815. Seminar in Chamber Music: 18th Century
Fall, Summer. 2(3-0) Approval of department.
Intensive study of selected chamber music works of the 18th century.

816. Seminar in Chamber Music: 19th Century
Winter, Summer. 2(3-0) Approval of department.
Intensive study of selected chamber music works of the 19th century.

817. Seminar in Chamber Music: 20th Century
Spring, Summer. 2(3-0) Approval of department.
Intensive study of selected chamber music works of the 20th century.

820. Music Workshop
Summer. 1 to 6 credits. May re-enroll for a maximum of 6 credits. Approval of department.

824. Research Methods and Materials
Fall, Winter, 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 of even-numbered years, Summer. 3(3-0) 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) Continuation of 830.

832. Sixteenth Century Counterpoint
Spring of odd-numbered years, Summer. 3(3-0) Continuation of 831. May re-enroll for credit. 482.

840. Pedagogy of Theory
Fall, Summer. 3(3-0) Approval of department. Music theory treatises and pedagogical practices of historical importance.

841. Pedagogy of Theory
Winter. Summer. 3(3-0) 840. Current literature in the field of music theory and approaches to theory pedagogy.

842. Pedagogy of Theory
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
Spring. 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.

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. Continuation of 880.

882. Materials of Music
Fall, Winter, Spring, Summer. 1 to 4 credits. Continuation of 881.

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

903. Proseminar in Music Education
Fall, Winter, Spring, Summer. 3(3-0) May re-enroll for a maximum of 9 credits. Approval of department.
Consideration of problems of music teaching and learning with readings from aesthetics, psychology, human growth, and education.

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. 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.

956. Advanced Research Techniques in Music
Spring, Summer. 3(3-0) Approval of department. Application of behavioral research to music including development and validation of original data gathering devices.

960. Analytical Studies in Music Literature
Fall, Summer. 3(3-0) 882 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 of odd-numbered years, Summer. 3(3-0) 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) 970. Continuation of 970.

972. Contrapuntal Techniques
Spring of even-numbered years, 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.

NATURAL RESOURCES

College of Agriculture and Natural Resources

202. Soils and Man's Environment
Winter. 3(3-0) Interdepartmental with the Resource Development, and Fisheries and Wildlife Departments and Soil Science and administered by Soil Science.
Use of soil and water resources in a technological society as it relates to environmental quality. Nature of pollution problems and their possible solutions. Food production and world population.

220. Plants and Their Environment
Winter. 3(3-0) Interdepartmental with and administered by the Forestry Department.
Fundamental ecological relationships between various climatic, edaphic and biotic environmental factors of the ecosystem and plant response, including structure, function and evaluation of species.

275. Exploring International Agriculture
Spring. 3(3-0) Interdepartmental with and administered by Agriculture.
Exploration of overseas assignments with international agencies; potential world food actualities and potentialities; special problems of the tropics compared with those in temperate regions.

A-125
350. Leadership Development for Agriculture and Natural Resources

Winter, Spring. 3(3-0) May re-enroll for a maximum of 6 credits. Approval of departmental and professional leadership. Leadership development. Preparation for community leadership. Firsthand look at social, economic, and political problems. Series of seminars, interviews, field trips. Emphasis on leadership, action, and involvement.

425. Agriculture and Natural Resources Seminar

Spring. 2(0) Interdepartmental with and administered by Agriculture. Current agricultural, natural resources, and environmental problems and solutions as presented by discussion leaders from various disciplines, arranged by undergraduate students.

450. Natural Resource Administration


471. Environmental Topics in Nonmetropolitan Regions

Fall. 4(4-0) Nomination of students by own department and approved by participating faculty. Interdepartmental with the College of Natural Science and Agriculture.

475. International Studies in Agriculture and Natural Resources

Summer. 3 or 9 credits. Approval of the college. Interdepartmental with and administered by Agriculture.

481. Natural Resources and Modern Society

Spring, Summer. 3(3-0) Juniors. Interdepartmental with the Forestry and the Resource Development Departments and administered by Forestry Department.

A survey of the social and economic significance of natural resources in modern industrial and urban society. Current problems of natural resources management and use are examined in terms of the society in which they exist.

NATURAL SCIENCE

University College

Students may earn credit in only one of the courses in each of the following three groups:


2. 116, 120, 123, 133

3. 151, 152, 153, 155, 156, 158, 160, 161, 323

4. 152, 153, 154, 155, 156, 157, 158, 159, 161, 323

111. The Nature of Science I

(192A.) Fall, Winter, Spring, Summer. 4(3-2) The development and validation of scientific concepts as examples of man's attempt to understand the world in which he lives. Selected topics from the life sciences illustrate the process of scientific investigation.

112. The Nature of Science II

(193A.) Fall, Winter, Spring, Summer. 4(3-2) 111 preferred; or 117, 121, 131, 151, 156, 161, or 182.

