Molecular Evolution: Principles and Techniques
Fall of odd years. 3(3-0) P:NM: (BMB 461 and MIC 421 or concurrently) R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. SA: MPH 827

829 Advanced Microbial Ecology
Fall of even years. 3(3-0) Interdepartmental with Crop and Soil Sciences. Functional roles of microorganisms, their population dynamics and interactions, and their mechanisms of evolutionary change in natural communities, laboratory experiments, and mathematical models.

833 Microbial Genetics
Fall. 3(3-0) R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. SA: MPH 833

835 Eukaryotic Molecular Genetics
Spring. 3(3-0) Interdepartmental with Genetics. P:NM: (BMB 462 and ZOL 341) R: Open only to graduate students in the colleges of Agriculture and Natural Resources, Engineering, Human Medicine, Natural Science, Osteopathic Medicine, and Veterinary Medicine.

841 Soil Microbiology
Spring of even years. 3(3-0) Interdepartmental with Crop and Soil Sciences. P:NM: (MIC 425) SA: MPH 841

851 Immunology
Fall of odd years. 3(3-0) R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. SA: MPH 851

855 Molecular Evolution: Principles and Techniques
Fall of odd years. 3(3-0) Interdepartmental with Zoology: Botany and Plant Pathology. Administered by Department of Zoology. RB: (ZOL 341 or ZOL 445)

861 Advanced Microbial Pathogenesis
Fall of even years. 3(3-0) RB: (MIC 461 or MIC 409)

872 Diversity of Prokaryotes
Fall of odd years. 3(3-0) P:NM: (BMB 461 and MIC 421 or concurrently) R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. SA: MPH 827

889 Special Problems in Microbiology
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Veterinary Medicine, Natural Science, and Agriculture and Natural Resources. Approval of department: SA: MPH 890

892 Seminar
Fall, Spring. (1-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, College of Human Medicine, College of Natural Science, College of Osteopathic Medicine, or College of Veterinary Medicine. SA: MPH 892

899 Master's Thesis Research
Fall, Spring. 1 to 12 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to graduate students in Microbiology and Public Health. SA: MPH 899

991 Topics in Microbiology
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. SA: MPH 991

999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to graduate students in Microbiology and Public Health. SA: MPH 999

Department of Military Science
Office of the Provost

101A Leadership: The Military Profession
Fall. 1(1-1) SA: MS 101 Not open to students with credit in MS 101A

101B Leadership: The Military Profession
Spring. 1(1-2) SA: MS 101 Not open to students with credit in MS 101A

102A Leadership: Wilderness Survival
Fall. 1(1-1) Not open to students with credit in MS 102B

102B Leadership: Wilderness Survival
Spring. 1(1-2) SA: MS 102 Not open to students with credit in MS 102A

201A Leadership: The Military Leader
Fall. 1(1-1) SA: MS 201 Not open to students with credit in MS 201A

202A Introduction to Land Navigation and Tactics
Fall. 1(1-1) SA: MS 202 Not open to students with credit in MS 202B

202B Introduction to Land Navigation and Tactics
Spring. 1(1-2) Not open to students with credit in MS 202A

301 Leading Small Organizations
Fall. 3(3-2) P:NM: (MS 101A or MS 101B) and (MS 102A or concurrently) and (MS 201A or concurrently) and (MS 202A or concurrently) and (MS 202B or concurrently) Completion of basic camp or boot camp. Must meet U.S. Army contracting requirements.

302 Leadership: Small Unit Tactics
Spring. 3(3-2) P:NM: (MS 301) Basic military tactics and the military communications/orders process focusing on small units. Application of lessons learned from leadership case studies to practical exercises of leadership. Delegation of tasks and supervision of subordinates in a stressful environment.
401 Leadership: Training Management, Counseling, and Unit Management
Fall, Spring. 3(3-2) P:NM (MS 302)
Army training philosophy. The lieutenant's role in training management, personnel administration, and logistics. Practical exercises in counseling and training presentations. Practical application of leadership development doctrine. Laboratory includes practical experience in unit administration and training management.

