

**401. General Microbiology**  
Fall. 5(5-0) B S 212; BCH 401 or concurrently.

Comparative biology of microorganisms: viruses, rickettsiae, bacteria, fungi, algae, and protozoa.

**402. General Microbiology Laboratory**  
Fall. 2(0-6) 401 concurrently.

Laboratory based on the subject matter of 401.

**413. General Virology**  
(463.) Winter. 4(3-4) 427 or concurrently.

Physical, chemical, and biological properties of viruses; laboratory procedures employed for cultivation and identification of viruses.

**416. General Parasitology**  
(406.) Winter. Summer at W. K. Kellogg Biological Station. 3(2-4) B S 212.

Biology of parasitic animals.

**421. Microbial Physiology**  
(331.) Winter. 4(3-4) 401, 402.

Cell structure and function, growth and death, and metabolism of microorganisms.

**423. Microbial Genetics**  
(431.) Spring. 4(2-6) BCH 401; ZOL 441 recommended.

Fundamental genetic concepts as exemplified in microorganisms.

**425. Microbial Ecology**  
Summer. 6(3-9) 402, approval of department. Given at W. K. Kellogg Biological Station.

Interrelationships of individual microbial cells or of microbial populations with their macro- or microenvironment. Dispersal and activity of microorganisms. Methodology of assessment of microbial substance and activity. Analysis of the habitat.

**427. Immunobiology**  
(460.) Winter. 4(3-4) B S 212; BCH 200 or BCH 401.

Biological and biochemical mechanisms of the immune response; immunological tolerance, antibody production, antigen-antibody reactions, immunological diseases.

**429. Microbiology of Infectious Diseases**  
(461.) Spring. 5(2-8) 402, 427.

Biology, immunology, pathogenicity, and medical aspects of microorganisms associated with infectious diseases of man. Methods of isolation and identification are emphasized in the laboratory.

**440. Food Microbiology**  
(371.) Spring. 4(2-6) 200 or 401, or approval of department. Interdepartmental with and administered by the Food Science Department.

Major groups of microorganisms of importance to the food industry are studied with emphasis on ecological, physiological, and public health aspects.

**442. Soil Microbiology**  
(481.) Spring. 3(2-4) 200 or 401. Interdepartmental with the Soil Science Department.

Major groups of microorganisms of importance in soils are studied with emphasis on ecological, biochemical, and physical aspects.

**444. Environmental Microbiology**  
(351.) Spring. 3(2-4) 200 or 401. Flora, methods of testing, and purification of environmental air and water. Treatment and disposal of sewage.

**531. Medical Immunology and Microbiology**  
(566.) Fall, Spring. 5(5-0) or 8(5-11) Professional medical students or approval of department.

General immunology; comparative biology of microorganisms that have medical significance.

**532. Veterinary Microbiology and Public Health**  
(567.) Winter. Summer. 8(5-11) 531 or approval of department.

Biology, immunology, pathogenicity, and medical aspects of microorganisms associated with infectious diseases of animals. Epidemiology of animal diseases significant to human health.

**536. Veterinary Parasitology I**  
(501.) Winter, Summer. 4(3-4) Veterinary Medicine students or approval of department.

Distribution, biology, and control of parasitic animals of importance to veterinary medicine.

**537. Veterinary Parasitology II**  
(502.) Fall, Spring. 4(2-6) 536 or approval of department.

Continuation of 536.

**800. Seminar**  
(830.) Fall, Winter, Spring, Summer. 1(1-0).

**816. Parasitic Metazoa**  
(802.) Spring of odd-numbered years. 4(3-4) 416 or ZOL 481 or approval of department.

Comparative biology, physiology, and host-parasite relationships of parasitic helminths and arthropods.

**817. Parasitic Protozoa**  
(803.) Spring of even-numbered years. 3(2-4) 416 or ZOL 482 or approval of department.

Comparative biology, physiology, and host-parasite relationships of parasitic protozoa.

**826. Ecology of Animal Parasites**  
Summer. 3 credits. 416, approval of department. Given at W. K. Kellogg Biological Station.

Interaction of parasitic animals (protozoa, helminths, and arthropods) with their natural environment, including host, biotic, and physical aspects.

**827. Immunochemistry**  
Spring. 3(3-0) 427 or approval of department; CEM 383 recommended.

Structure and reactivity of antigens and antibodies; synthesis of immunoglobulins. Emphasis is on current advances and research concepts.