Man's attempts to explain the present in terms of past events are explored through topics from the life sciences and earth sciences. Stresses the role of controversy in science and the nature of scientific evidence.

113. The Nature of Science III

(183, 191A.) Fall, Winter, Spring, Summer. 4(2-3) 112 preferred; or 118, 122, 133, 152, 171H, or 182.

The origin and development of scientific explanations of the physical world. The origins of modern science and scientific revolutions.

116. Integrated Studies in Science I

(191D.) Fall, Winter, Spring, Summer. 4(2-3)

Science as a process of studying of nature, explored through consideration of the organization science perceives in nature. Topics from the physical and life sciences used to illustrate the integration of the sciences into a concept of natural systems.

117. Integrated Studies in Science II

(192D.) Fall, Winter, Spring, Summer. 4(3-2) 116 preferred; or 150, 150, 160, or 321.

The nature of scientific theories and the means of supporting or refuting them. Emphasis on the interaction of theories from the physical, earth and life sciences.

118. Integrated Studies in Science III

(193D.) Fall, Winter, Spring, Summer. 4(2-3) 117 preferred; or 111, 121, 131, 151, 171H, or 181.

The use and limitations of scientific problem-solving. The interaction of the physical, earth and life sciences in the development of mechanistic concepts of the physical world on the success and failures of scientific explanations and their significance to us.

120. Science, Beliefs and Values I

(192B.) Fall, Winter, Spring, Summer. 4(2-3) 111 preferred; or 111, 117, 121, 131, 151, 171H, 181, or 321.

The influence of scientific beliefs and values. Science, values and society. Selected topics of interest and their place within the interaction between scientific concepts and the beliefs and values of the culture in which they are proposed.

121. Science, Beliefs and Values II

(192C.) Fall, Winter, Spring, Summer. 4(2-3) 120 preferred; or 150, 150, 160, or 321.

The nature of living things. Contrasting various scientific and non-scientific views. The implications of the modern scientific understanding of life for our beliefs and values.

122. Science, Beliefs and Values III

(193C.) Fall, Winter, Spring, Summer. 4(2-3) 121 preferred; or 111, 117, 121, 131, 151, 171H, or 321.

Man's current understanding of himself and his beliefs as products of biological and cultural evolution. Implications for man's future.

127. The Bio-ecology of Health

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

Man's health examined from evolutionary and ecological viewpoints. Emphasis on the impact an increasingly man-made environment has had on the health of Western man.

131. Science, Man and Society I

(192C.) Fall, Winter, Spring, Summer. 4(2-3)

The role science plays in our lives is explored through consideration of aspects of reproduction and heredity. Emphasis on the origin of scientific explanations and their significance to the individual.

132. Science, Man and Society II

(193C.) Fall, Winter, Spring, Summer. 4(2-3) 131 preferred; or 111, 117, 121, 131, 151, 171H, 181, or 322.

The origin and evolution of earth and man are studied as vital and related problems. Emphasis on problem-solving in science and the impact of evolutionary concepts on human societies.

133. Science, Man and Society III

(191C.) Fall, Winter, Spring, Summer. 4(2-3) 132 preferred; or 112, 113, 122, 134, 152, 172H, or 182.


134. Science, Man and Society IV

(193D.) Fall, Winter, Spring, Summer. 4(2-3) 131 preferred; or 111, 117, 121, 151, 171H, or 181.

Biological concepts of race. Exploration of scientific alternatives to the currently held biological concept of race.

150. The Dynamics of Scientific Ideas

(191E.) Fall, Winter, Spring. 4(2-3) 150 preferred; or 116, 120, 160, or 321.

The role of science in the development of Western man's ideas about reality. The origin and development of mechanistic concepts of the physical world and their part in intellectual dialogue.

151. The Dynamics of Scientific Ideas

(192E.) Fall, Winter, Spring. 4(2-3) 150 preferred; or 116, 120, 160, or 321.

The influence of scientific ideas about the living world on the Western intellectual tradition. Emphasis on the successes and failures of scientific ideas in offering a unified picture of reality.

152. The Dynamics of Scientific Ideas

(193E.) Fall, Winter, Spring. 4(2-3) 151 preferred; or 111, 117, 121, 131, 151, 171H, or 322.

Controversies concerning interpretations of scientific concepts such as evolution, uncertainty and relativity are discussed in terms of developing a personal philosophy.

160. Knowledge and Science

(191B.) Fall, Winter, Spring. 4(2-3)

The intuitive and reasonable nature of scientific "truth" is examined in relation to the structure and functions of the human brain.

171H. Honors Natural Science

(192H.) Fall. 4(2-3) Exploration of various topics of interest and value to students eligible for Honors, especially the nature and significance of science in Western culture and its interrelationship with other creative activities.

172H. Honors Natural Science

(193H.) Fall, Winter, Spring. 4(2-3) 171H.

A continuation of 171H.