUSIC 361 (3)—Advanced Composition I**

*Prerequisite: Music 262.* Study of composition to include expanding harmonic vocabulary and achieving rhythmic and metric flexibility and variety. *Vosbein.*

*Fall*

**MUSIC 362 (3)—Advanced Composition II**

*Prerequisite: Music 361.* Study includes writing idiomatically for the instruments; writing for voice and setting text properly; and achieving varying textural and timbral usages. In addition, students try different styles of contemporary writing in order to find the one that suits them best. *Vosbein.*

*Winter*

★**MUSIC 374 (6)—Supervised Study in Europe**

*Prerequisite: Permission of the instructor.* A seminar in the music and culture of selected European musical centers. For 2000, the seminar will be held in London, England. *Spice.*

*Spring 2000 and alternate years*

★**MUSIC 395 (3)—Seminar: Literature and Style of Instrumental Music**

*Prerequisite: Permission of the instructor.* May be repeated for degree credit with permission and if the topics are different. *Gaylard.*

*Spring*

★**MUSIC 396 (3)—Seminar: Literature and Style of Vocal Music**

*Prerequisite: Permission of the instructor.* May be repeated for degree credit with permission and if the topics are different. *Spice.*

*Spring*

★**MUSIC 397 (3)—Seminar: Topics in Composition-Related Techniques**

*Prerequisite: Permission of the instructor.* Topics will change from year to year and include orchestration, notation, electronic music and scholarly or compositional participation in Sonoklect, the new music festival. May be repeated for degree credit with permission and if the topics are different. *Vosbein.*

*Spring*

**MUSIC 423 (3)—Directed Individual Project**

*Prerequisite: Music major and permission of the instructor.* May be repeated for degree credit with permission. *Staff.*

*Fall, Winter*

**MUSIC 441 (1-2), 442 (1-2), 443 (1)—Applied Music**

*Prerequisite: Permission of the instructor.* One credit is earned for a one-half hour private lesson and a minimum of five hours practice a week during the fall and winter terms; a one hour private lesson and a minimum of 10 hours practice a week are required during the spring term. A two-credit course requires double the lesson and practice time. *Staff.*

*Fall-Winter-Spring*

**MUSIC 473 (3)—Senior Thesis**

*Prerequisite: Music major and permission of the instructor.* For theory composition students, this culminates with a recital of original compositions or an analytical thesis. For history students, this culminates with the writing and representation of a thesis. For performance students, this culminates with a full-length formal recital. *Staff.*

*Fall, Winter*

**MUSIC 493 (3-3)—Honors Thesis**

*Prerequisites: Honors candidacy and senior standing.* A summary of prerequisites and requirements may be obtained from the department head.

*Fall-Winter*

**NEUROSCIENCE**

PROFESSOR JARRARD\*

A major in **neuroscience** leading to a Bachelor of Science degree requires the completion of at least the following 50 credits:

1. Biology 112, 215; Chemistry 241, 242; Neuroscience 120, 395; Psychology 111, 180, 253
2. Either Biology 250, 255 or 365
3. Either Psychology 255, 257 or 258
4. At least six credits chosen from the following:
  - Biology 422, 423, 424, 425, 426, 492-496
  - Chemistry 421, 422, 423, 433, 436, 439, 471, 472, 473, 493
  - Computer Science 251 (Engineering 251)
  - Neuroscience 403, 493
  - Psychology 353, 355, 357, 431, 432, 433, 473, 493
5. Additional credits chosen from the list below of approved neuroscience courses.

Additional courses required as prerequisites for completion of the above include Biology 111 and Chemistry 111 and 112.

Students contemplating application to graduate programs or medical school should note that Chemistry 341 (Biochemistry), Mathematics 102 (Calculus II), and Physics 109 (General Physics II) are either required or highly recommended by most admissions committees.

*HONORS: An Honors Program in neuroscience is offered for qualified students; see program head for details.*

Neuroscience courses are as follows; for course descriptions, see the appropriate departmental listings:

Biology 112—General Biology II  
 Biology 215—Cell and Molecular Biology  
 Biology 250—Vertebrate Endocrinology  
 Biology 255—Reproductive Physiology  
 Biology 365—Developmental Biology  
 Biology 397—Special Topics in Neuroendocrinology  
 (May be substituted for Neuroscience 395)  
 Biology 422-426—Directed Individual Research  
 Biology 492-496—Honors Thesis  
 Chemistry 241—Organic Chemistry I  
 Chemistry 242—Organic Chemistry II  
 Chemistry 421-423—Directed Individual Research  
 Chemistry 433-439—Tutorial  
 Chemistry 471-473—Senior Thesis  
 Chemistry 493—Honors Thesis  
 Computer Science 251—Laboratory Computer Applications  
 Engineering 251—Laboratory Computer Applications  
 Neuroscience 120—Introduction to Neuroscience  
 Neuroscience 395—Special Topics in Neuroscience  
 Psychology 111—Brain and Behavior  
 Psychology 180—Research Design and Analysis  
 Psychology 253—Physiological Psychology  
 Psychology 255—Experimental Psychology; Cognitive Neuroscience  
 Psychology 257—Psychobiology of Development  
 Psychology 353—Directed Research in Physiological Psychology

\*Head of Neuroscience Program Advisory Committee