**828. Immunochemistry Laboratory**  
Summer. 3(0-9) May re-enroll for a maximum of 6 credits if different project is studied. 827 and approval of department.

Research-oriented laboratory, based on current advances in immunochemistry.

**899. Research**  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

**900. Topics in Microbiology**  
Fall, Winter, Spring Summer. 2(2-0) May re-enroll if different topic is taken. Approval of department.

Topics will be selected from taxonomic sub-science such as bacteriology, virology, protozoology, mycology, algology, and helminthology; and from transecting disciplines such as microbial genetics, immunology, physiology, and ecology.

**901. Experimental Microbiology**  
Fall, Winter, Spring, Summer. 3(0-9) May re-enroll for a maximum of 9 credits. Approval of department.

Experiments, demonstrations, and discussions of current research programs in various areas of microbiology.

**999. Research**  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

## MILITARY SCIENCE M S

### All University

**121. Preview of Military Science**  
Fall, Winter. 1(1-0) Approval of department.

Role of the ROTC officer in the Army. Assists the student in planning a curriculum to satisfy requirements for a commission.

**122. Marksmanship and Hunter Safety**  
Fall, Spring. 1(0-2) 121 or approval of department.

Small arms marksmanship and safety. Practical exercises on local firing ranges. Individual basic military marksmanship and the skills necessary to participate in a competitive or recreational shooting program.

**324. Military Teaching**  
Fall, Winter. 4(4-2) Basic course, approval of department.

Methods of teaching manipulative skills to groups with varying educational backgrounds. Emphasis on determination of entry behavior, progress analysis, testing and test construction. Introduction to current teaching aids. Practical experience in simulated field situations is stressed during laboratory.

**325. Military Management**  
Spring. 4(3-2) 324 or approval of department.

Task analysis approach to missions. The subject of tactics is used as a teaching vehicle for the managerial approach to the preparation and execution phases of military operations. Emphasis is placed on physical and moral leadership during the laboratory sections.

**426. Military Law**  
Winter. 4(4-0) Approval of department.

Civilian and military law as they pertain to individuals and organizations associated with the Department of Defense.

**427. Seminar**  
Spring. 1(1-0) Approval of department.

Precommissioning orientation stressing current military policies, procedures, customs and trends.

## MUSIC MUS

### College of Arts and Letters

**094. Band**  
Summer. Zero credit. Membership determined by audition.

Attendance at all rehearsals and public concerts obligatory. See Music 117, 118, 318.

**100. Theory Review**

Fall, Summer. 2(3-2) For majors who need theory review.  
Basic course in fundamentals and ear training.

**112. Chamber Music**

Fall, Winter, Spring, Summer. 1(1-0)

**117. Activity Band**

Fall, Winter, Spring. 1(0-3) Membership determined by audition. Open to men and women.

For students whose schedules or qualifications do not permit immediate enrollment in 118. Band gives concerts and participates in athletic events and other University functions.

**118. M. S. U. Band**

Fall, Winter, Spring. 1(0-5) Membership determined by audition.

Attendance at all rehearsals and public concerts obligatory and registration may be cancelled for neglect.

**133. Orchestra**

Fall, Winter, Spring. 1(0-5) Membership determined by audition.

Standard overtures and symphonies studied and publicly performed. Attendance at all rehearsals and public concerts obligatory.

**135. Music in Elementary Education**

Fall, Winter, Spring, Summer. 4(2-3)

Basis, scope and sequence of music instruction in the elementary schools with an introduction to basic knowledge and skills used in elementary school music.

**141. Class Instruments and Voice**

Fall. 1(0-2) Knowledge of notation.

Class instruction in piano, voice, violin, cello, clarinet, and cornet.

**142. Class Instruments and Voice**

Winter. 1(0-2) 141.

Continuation of 141. Class instruction in piano, voice, violin, cello, clarinet, and cornet.

**143. Class Instruments and Voice**

Spring. 1(0-2) 142.

Continuation of 142. Class instruction in piano, voice, violin, cello, clarinet, and cornet.

**145. Music Foundations**

Fall, Winter, Spring, Summer. 4(3-2) Elementary Education and Physical Education and Recreation majors.

Development of understanding and knowledge of music fundamentals, ear training, and music reading; rhythm and tone problems.

