112. Chamber Music
Fall, Winter, Spring, Summer. (1-0)
May reenroll for a maximum of 18 credits. Approval of department.
Performance of works for small ensembles.

113A. Symphony Orchestra
Fall, Winter, Spring. 1(0-5) May reenroll for a maximum of 12 credits. Admission by audition.
Preparation and performance of symphony and operatic repertoire under direction of faculty and guest conductors of international reputation.

113B. Chamber Orchestra
Fall, Winter, Spring. 1(0-5) May reenroll for a maximum of 12 credits. Membership determined by audition.
A specialized ensemble of advanced performers concentrating on the repertoire of the clave composers, and modern repertoire for chamber orchestra. Rehearsals and performances with faculty and guest artists.

135. Music in Elementary Education
Fall, Winter, Spring, Summer. 4(3-3)
Elementary education majors.
Study of music learning strategies in the elementary schools. Music concepts and literature are developed through listening, performing, creative and analytical skills. Methods and materials are emphasized.
209. **Basic Keyboard Tuning: Theory and Practice I**
    Winter. 2(1-3) MUS 208.
    Continuation of MUS 208.

210. **Basic Keyboard Tuning: Theory and Practice III**
    Spring. 2(1-3) MUS 209.
    Continuation of MUS 209.

211. **Introduction to Music Literature I (A)**
    Fall. 4(4-0) Student may not receive credit in both HUM 261 and MUS 211.
    Comparative study of selected musical works in historical context with emphasis on their relationships to society in general and the other arts in particular. From Antiquity through the Renaissance.

212. **Introduction to Music Literature II (A)**
    Winter. Summer of odd-numbered years. 4(4-0) Student may not receive credit in both HUM 262 and MUS 213.
    Comparative study of selected musical works in historical context with emphasis on their relationships to society in general and the other arts in particular. From 1900 to 1900.

213. **Introduction to Music Literature III (A)**
    Spring. Summer of even-numbered years. 4(4-0) Student may not receive credit in both HUM 263 and MUS 214.
    Comparative study of selected musical works in historical context with emphasis on their relationships to society in general and the other arts in particular. From Beethoven to the present.

224. **History of Music**
    Fall. 3(3-0) MUS 183.
    Music from ancient Greece through Romanesque and Gothic periods, concluding with the Renaissance. Greek theory and 'echoes' of ancient polyphony; development of polyphony; instruments peculiar to period under question.

225. **History of Music**
    Winter. 3(3-0) MUS 224.
    Baroque and classical periods. Special attention to lute, organ, orchestra, sonata, and symphony. Analysis of characteristic works.

226. **History of Music**
    Spring. 3(3-0) MUS 225.
    Romantic period, impressionism, and contemporary trends. Continuation of development of form, melody, rhythm, and tonality. Final examination is comprehensive, covering MUS 224, MUS 225 and MUS 226.

234. **Jazz Improvisation**
    Fall, Winter, Spring. 2(2-0) May reenroll for a maximum of 12 credits. MUS 182 or approval of department, audition for Winter and Spring terms.
    Studies of the fundamentals necessary for the improvisation of knowledgeable jazz soloists, including the areas of theory, styles, and transcription, as well as individual performance in class.

241. **Advanced Class Piano**
    Fall. 1(0-2) MUS 143 or approval of department. For School Music Choral majors only.
    Continuation of Class Piano MUS 143. Special emphasis given to developing practical skills at the piano for use in the public school classroom.

242. **Advanced Class Piano**
    Winter. 1(0-2) MUS 241 or approval of department.
    Continuation of MUS 241.

243. **Advanced Class Piano**
    Spring. 1(0-2) MUS 242 or approval of department.
    Continuation of MUS 242.

244. **Music in Special Education**
    Fall, Winter, Spring, Summer. 3(3-0) MUS 250. Special education majors.
    Methods of teaching music in special education programs.

250. **Introduction to School Music**
    Fall, Spring. 1(1-1) Sophomores in Music Education or approval of department.
    An overview of the field of school music. Study and discussion of historical background, current trends, and teaching responsibilities at all curricular levels.

251. **German Diction for Singers**
    Fall. 1(1-1) Three terms of MUS 151.
    Practice and training in German lyric diction. Rules of pronunciation; emphasis on spoken drill and performance of German art songs in class.