402 Military Law, Ethics and Professionalism
Spring. 3(3-2) P:NM (MS 401)
Introduction of the military legal system and the Law of War. The basis of the military profession and the importance of ethical development to the profession of arms. Development of subordinates. Laboratory includes practical exercises in professional development and leadership opportunities.

490 Independent Study in Military Science
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department. Individual research in areas related to military science.

MUSIC

School of Music
College of Arts and Letters

112 Chamber Music
Fall, Spring. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of chamber music literature.

113 Philharmonic Orchestra
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. RB: High school and/or youth orchestra experience/or other college or university ensemble experience R: Audition required.
Rehearsal and performance of symphonic and operatic repertoire.

114 Marching Band
Fall. 1(0-9) A student may earn a maximum of 6 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of marching band literature at football games.

115 Spartan Brass
Spring. 1(0-2) A student may earn a maximum of 6 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of brass literature at basketball and hockey games.

116 Campus Band
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of broad range of band literature chosen from baroque period to the present.

117 Concert Band
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of wind literature from various historical periods and styles.

118 Wind Symphony
Fall, Spring. 1(0-6) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of wind literature from various periods and styles.

119 Symphony Band
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of broad range of wind and percussion literature.

120 Symphony Orchestra
Fall, Spring. 1(0-6) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of symphonic and operatic repertoire.

122 Campus Orchestra
Fall, Spring. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of symphonic and concert literature written for large orchestra, conducted by staff conductors under the supervision of faculty.

123 Collegiate Choir
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of representative literature for mixed choir with emphasis on renaissance, baroque, classical, romantic, and contemporary composers.

124 Choral Union
Fall, Spring. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
University and community chorus. One evening rehearsal per week, culminating in performance of a major work with orchestra.

125 Glee Club, Men and Women
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course.
Rehearsal and performance of broad range of choral literature chosen from medieval period to the present.

126 State Singers
Fall, Spring. 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Mixed choir performing music from all periods.

127 University Chorale
Fall, Spring. 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Mixed chamber choir for experienced singers performing representative literature from all periods.

129 Percussion Ensemble
Fall, Spring. 1(0-3) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance of representative works for percussion and mallet ensembles.

130 Jazz Band
Fall, Spring. 1(0-4) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance in large jazz ensemble. Literature from classic bands of Ellington and Basie to contemporary composers.

131 Jazz Combo
Fall, Spring. 1(1-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Audition required.
Rehearsal and performance in small jazz ensembles. Literature from all historical periods of jazz.

141 Class Instruction in Piano I
Fall, Spring. 1(1-1) R: Open only to students in the School of Music.
Use of the piano as a teaching tool.

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

143 Class Instruction in Voice I: Music Majors
Fall. 1(1-1) R: Open only to students in the School of Music with an emphasis in voice. C: MUS 151 concurrently.
English lyric diction. Rules or pronunciation. Performance of English language songs in class.

144 Class Instruction in Voice II: Music Majors
Spring. 1(1-1) P:NM (MUS 143) R: Open only to students in the School of Music with an emphasis in voice. C: MUS 151 concurrently.

145 Class Instruction in Voice I
Fall. 1(1-1) R: Not open to students in the School of Music with an emphasis in voice. C: MUS 151 concurrently.
Rules of pronunciation. Vocal techniques.

146 Class Instruction in Voice II
Spring. 1(1-1) P:NM (MUS 145) R: Not open to students in the School of Music with an emphasis in voice. C: MUS 151 concurrently.
Vocal techniques and exploration of vocal literature.

147 Class Instruction in Elementary Piano I
Fall, Spring. 2(2-1) R: Not open to students in the School of Music. Basic notation, performance, improvisation, and transposition. Repertoire includes folksongs, simple classics, and blues.

149 Keyboard Skills
Fall, Spring. 1(0-2) A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to students in the School of Music.
Sight-reading, transposing, figured bass, keyboard harmony, and accompanying instrumentalists and vocalists.

150A Piano
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to students in the School of Music. Audition required.
Private instruction in piano.