**146. Elements of Music**

Fall, Winter, Spring. 2(1-2) Physical Education majors.

Understanding of music and rhythm necessary for the accompaniment and recognition of various rhythmic activities which are a part of physical education.

**147. Elementary Piano**

Fall, Winter, Spring. 2(2-2) 145 or approval of department. Elementary Education and Physical Education and Recreation majors.

Beginning class piano instruction. Development of ability to play the three principal chords in all keys and to harmonize simple melodies using these chords. Transposition of simple melodies. Ability to play melodies and rhythms suitable for use in lower intermediate grades or in recreation work.

**148. Elementary Piano**

Winter, Spring. 2(2-2) 147. Elementary Education majors.

Continuation of 147.

**150. Keyboard Instruments and Harp**

Fall, Winter, Spring, Summer. 1 to 4 credits. To pass entrance examination, students should have all major and harmonic minor scales and arpeggios, and be able to play from memory equivalent of studies from Czerny Op. 299, two-part inventions of Bach, movements from Mozart, Haydn, or Beethoven sonatas, or compositions of equal difficulty.

Instruction in piano, pipe organ, and harp.

**151. Voice**

Fall, Winter, Spring, Summer. 2 to 4 credits. Some knowledge of piano is recommended. Candidates should possess a voice of good quality, and should show evidence of musicianship. During the entrance examination period (see University calendar) candidates for a major or a minor in voice should be prepared to sing three songs for the audition committee that will best show the candidate's vocal possibilities and musical development. Elective candidates need only to possess promising vocal quality and ability to read music.

**152. Stringed Instruments**

Fall, Winter, Spring, Summer. 2 to 4 credits. Student should have elementary knowledge of piano. Entering majors are expected to display a knowledge of instruments and play two-octave major and minor scales in the more common bowings.

Instruction in violin, viola, violoncello, and string bass.

**153. Woodwind Instruments**

Fall, Winter, Spring, Summer. 2 to 4 credits. Entering majors are expected to display proper voicing tone, knowledge of the less complicated alternate fingerings, and ability to play two-octave major and minor scales in the more common articulations.

Instruction in flute, oboe, clarinet, saxophone, and bassoon.

**154. Brass Instruments**

Fall, Winter, Spring, Summer. 2 to 4 credits. To pass entrance examination in a brass instrument, candidates should be able to meet the following requirements: proper embouchure, good tone quality, relatively accurate sense of pitch, rhythmic accuracy, fluent manner of playing, ability to play two-octave major scales in the more common keys, technical exercises equivalent to the major scale studies in the Arban Method, and solos such as Phantasy, Piece, Tuthil, My Regards, Llewellyn, Adagio Cantabile, Beethoven or other solos of equal difficulty.

Instruction in cornet, French horn, trombone, baritone, and tuba.

**155. Percussion**

Fall, Winter, Spring, Summer. 1 to 4 credits. To pass entrance examination in percussion instruments, candidate must be able to play satisfactorily the twenty-four rudiments.

**180. Basic Harmony**

Fall. 3(3-1)  
Fundamentals of basic musicianship: notation, clefs, scales, intervals, triads, meter, rhythm, and tonality. The analysis and writing of diatonic harmony in the style of the Bach 4-part chorale.

**181. Basic Harmony**

Winter. 3(3-1) 180.  
Continuation of 180.

**182. Basic Harmony**

Spring. 3(3-1) 181.  
Continuation of 181.

**183. Aural Harmony**

Fall. 1(0-2) 180 concurrently.  
The aural counterpart of basic harmony. Drill in harmonic, melodic and rhythmic dictation. Sight singing and keyboard harmony.

**184. Aural Harmony**

Winter. 1(0-2) 183; 181 concurrently.

**185. Aural Harmony**

Spring. 1(0-2) 184; 182 concurrently.

**190. State Singers**

Fall, Winter, Spring. 1(0-4) Membership determined by audition; ability to sight read. Three hours of rehearsals a week. Attendance at all rehearsals and public concerts obligatory.

**191. Chorus**

(091.) Fall, Winter, Spring, Summer. 1(0-2½)

Two and one-half hours of rehearsals per week. Attendance at all rehearsals and public concerts obligatory.

**192. Glee Club, Men and Women**

(092.) Fall, Winter, Spring. 1(0-3) Membership determined by audition.