271. **Fundamentals of Music**
    Fall, Winter, Spring. 3(3-1) Nonmajors.
    Fundamentals of music to develop understanding and knowledge of scales and modes, key signatures, chord structures, chord progressions and non-harmonic tones.

274. **Music Literature in Live Performance**
    Fall, Winter, Spring. 2(2-0) May reenroll for a maximum of 6 credits.
    Live performances and discussions of music masterpieces by music department faculty. Instruction will include guidance in study of music styles, form, orchestral instruments.

277. **Popular Music Styles I**
    Winter. 3(3-0)
    Style characteristics of prominent genres of popular music in the United States from 1850 to the present.

280. **Advanced Harmony**
    Fall. 3(3-1) MUS 182.
    Continuation of MUS 182, with added vocabulary and technique through nineteenth century harmony. Creative writing in small forms.

281. **Advanced Harmony**
    Winter. 3(3-1) MUS 280.
    Continuation of MUS 280.

282. **Advanced Harmony**
    Spring. 3(3-1) MUS 281.
    Continuation of MUS 281.

283. **Advanced Aural Harmony**
    Fall, Winter, Spring, Summer. 1(0-2) MUS 285; MUS 286 concurrently.
    Aural counterpart of advanced harmony. Drill in harmonic, melodic, and rhythmical dictation. Sight singing and keyboard harmony.
### Music — Descriptions of Courses

#### 345. Teaching Music in the Elementary School
- **Fall, Winter, Spring, Summer.** 3(3-0)
- Approval of department.
- Procedures and program of music instruction in the elementary school. Special emphasis on instructional problems of early elementary children.

#### 347. Methods and Literature
- **Fall.** Summer of odd-numbered years. 2(1-2) Six terms of study on applied instrument or voice, or approval of department.
- Methods of teaching voice or instruments. Study of appropriate teaching literature.

#### 348. Methods and Literature
- **Winter.** 2(1-2) Six terms of study on applied instrument or voice, or approval of department.
- Methods of teaching voice or instruments. Study of appropriate teaching literature.

#### 349. Methods and Literature
- **Spring.** Summer of even-numbered years. 2(1-2) Six terms of study on applied instrument or voice, or approval of department.
- Methods of teaching voice or instruments. Study of appropriate teaching literature.

#### 350. Keyboard Instruments and Harp
- **Fall, Winter, Spring, Summer.** 1 to 4 credits. May reenroll for a maximum of 24 credits. Six terms of MUS 150 or approval of department.
- Continuation of MUS 150.

#### 351. Voice
- **Fall, Winter, Spring, Summer.** 1 to 4 credits. May reenroll for a maximum of 24 credits. Six terms of MUS 151 or approval of department.
- Continuation of MUS 151.

#### 352. Stringed Instruments
- **Fall, Winter, Spring, Summer.** 1 to 4 credits. May reenroll for a maximum of 24 credits. Six terms of MUS 152 or approval of department.
- Continuation of MUS 152.

#### 353. Woodwind Instruments
- **Fall, Winter, Spring, Summer.** 1 to 4 credits. May reenroll for a maximum of 24 credits. Six terms of MUS 153 or approval of department.
- Continuation of MUS 153.

#### 354. Brass Instruments
- **Fall, Winter, Spring, Summer.** 1 to 4 credits. May reenroll for a maximum of 24 credits. Six terms of MUS 154 or approval of department.
- Continuation of MUS 154.

#### 355. Percussion
- **Fall, Winter, Spring, Summer.** 1 to 4 credits. May reenroll for a maximum of 24 credits. Six terms of MUS 155 or approval of department.
- Continuation of MUS 155.

#### 356. Piano Sight Reading and Accompanying
- **Fall, Winter, Spring.** 2(0-4) May reenroll for a maximum of 12 credits. Piano major or approval of department.

#### 357. Piano Accompanying
- **Fall, Winter, Spring.** 1(0-5) May reenroll for a maximum of 12 credits. Piano major or approval of instructor.
- Instruction in the art of accompaniment. Accompaniment of instrumental and vocal soloists.

#### 358. Studies in Style and Form
- **Fall, Winter, Summer.** 2(2-1) MUS 282.
- Analysis and creative writing of technical and structural practices in music of various periods, with special emphasis on the twentieth century.

#### 359. Studies in Style and Form
- **Winter, Summer.** 2(2-1) MUS 282.
- Analysis and creative writing of technical and structural practices in music of various periods, with special emphasis on the twentieth century.

#### 360. Studies in Style and Form
- **Spring, Summer.** 2(2-1) MUS 282.
- Analysis and creative writing of technical and structural practices in music of various periods, with special emphasis on the twentieth century.

#### 361. Oratorio
- **Fall of even-numbered years. Summer.** 2(1-2) Six terms of voice or approval of department.
- History of oratorio from 1600 to the present.

#### 362. Honors Work
- **Fall, Winter, Spring, Summer.** 1 to 16 credits. May reenroll for a maximum of 16 credits. Approval of department.

#### 400. Clinical Training in Music Therapy
- **Fall, Winter, Spring.** 1 to 18 credits.
- Music therapy majors. Six months internship in an accredited neuropsychiatric hospital.

#### 401. Honors Work
- **Fall, Winter, Spring.** 1 to 16 credits. May reenroll for a maximum of 16 credits. Approval of department.

#### 402. Music Literature for Children
- **Fall, Winter, Spring.** 3(0-0) MUS 346, or T E 336 or T E 335.
- Appropriate musical materials for both performance and listening instruction in elementary and secondary schools. Particular emphasis on the music of culturally different peoples.

#### 403. Piano Technology I
- **Fall.** 3(2-0) MUS 310 or approval of department.
- Methods of and practice in restoring the original tone of old pianos. Repairing or replacing all worn parts. Advanced concert tuning and tone regulation.

#### 404. Piano Technology II
- **Winter.** 3(2-2) MUS 408.
- Continuation of MUS 408.

#### 405. Piano Technology III
- **Spring.** 3(2-2) MUS 409.
- Continuation of MUS 409.

#### 411. Opera
- **Winter of odd-numbered years. 2(1-2) Six terms of voice or approval of department.**
- History of opera from 1600 to the present.

#### 412. German Lieder
- **Fall of odd-numbered years.** 2 credits.
- MUS 182 or approval of department.

#### 415A. Renaissance Music
- **Fall.** 2 credits. MUS 182 or approval of department.

#### 415B. 19th Century Music
- **Fall.** 2 credits. MUS 182 or approval of department.

#### 415C. Keyboard Music, Seventeenth through Eighteenth Centuries
- **Fall of even-numbered years.** 2 credits. MUS 182 or approval of department.

#### 415D. Piano Literature
- **Fall, Winter, Spring, Summer.** 1 to 16 credits. Approval of department.

#### 415E. Oratorio
- **Fall of even-numbered years.** 2 credits. MUS 182 or approval of department.

#### 415E. Baroque Music
- **Winter.** 2 credits. MUS 182 or approval of department.

#### 416. 20th Century Music, American
- **Winter.** 2 credits. MUS 182 or approval of department.

#### 416A. French-Italian Art Song
- **Winter of even-numbered years.** 2 credits. MUS 182 or approval of department.

#### 417. Classical Music
- **Spring.** 2 credits. MUS 182 or approval of department.

#### 417A. Classical Music
- **Spring.** 2 credits. MUS 182 or approval of department.

#### 417B. Renaissance Music
- **Spring of even-numbered years. 2 credits. MUS 182 or approval of department.**
417F. Organ Literature From 1900 to Present
Spring of even-numbered years. 2 credits. MUS 182 or approval of department.

418H. Honors Course in Music Literature
Fall. 2(2-0) MUS 226 and approval of department.
A tutorial class. Primary emphasis on instrumental and vocal music 1750-1900, but work may be directed towards the student's special field of interest.

419H. Honors Course in Music Literature
Winter. 2(2-0) MUS 226 and approval of department.
Continuation of MUS 418H.

420H. Honors Course in Music Literature
Spring. 2(2-0) MUS 226 and approval of department.
Continuation of MUS 419H.

421. Music and Worship
Fall. 3(3-0) MUS 236 or approval of department.
Relationship of music and liturgy to Christian worship. Traditional liturgies and forms of service of the Christian churches with emphasis on function and place of music in worship.

422. Hymnology
Winter. 3(3-0) MUS 236 or approval of department.
Greek and Latin hymns, canticles, and transition from psalmody into hymnody. Hymns and tunes studied with emphasis on their natural place in church year. Special attention to anthem settings of hymns and adaptation of traditional melodies, especially Gregorian.

423. Choral Repertoire for the Church
Spring, Summer. 3(3-0) Approval of department.
Choral literature for church choirs; emphasis on motets, anthems, responses, and materials for both youth and adult choirs.