Three hours of rehearsals a week. Attendance at all rehearsals and public concerts obligatory.

**195. Jazz Laboratory Band**

(095.) Fall, Winter, Spring, Summer. 1(0-4) Membership determined by audition.

Practical experience in playing music in the jazz idiom. Techniques of rehearsing a stage band. Playing of student arrangements; performance of jazz composition and arrangements in concert.

**200H. Honors Work**

Fall, Winter, Spring, Summer. 1 to 16 credits. Approval of department.

**224. History of Music**

Fall. 2(2-1) 183.  
Music from ancient Greece through Romanesque and Gothic periods, concluding with the Renaissance. Greek theory and "ethos"; age of plain-song; development of polyphony; instruments peculiar to period under question.

**225. History of Music**

Winter. 2(2-1) 224.  
Baroque and classical periods. Special attention to fugue, opera, oratorio, sonata, and symphony. Analysis of characteristic works.

**226. History of Music**

Spring. 2(2-1) 225.  
Romantic period, impressionism, and contemporary trends. Continuation of development of form, melody, rhythm, and tonality. Final examination is comprehensive, covering 224, 225 and 226.

**241. Advanced Class Piano**

Fall. 1(0-2) 143 or approval of department.  
Continuation of 143 with emphasis on functional piano skills to include style, development, improvisation, transposition and sight reading.

**242. Advanced Class Piano**

Winter. 1(0-2) 143 or approval of department.  
Continuation of 241.

**243. Advanced Class Piano**

Spring. 1(0-2) 143 or approval of department.  
Continuation of 242.

**245. Elementary School Music**  
Fall, Winter, Spring, Summer. 3(3-0)  
145 or approval of department. Elementary  
Education majors.

Continuation of unison and part singing. Methods  
and materials in elementary school music. Work-  
shop activities to prepare for teaching on levels  
from nursery school through 8th grade.

**271. Fundamentals of Music**  
Fall, Winter, Spring. 3(3-1) Non-  
majors.

Fundamentals of music to develop understand-  
ing and knowledge of scales and modes, key  
signatures, chord structures, chord progressions  
and non-harmonic tones.

**272. Introduction to Music  
Literature I**  
Fall, Winter, Spring, Summer. 3(3-0)  
Non-majors.

An introduction to music in the Western tradi-  
tion. The elements of musical expression and  
the techniques of musical analysis in connec-  
tion with representative musical masterpieces of  
the Middle Ages, the Renaissance, the Baroque,  
the period of Classicism and Romanticism, and  
the twentieth century.

**273. Introduction to Music  
Literature II**  
Fall, Winter, Spring, Summer. 3(3-0)  
272; non-majors.

Continuation of 272. Music of the eighteenth  
century. Among composers to be studied are:  
Vivaldi, D. Scarlatti, F. Couperin, Bach, Han-  
del, Haydn and Mozart. Demonstrates the ma-  
jor types and media of composition from the  
late Baroque to early Romanticism and clarifies  
the stylistic trends of the time.

**280. Advanced Harmony**  
Fall. 3(3-1) 182.

Continuation of 182, with added vocabulary  
and technique through nineteenth century har-  
mony. Creative writing in small forms.

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

Continuation of 280.

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

Continuation of 281.

**283. Advanced Aural Harmony**  
Fall. 1(0-2) 185; 280 concurrently.

Aural counterpart of advanced harmony. Drill  
in harmonic, melodic, and rhythmic dictation.  
Sight singing and keyboard harmony.

**284. Advanced Aural Harmony**  
Winter. 1(0-2) 283; 281 concu-  
rently.

**285. Advanced Aural Harmony**  
Spring. 1(0-2) 284; 282 concu-  
rently.

**295. Opera Workshop**  
Fall, Winter, Spring. 2(0-4) Ap-  
proval of department.

Repertoire coaching, diction, interpretation.  
Study and performance of entire operas and  
excerpts from the standard and contemporary  
repertoire; production of musicals (with Speech  
and Theatre Department); TV opera productions  
on Station WMSB.

**314. Church Service Playing**  
Fall, Winter, Spring, Summer. 2(2-0)  
May re-enroll for a maximum of 6 credits. Three  
terms of pipe organ.

Instruction in adapting piano and orchestral  
accompaniment to organ; choosing organ and  
choir repertoire appropriate to church season;  
hymn playing, modulation, and ways to help  
unify service.