426. Ethnomusicology
Spring, Summer. 3(3-0) 8 credits in music, sociology, or anthropology, or approval of department.
Presentation of ethnomusicological ideologies and concepts emphasizing extra-musical activities (such as cultural and social phenomena) which condition and explain the existence of a musical structure.

427. Musical Cultures of the World
(Asia, Oceania)
Fall, Summer. 3(3-0) Approval of department.
Musical expression and the related arts in Asia and Oceania, focusing on history and historical influence, musical instruments and the relationship between the culture and artistic styles.

428. Musical Cultures of the World
(Africa, America, Europe)
Winter, Summer. 3(3-0) Approval of department.
Musical expression and related arts of Africa, America, and Europe, focusing on history and historical influence, musical instruments and the relationship between the culture and artistic styles.

429. Band Materials
Spring, Summer. 1(0-2) May reenroll for credit. Juniors.
Analysis and performance of literature suitable for school bands.

435. Advanced Conducting
Spring, Summer. 2(2-0) Approval of department.
Development of conducting skills through rehearsals and analysis of literature appropriate for secondary school performing ensembles.

438. Brass and Woodwind Techniques
Spring, Summer. 2(1-2) Senior music majors.
Materials and contemporary pedagogical practices of group wind instrumental instruction.

440. Fundamentals of Electronic Music
Fall, Summer. 2(2-0) MUS 282.
Instruction in the use of the Electronic Music Studio.

441. Fundamentals of Electronic Music
Winter. 2(1-2) MUS 440.
Supervised use of the Electronic Music Studio.

442. Composition in Electronic Music
Spring, Summer. 2(1-2) MUS 441.
Assigned use of the Electronic Music Studio.

450. Recreational Music
Spring, Summer. 2(1-2) Majors.
Organization and administration of a community music program for adults; community chorus, orchestra, and band. Nonsymphonic instruments and their use in recreation. Summer camp and playground music. Recreational music as it is organized and used by industries.

462. Studio Teaching and Observation
Fall. 2(1-2) MUS 347, MUS 348, MUS 349.
Supervised studio teaching in classes and private lessons plus one-hour seminar each week.

463. Studio Teaching and Observation
Winter. 2(1-2) MUS 462.
Continuation of MUS 462.

464. Studio Teaching and Observation
Spring, Summer. 2(1-2) MUS 463.
Continuation of MUS 463.

470. Influence of Music on Behavior
Fall. 3(3-0) Nine credits of psychology or approval of department.
Study of the physiological and psychological effects of music; relation of music to health. Experimental studies, related psychological and physiological theory will be reviewed.

471. Music Therapy Techniques
Winter. 3(3-0) MUS 470.
Survey of procedures in music therapy; investigation of the rise of music as a tool in treatment of mentally ill, mentally and physically handicapped, introduction to hospital organization.

472. Music Therapy Techniques
Spring, Summer. 3(3-0) MUS 471.
Continuation of MUS 471.

480. Advanced Studies in Style and Form
Fall. 2(2-1) MUS 380, MUS 381, MUS 382.
Continuation of MUS 382.

481. Advanced Studies in Style and Form
Winter. 2(2-1) MUS 480.
Continuation of MUS 480.

482. Advanced Studies in Style and Form
Spring. 2(2-1) MUS 481.
Continuation of MUS 481.

483. Composition
Fall. Winter, Spring, Summer. 2(2-0) May reenroll for a maximum of 6 credits. MUS 282 or approval of department.
Guided projects in creative writing.

486. Psychology of Music
Fall. Summer. 3(3-0) Approval of department. Interdepartmental with and administered by the Department of Psychology.
Musical behavior with emphasis on psychological aspects of perception, learning, affective response, and ability. Emphasis on social and cultural influences in forming musical tastes, including mass media music.

487. Psychology of Music
Winter, Summer. 3(2-2) PSY 486. Interdepartmental with and administered by the Department of Psychology.
Basic research concepts and experimental methods in psychology of music research. Practical training in conducting experimental research of musical behavior.

490. Independent Study: Special Problems in Music Research
Fall, Winter, Spring. 1 to 4 credits. May reenroll for credit. Seniors and approval of department.
Individual problems in music research.

495. Opera Workshop
Fall. Winter, Spring. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.
Practical experience in performance and production of opera and opera scenes.

499. Special Topics
Fall. Winter, Spring. 1 to 5 credits. May reenroll for a maximum of 10 credits if a different topic is taken. Juniors, or approval of department.
Offered on an experimental basis according to instructor availability and student interest.

502. Seminar in History of Music
Summer. 4(3-0) May reenroll for a maximum of 12 credits. Approval of department.
Critical study in depth of music literature and performance practices within historical perspective.

503. Seminar in Music Education
Spring of odd-numbered years, Summer of even-numbered years. 3(3-0) Approval of department.
Consideration of the historical and philosophical basis for music instruction in education.

504. Seminar in Music Learning
Fall, Summer. 3(3-0) Approval of department.
Detailed analysis of the conditions of music learning for teachers of music including consideration of perception, maturation and concept formation.

505. Seminar in Music Curriculum
Winter, Summer. 3(3-0) Approval of department.
Development of goals, objectives, learning sequence and evaluative techniques for music learning at all instructional levels.
806. Seminar in Music Education Methodology
Spring of even-numbered years; Summer of odd-numbered years. 3(3-0) Approval of department.
Critical analysis of various methodologies in music teaching. Emphasis on the impact of methods and their applications to improvement of musical growth in performance, cognitive, and affective domains.

811. Introduction to Research in Music Education and Music Therapy
Fall, Summer. 3(3-0) Approval of department.
Conducting and critically interpreting research in music education and music therapy. Library skills, experimental research, and statistical analysis are emphasized.

812. Research Problems in Music
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 15 credits.

813. Chamber Music
Fall, Winter, Spring, Summer. 1(1-0)
May reenroll for a maximum of 6 credits. Approval of department.
Performance of works for small ensembles.

815. Seminar in Chamber Music: 18th Century
Fall. 2(2-0) Approval of department.
Intensive study of selected chamber music works of the 18th century.

816. Seminar in Chamber Music: 19th Century
Winter. 2(2-0) Approval of department.
Intensive study of selected chamber music works of the 19th century.

817. Seminar in Chamber Music: 20th Century
Spring. 2(2-0) Approval of department.
Intensive study of selected chamber music works of the 20th century.

820. Music Workshop
Summer. 1 to 9 credits. May reenroll for a maximum of 9 credits. Approval of department.

821. Advanced Methods and Materials in Elementary Music
Fall, Winter, Spring. 3(2-0) May reenroll for a maximum of 9 credits if different topics are taken. Graduate students in Music Education or approval of department.
Teaching methods and materials for special topics in elementary music, such as music literature, Orff, Kodaly, and integrated arts.

824. Research Methods and Materials
Fall, Winter, Summer. 3 or 4 credits.
A critical examination of encyclopedias, indices, and other aids to research, and of the organization, presentation and documentation of research results.

830. Sixteenth Century Counterpoint
Fall of even-numbered years, Summer. 3(3-0) MUS 452 or approval of department.
Study and writing of counterpoint based upon the works of Orlando Lasso and Palestrina.

831. Sixteenth Century Counterpoint Winter of odd-numbered years, Summer. 3(3-0) MUS 830.
Continuation of MUS 830.

832. Sixteenth Century Counterpoint Spring of odd-numbered years, Summer. 3(3-0) MUS 832.
Continuation of MUS 831 to include a study of madrigal counterpoint.

834. Seminar in Composition
Fall, Winter, Spring, Summer. 2(0-2)
May reenroll for a maximum of 24 credits. Approval of department.
Study of contemporary music with emphasis on compositional procedures.

835. Composition
Fall, Winter, Spring, Summer. 1 to 2 credits. May reenroll for a maximum of 24 credits. Approval of department.
Advanced composition.

836. Seminar in Conducting
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 18 credits. Approval of department.
Advanced conducting techniques applicable to choral and instrumental music of all periods.

843. Pedagogy of Theory
Fall, Summer. 3(3-0) Approval of department.
Methods, content, and textbooks for teaching basic theory.

844. Pedagogy of Theory
Winter, Summer. 3(3-0) Approval of department.
Continuation of MUS 843 with emphasis upon new instructional media, and upon methods and materials in ear training and sight singing.

845. Pedagogy of Theory
Spring, Summer. 3(3-0) Approval of department.
Methods, content, and textbooks for teaching counterpoint, form, and orchestration.

846. Minor Instrument Study: String
Fall, Winter, Spring. 1(1-0)
May reenroll for a maximum of 12 credits. Secondary instrument for students enrolled in string specialist program.