**318. Advanced Band**  
Fall, Winter, Spring. 2(0-5) Six  
terms of 118.

**320. Music Workshop**  
Summer. 1 to 6 credits. Approval of  
department.

**323. Carillon**  
Fall, Winter, Spring, Summer. 2  
credits. May re-enroll for credit. 182; 6 terms  
of piano and approval of department.

Carillon playing technique, style and interpreta-  
tion, arranging, adapting composition and im-  
provisation. Survey of ensemble combinations  
with other instruments. Mechanical aspects of  
the instrument and bell acoustics. Carillon art  
and tradition, bell founders, literature and com-  
posers.

**334. Composing and Arranging for  
Jazz Ensembles**

Fall, Winter, Spring, Summer. 3(2-2)  
May re-enroll for a maximum of 9 credits.  
182; approval of department.

Techniques of composition and arranging in  
jazz idiom for various instrumental and/or vocal  
ensembles. Analytical studies of scores, record-  
ed examples and published stage band mate-  
rials. Writing for films and commercials.

**335. Ensemble and Conducting**  
Fall. 3(1-4) 182.

Principles of conducting correlated with ap-  
plication in ensemble of vocal and instrumental  
class instruction. Survey of vocal and instru-  
mental ensemble literature suitable for school  
use. Individual conducting stressed.

**336. Ensemble and Conducting**  
Winter. 3(1-4) 335.

Continuation of 335.

**340. Class Instruments**

Fall, Winter, Spring, Summer. 1(0-2)  
May re-enroll for credit. Majors.

Study for one term of instruments not included  
among basic instruments. Not more than two  
may be studied at same time. Class instruction  
in viola, string bass, flute, oboe, bassoon, French  
horn, trombone, and percussion.

**346. Elementary School Music  
Appreciation**

Spring, Summer. 2(1-2) Elementary  
Education majors.

For teachers who need better understanding of  
types, forms, and styles of instrumental and  
vocal compositions. Development of critical  
judgment of musical works and place of music  
in modern life. Opportunities to hear records  
and performances. Study of materials to be  
used in elementary school.

**347. Methods and Literature**

Fall. Summer of odd-numbered years.  
2(1-2) Six terms of piano or voice or approval  
of department.

Methods of teaching piano or voice, with study  
of appropriate teaching repertoire for piano or  
voice.

**348. Methods and Literature**  
Winter. 2(1-2) Six terms of piano  
or voice or approval of department.  
Methods of teaching piano or voice, with study  
of appropriate teaching repertoire.

**349. Methods and Literature**  
Spring. Summer of even-numbered  
years. 2(1-2) Six terms of piano or voice or  
approval of department.

Methods of teaching piano or voice, with study  
of appropriate teaching repertoire.

**350. Keyboard Instruments and Harp**  
Fall, Winter, Spring, Summer. 1 to 4  
credits. Six terms of 150 or approval of de-  
partment.

Continuation of 150. Instruction in piano, organ,  
and harp.

**351. Voice**  
Fall, Winter, Spring, Summer. 2 to 4  
credits. Six terms of 151 or approval of depart-  
ment.

Continuation of 151.

**352. Stringed Instruments**  
Fall, Winter, Spring, Summer. 2 to 4  
credits. Six terms of 152 or approval of depart-  
ment.

Continuation of 152. Instruction in violin, viola,  
violoncello, and string bass.

**353. Woodwind Instruments**  
Fall, Winter, Spring, Summer. 2 to 4  
credits. Six terms of 153 or approval of de-  
partment.

Continuation of 153. Instruction in flute, oboe,  
clarinet, saxophone, and bassoon.

**354. Brass Instruments**  
Fall, Winter, Spring, Summer. 2 to 4  
credits. Six terms of 154 or approval of de-  
partment.

Continuation of 154. Instruction in cornet,  
French horn, trombone, baritone, and tuba.

**355. Percussion**  
Fall, Winter, Spring, Summer. 1 to 4  
credits. Six terms of 155 or approval of depart-  
ment.

Continuation of 155.

**356. Sight Reading at the Piano**  
Fall, Winter, Spring, Summer. 1 to 2  
credits. May re-enroll for a maximum of 6  
credits. Three terms of piano.

Establish principles of good sight reading, ac-  
companying and free keyboard harmonization.