847. Minor Instrument Study: Brass
Fall, Winter, Spring. 1(1-0)
May reenroll for a maximum of 12 credits. Secondary instrument for students enrolled in brass specialist program.

849. Minor Instrument Study: Piano
Fall, Winter, Spring. 1(1-0)
May reenroll for a maximum of 12 credits. Approval of department.
Study of piano for students in majors other than applied music.

850. Applied Music
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 27 credits.

851. Minor Instrument Study: Voice
Fall, Winter, Spring. 1(1-0)
May reenroll for a maximum of 12 credits. Approval of department.
Study of vocal techniques for students in majors other than applied music.

852. Choral Technique and Materials
Elementary. 3(3-0) May reenroll for a maximum of 9 credits. Completion of undergraduate music education.
Advanced course for further development of choral proficiency. Demonstrations of choral techniques, conducting by students, examination and evaluation of new materials.

860. Problems in Analysis
Fall, Winter, Spring. 4(4-0)
May reenroll for a maximum of 8 credits. Approval of department.
An application of analytical procedures to school music repertoire.

880. Materials of Music
Fall, Winter, Summer. 1 to 4 credits. MUS 982.
Correlation of the areas of music theory as a basis for the study of 19th and 20th century music.

881. Materials of Music
Winter, Spring. 1 to 4 credits. MUS 880.
Continuation of MUS 880.

899. Master's Thesis Research
Fall, Winter, Spring. Variable credit. Approval of department.

903. Proseminar in Music Education
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 9 credits. Approval of department.
Problems of music education with study of and readings from aesthetics, philosophy, measurement and evaluation, and teacher training.

915. Medieval Music
Fall. 3(3-0) Approval of department.
Investigation of various developments in European music to middle of fifteenth century. Some attention given to Gregorian Chant as well as to various types of secular Monody, but greater stress is laid on the forms and styles of polyphonic music.

916. Renaissance Music
Winter. 3(3-0) Approval of department.
Investigation of developments in European music from 1450 to 1600, tracing developments in both sacred and secular music.

917. Music of the 17th Century
Spring. 3(3-0) Approval of department.
Instrumental and vocal music of Early Baroque Period.

918. Music of the 18th Century
Fall. 3(3-0) Approval of department.
Intensive study of selected topics in 18th century music.

919. Music of the 19th Century
Winter. 3(3-0) Approval of department.
Intensive study of selected topics in 19th century music.

A-151
920. Music of the 20th Century
Spring. 3(3-0) Approval of department.
Intensive study of selected topics in 20th century music.

924. Seminar in Musicology
Fall, Winter, Spring. 3 credits. May renew for a maximum of 15 credits. Approval of department.

943. Survey of the History of Theory
Winter. 3(2-0) Approval of department.
Significant theoretical treatises from the 6th century B.C. to the early 20th century.

954. Administration of Music Education Programs
Spring of even-numbered years. 3(3-0) Approval of department.
Techniques for administering school music and higher education music programs.

955. Current Tendencies in Music Education
Winter of even-numbered years. 3(3-0) Approval of department.
Current trends and practices in public school music education.

956. Advanced Research Techniques in Music
Winter. 3(3-0) Approval of department.
Selected research techniques in music education with emphasis on experimental design and computerized data analysis.

960. Analytical Studies
Fall. 3(3-0) Approval of department.
Analysis of melody, harmony, rhythm, color, texture, counterpoint, and form in part-music from the thirteenth century through the late sixteenth/early seventeenth century.

961. Analytical Studies
Winter. 3(3-0) Approval of department.
Analysis of melody, harmony, rhythm, color, texture, counterpoint, and form in music from the late sixteenth/early eighteenth century through the nineteenth century.

962. Analytical Studies
Spring. 3(3-0) Approval of department.
Analysis of melody, harmony, rhythm, color, texture, counterpoint, and form in music of the twentieth century.

963. Schenker Analysis
Fall. 2(2-0) Approval of department.
Analytical techniques and concepts of Heinrich Schenker. Examination of his sketches and writings, reading about him, and analysis of music using his techniques.

964. Set-Theory Analysis of Atonal Music
Spring. 2(2-0) Approval of department.
Set-Theory principles and their application to the analysis of atonal music.