**380. Studies in Style and Form**  
Fall, Summer. 2(2-1) 282.

Analysis and creative writing of technical and  
structural practices in music of various periods,  
with special emphasis on the twentieth century.

**381. Studies in Style and Form**  
Winter, Summer. 2(2-1) 282.

Analysis and creative writing of technical and  
structural practices in music of various periods,  
with special emphasis on the twentieth century.

**382. Studies in Style and Form**  
Spring, Summer. 2(2-1) 282.

Analysis and creative writing of technical and  
structural practices in music of various periods,  
with special emphasis on the twentieth century.

**383. Orchestration**  
(380.) Fall, Summer. 2(2-0) 282.

Modern orchestral resources and scoring for  
various instrumental groups.

**384. Orchestration**  
(381.) Winter, Summer. 2(2-0) 383.

Continuation of 383.

- 385. Orchestration**  
(382.) Spring, Summer. 2(2-0) 384.  
Continuation of 384.
- 386. Counterpoint**  
(380.) Fall, Summer. 2(2-0) 282.  
Technique of writing tonal counterpoint in two, three, and four parts.
- 387. Counterpoint**  
(381.) Winter, Summer. 2(2-0) 386.  
Continuation of 386.
- 388. Counterpoint**  
(382.) Spring, Summer. 2(2-0) 387.  
Continuation of 387.
- 400. Clinical Training in Music Therapy**  
Fall, Winter, Spring, Summer. 1 to 18 credits. Music Therapy majors.  
Six months internship in an accredited neuro-psychiatric hospital.
- 400H. Honors Work**  
Fall, Winter, Spring, Summer. 1 to 16 credits. Approval of department.
- 403. Music Literature for Children**  
Summer of even-numbered years. 3(3-0) ED 325A or 325H.  
Instructional materials in vocal music for use with children in elementary and junior high schools.
- 411. Opera**  
Fall, Winter, Spring, Summer. 2(1-2)  
May re-enroll for a maximum of 6 credits. Six terms of voice or approval of department.  
Development of opera from 1600 to the present with workshop experience in opera production.
- 412. Oratorio**  
Fall. Summer of even-numbered years. 2(1-2) Six terms of voice or approval of department.  
History of oratorio from 1600 to the present.
- 415A. Renaissance Music**  
Fall. 2 credits. 182.
- 415B. 19th Century Music**  
Fall. 2 credits. 182.
- 415C. Keyboard Music, 17th - 18th Century**  
Fall of even-numbered years. 2 credits. 182.
- 415E. German Lieder**  
Fall of odd-numbered years. 2 credits. 182.
- 415F. Organ Literature to 1700**  
Fall of odd-numbered years. 2 credits. 182.
- 416A. Baroque Music**  
Winter. 2 credits. 182.
- 416B. 20th Century Music, European**  
Winter. 2 credits. 182.
- 416C. Piano Music, 19th Century**  
Winter of odd-numbered years. 2 credits. 182.
- 416E. French-Italian Art Song**  
Winter of even-numbered years. 2 credits. 182.
- 416F. Organ Literature From 1700 to 1900**  
Winter of even-numbered years. 2 credits. 182.
- 417A. Classical Music**  
Spring. 2 credits. 182.
- 417B. 20th Century Music, American**  
Spring. 2 credits. 182.
- 417C. Piano Music, 20th Century**  
Spring of odd-numbered years. 2 credits. 182.
- 417E. English-American Art Song**  
Spring of even-numbered years. 2 credits. 182.
- 417F. Organ Literature From 1900 to Present**  