970. Contrapuntal Techniques
Fall of odd-numbered years, Summer. 3(3-0) MUS 685 or approval of department.
Advanced contrapuntal practice from the sixteenth century to the present.

971. Contrapuntal Techniques
Winter of even-numbered years, Summer. 3(3-0) MUS 970.
Continuation of MUS 970.

972. Contrapuntal Techniques
Spring of even-numbered years, Summer. 3(3-0) MUS 971.
Continuation of MUS 971.

999. Doctoral Dissertation Research
Fall, Winter, Spring. Variable credit. Approval of department.

NATURAL SCIENCE

College of Natural Science

115. The Nature and Continuity of Life (N)
Fall, Winter, Spring. Summer. 4(3-2)
A—The development and testing of scientific concepts as examples of our attempts to understand the world. Selected topics from the life sciences illustrate the nature of scientific investigation.
B—Theories of the origin, development and structure of life and the universe of which it is a part. Examination of contemporary problems associated with defining life and death.
C—Consideration of social and ethical issues relating to our increasing control of reproduction and heredity. Reproduction and heredity from a molecular, cellular and organismic perspective, including human structure and function.
D—The nature of living things, contrasting scientific and non-scientific views. The implications of the modern scientists understanding of life for our beliefs and values.

122. Human Biosocial Evolution (N)
Fall, Winter, Spring. 4(3-2)
Current understanding of human beings and their beliefs as products of biological and cultural evolution. Implications for the future of humanity.

125. Time and Change in Nature (N)
Fall, Winter, Spring. 4(3-2)
A—Man's attempts to explain the present in terms of past events are explored through selected topics from the life sciences and earth sciences. Stresses the role of controversy in science and the nature of scientific evidence.
B—Heredity, evolution and diversity of life are examined from the viewpoint of the biological and cultural development of the human species. Evolutionary relationships between humans and their environment.
C—The origin and evolution of earth and living things are studied as vital and related problems. Emphasis on problem-solving in science and impact of evolutionary concepts on human societies.

127. The Bioecology of Health
Fall, Winter, Spring. 4(3-2)
Human health examined from evolutionary and ecological viewpoint. Emphasis will be on the impact of a technological environment on our health.

129. Biotechnology and Human Values (N)
Winter, Spring. 4(4-0)
Consideration of scientific and ethical issues which arise from our increasing control of the human body through biotechnology.

135. Changing Concepts of the Universe (N)
Fall, Winter, Spring. Summer. 4(3-2)
Students may not receive credit in more than one of the following: AST 119, AST 217, AST 229, N S 135, N S 155.
A—The origin and development of scientific explanations of the physical world. The origins of modern science and scientific revolutions.
B—The role of science in the development of western ideas about reality. The origin and development of mechanistic concepts of the physical world and their part in intellectual dialogue.

142. Life, Its Environment (N)
Fall, Winter, Spring. 4(3-2)
Natural ecological systems and the impact of human biological and cultural development on them. Examination of specific ecological problems and the role of science in seeking solutions.

152. Science and Culture in the 20th Century (N)
Fall, Winter, Spring. 4(4-0)
Controversies concerning interpretation of modern scientific concepts such as evolution, uncertainty and relativity are discussed in terms of developing a personal philosophy.

155. Cosmology, Humanity's Place in the Universe (N)
(N S 135D.) Fall, Winter, Spring. Sum­ mer. 4(3-2) Students may not receive credit in more than one of the following: AST 119, AST 217, AST 229, N S 135, N S 255.
Our attempts to understand the universe and our place within it. The interaction between scientific concepts and the beliefs and values of the culture in which they are proposed.

162. Race, The Evolution of an Idea (N)
Fall, Winter, Spring. 4(3-2) N S 115 or approval of department.
Human races and evolution. The biological concept of race based on the theories of the gene, evolution, and natural selection.

171H. Our Biological Nature (N)
Fall. 4(4-0) Honors College students or approval of department.
Various issues confronting us in our attempt to understand our biological selves. Emphasis on the role the science can play in helping to resolve these issues.

172H. Our Place in Nature (N)
Winter. 4(4-0) Honors College students or approval of department.
Various issues confronting us in our attempt to understand our place in and relation to the environment. Emphasis on the role of science in helping to resolve these issues.

173H. Science-Technology and Human Values (N)
Spring. 4(4-0) Honors College students or approval of department.
The nature and significance of science and technology in Western culture, with emphasis on their relationship to other creative activities, particularly those within the arts.