Spring of even-numbered years. 2 credits. 182.
- 418H. Honors Course in Music Literature**  
Fall. 3(3-0) or 4(3-0) Approval of department.  
Music literature with reports on the pertinent political, social, literary, and philosophical conditions affecting the periods studied.
- 419H. Honors Course in Music Literature**  
Winter. 3(3-0) or 4(3-0) Approval of department.  
Continuation of 418H.
- 420H. Honors Course in Music Literature**  
Spring. 3(3-0) or 4(3-0) Approval of department.  
Continuation of 419H.
- 421. Music and Worship**  
Fall. 3(3-0) 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) 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.
- 424. Preparatory Musicology**  
Fall. 3(3-0) 226, 282.  
A seminar dealing with research in various fields of musicology, including ethno-musicology.
- 425. Preparatory Musicology**  
Winter, Summer. 3(3-0) 424.  
Selected topics in music history from the ancient Greeks to 1600.
- 426. Preparatory Musicology**  
Spring. 3(3-0) 425.  
One or more broad areas in music history, analysis or aesthetics, chosen after consultation with the class.
- 429S. Band Materials**  
Summer. 1(0-2) May re-enroll for credit. Juniors.  
Analysis and performance of literature suitable for school bands.
- 433. Advanced Conducting**  
Fall. 2(2-0)  
Continuation of baton techniques and analysis through study of orchestral and choral works.
- 434. Advanced Conducting**  
Winter. 2(2-0) 433.  
Continuation of 433.
- 435. Advanced Conducting**  
Spring, Summer. 2(2-0) 434.  
Continuation of 434.
- 438. Brass and Woodwind Techniques**  
Summer. 2(1-2) School Music Seniors.  
To give wind instrumentalists an opportunity to bring problems to class for group consideration under leadership of wind experts. Attention to such relationships as intonation, quality, blending, color, physical properties and technical demands of certain instruments played in concert within their own sections and families, with other sections of unlike instruments, and together with entire instrumental unit.
- 450. Recreational Music**  
Spring. Summer of odd-numbered years. 2(2-0) 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) 347, 348, 349.  
Supervised studio teaching in classes and private lessons plus one-hour seminar each week.
- 463. Studio Teaching and Observation**  
Winter. 2(1-2) 462.  
Continuation of 462.
- 464. Studio Teaching and Observation**  
Spring. 2(1-2) 463.  
Continuation of 463.
- 465. Practicum: Sacred Music**  
Fall, Winter, Spring. 3(0-6) May re-enroll for a maximum of 6 credits. 314, 336, 348.  
Supervised experience in all phases of sacred music by assisting at adult and junior choir rehearsals and church services, service planning, preparation and performance.
- 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 philosophical and psychological theory will be reviewed.
- 471. Music Therapy Techniques**  
Winter. 3(3-0) 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. 3(3-0) 471.  
Continuation of 471.
- 480. Advanced Studies in Style and Form**  
Fall. 2(2-1) 380, 381, 382.  
Continuation of 382.
- 481. Advanced Studies in Style and Form**  
Winter. 2(2-1) 480.  
Continuation of 480.

- 482. Advanced Studies in Style and Form**  
Spring. 2(2-1) 481.  
Continuation of 481.
- 483. Composition**  
Fall, Winter, Spring, Summer. 2(2-0)  
May re-enroll for a maximum of 6 credits.  
282 or approval of department.  
Guided projects in creative writing.
- 486. Psychology of Music**  
Fall, Summer. 3(2-2) PSY 151. Interdepartmental with and administered by the Psychology Department.  
Study of the psychological aspects of music with emphasis upon problems of perception, psychoacoustics, and experimental esthetics; introduction to music test building, and the relationship of personality theory to musical preference.
- 487. Psychology of Music**  
Winter, Summer. 3(2-2) PSY 486. Interdepartmental with and administered by the Psychology Department.  
Continuation of 486 plus introduction to basic experimental methods and procedures used in psychology of music research.
- 495. Opera Workshop**  
Fall, Winter, Spring. 2(0-4) May re-enroll for a maximum of 6 credits. Approval of department.  
Repertoire coaching, diction, interpretation. Study and performance of entire operas and excerpts from the standard and contemporary repertoire; production of musicals with Speech and Theatre Department; TV opera productions on Station WMSB.
- 802. Seminar in History of Music**  
Summer of odd-numbered years. 4(8-2)  
Critical study in depth of music literature and performance practices within historical perspective.
- 803. Seminar in Music Education**  
Fall, Winter, Spring, Summer. 3 credits. May re-enroll for a maximum of 12 credits. Approval of department.
- 812. Research Problems in Music**  
Fall, Winter, Spring, Summer. Variable credit.
- 813. Chamber Music**  
Fall, Winter, Spring, Summer. 1(1-0)  
Approval of department.
- 820. Music Workshop**  
Summer. 1 to 6 credits. Approval of department.
- 824. Research Methods and Materials**  
Fall, Spring, Summer. 3(3-0)  
A critical examination of encyclopedias, indices, and other aids to research.
- 825. Acoustics for Musicians**  
Winter. Summer of even-numbered years. 3(3-0)  
Classical theory of sound, stressing its application to musical instruments and the human voice.
- 830. Sixteenth Century Counterpoint**  
Fall, Summer. 2 credits. 482 or approval of department.  
Study and writing of counterpoint based upon the works of Orlando Lasso and Palestrina.
- 831. Sixteenth Century Counterpoint**  
Winter, Summer. 2 credits. 830.  
Continuation of 830.
- 832. Sixteenth Century Counterpoint**  
Spring, Summer. 2 credits. 831.  
Continuation of 831.
- 834. Seminar in Composition**  
Fall, Winter, Spring, Summer. 3(3-0)  
May re-enroll for credit. 482.
- 840. Pedagogy of Theory**  
(849.) Fall, Summer. 3(3-0) Approval of department.  
Music theory treatises and pedagogical practices of historical importance.
- 841. Pedagogy of Theory**  
(849.) Winter, Summer. 3(3-0)  
840.  
Current literature in the field of music theory and approaches to theory pedagogy.
- 842. Pedagogy of Theory**  
(849.) Spring, Summer. 3(3-0)  
841.  
Continuation of 841 with emphasis upon new instructional media.
- 850. Applied Music**  
Fall, Winter, Spring, Summer. 3 credits for Applied Music majors; 2 credits for others. May re-enroll for credit.
- 852. Choral Technique and Materials**  
Summer. 3(3-0) Completion of undergraduate program in music education.  
Advanced course for further development of choral proficiency. Demonstrations of choral techniques, conducting by students, examination and evaluation of new materials.
- 856. Careers in Music and Guidance Resources**  
Summer of even-numbered years. 3(3-0)  
Clinical study of philosophy, program, and procedures of personnel services adapted to needs of students of music in colleges, universities, conservatories, secondary schools and private studios.
- 860. Problems in Analysis**  
Fall, Winter, Spring, Summer. 4(4-0)  
May re-enroll for a maximum of 8 credits. Approval of department.  
An application of analytical procedures to school music repertoire.
- 880. Materials of Music**  
Fall, Winter, Spring, Summer. 1 to 4 credits. 282.  
Correlation of the areas of music theory as a basis for the study of 19th and 20th century music.
- 881. Materials of Music**  
Fall, Winter, Spring, Summer. 1 to 4 credits. 880.  
Continuation of 880.
- 882. Materials of Music**  
Fall, Winter, Spring, Summer. 1 to 4 credits. 881.  
Continuation of 881.
- 899. Research**  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.
- 915. Medieval Music**  
Fall. 3(3-0)  
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)  
Investigation of developments in European music from 1450 to 1600, tracing developments in both sacred and secular music.
- 917. Music of the Seventeenth Century**  
Spring. 3(3-0)  
Instrumental and vocal music of Early Baroque period.
- 924. Seminar in Musicology**  
Fall, Winter, Spring. 3 credits. May re-enroll for credit. 426 or approval of department.
- 954. Music Supervision**  
Summer of even-numbered years. 3(3-0)  
Completion of undergraduate program in Music Education.
- 955. Current Tendencies in Music Education**  
Summer of odd-numbered years. 3(3-0)  
Completion of undergraduate program in Music Education.
- 960. Analytical Studies in Music Literature**  
Fall, Summer. 3(3-0) 382 and two years of music literature or approval of department.  
Melodic, formal, contrapuntal and harmonic analysis of music from plainsong to contemporary music.
- 961. Analytical Studies in Music Literature**  
Winter, Summer. 3(3-0) 960.  
Continuation of 960.
- 962. Analytical Studies in Music Literature**  
Spring, Summer. 3(3-0) 961.  
Continuation of 961.
- 970. Contrapuntal Techniques**  
Fall, Summer. 3(3-0) 482 or approval of department.  
Advanced contrapuntal practice from the sixteenth century to the present.
- 971. Contrapuntal Techniques**  
Winter, Summer. 3(3-0) 970.  
Continuation of 970.
- 972. Contrapuntal Techniques**  
Spring, Summer. 3(3-0) 971.  
Continuation of 971.
- 980. Seminar in Theory**  
Fall, Winter, Spring, Summer. 3(3-0)  
May re-enroll for a maximum of 9 credits. 482 or approval of department.
- 999. Research**  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.