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 seventeenth/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 482 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, Summer. Variable credit. Approval of department.

NATURAL SCIENCE N S

College of Natural Science

115. The Nature and Continuity of Life (N)
Fall, Winter, Spring. 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 molecular, cellular and organic perspectives, including human structure and function.
D—The nature of living things, contrasting various scientific and non-scientific views. The implications of the modern scientists understanding of life for our beliefs and values.

122. Human Biocultural 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, Summer. 4(3-2)
A—Our 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 Biocology of Health
Fall, Winter, Spring. 4(3-2)
Human health examined from evolutionary and ecological viewpoints. 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 social 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 115, N 185.
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 origins and development of mechanistic concepts of the physical world and their application through dialogue and argument.

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, Summer. 4(3-2) Students may not receive credit in more than one of the following: AST 119, AST 217, AST 229, N 115, N 185.
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 that 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 and 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.

1814. Natural Science (N)
Fall. 4(3-2) Not open to students with credit in N S 115. Enrollment in Remedial-Developmental Writing Program or approval of department.
Scientific methods emphasizing development and modification of explanation systems. The nature of cells and sexual reproduction as background for Mendelian gene theory and its modern modifications. Social implications are emphasized.

1824. Natural Science (N)
Winter. 4(3-2) Not open to students with credit in N S 115. N S 1814 or approval of department.
Scientific methods with emphasis on evolutionary ideas regarding origin of earth features as related to modern problems. Human origins and development are considered, with a number of modern problems.

1834. Natural Science (N)
Spring. 4(3-2) Not open to students with credit in N S 135. N S 1824 or approval of department.
Nature of science as exemplified by ideas from physical science. The Copernican Revolution is used as an example of the science-society interac-
Tion. Modern concepts of cosmology are also intro-
duced.

200. Technology, Society and Public Policy
Winter. 3(3-0) Twelve credits from natural science or engineering. Interdepartmental credit is offered for students at the University at Buffalo, State University of New York.
Description and analysis of certain current technologies and their consequences: exploration of avenues for assessing such consequences as an aid to formulation of public policy.

A-153
209. Humans and Disease (N)
Fall, Winter, Spring. 4(4-0)
Disease as a natural biological phenomenon and how it has influenced the human race from a worldwide perspective. Environmental and cultural factors and how these influence and interrelate with disease.

242. Wilderness Environmental Field Studies (N)
Winter, Summer. 4(4-0) Approval of instructor. Students may not receive credit in more than one of the following: NS 142, NS 142A, NS 242.
Study of ecosystem balance between physical, biological and human elements while hiking in selected wilderness areas. Requires out-of-state travel.

292. Selected Topics
Fall, Winter, Spring. 3 to 5 credits. May enroll for a maximum of 6 credits if different topics are taken.
Interdisciplinary study of topics in the natural sciences or the natural sciences as related to the humanities and social sciences.

300. Supervised Individual Study
Fall, Winter, Summer. 2 to 4 credits. May enroll for a maximum of 15 credits. Approval of department.
Selected students requesting individual study of interdisciplinary problems. Variable elective credit will be determined when the student accrues instructor, advisor, and department approval.

325. Biological and Social Aspects of Human Reproduction
Fall, Winter, Spring. 4(4-0) Juniors or approval of department.
Anatomy and physiology of human reproduction will be integrated with consideration of such current social concerns as contraception, abortion, venereal disease, and drugs.

350. Issues in Science and Religion
Winter. 4(4-0) Juniors or approval of department. Interdepartmental with and administered by the Department of Religious Studies.
History of relationships between science and religion. Methods of science and religion. Attempts at resolution of conflicts and formation of new syntheses.

401. Engineering and Public Policy
Spring. 3(3-0) Seniors, or approval of department. Interdepartmental with and administered by Engineering.
Sociotechnical assessment of impact of technology on society, with analysis of the role of engineering and natural science in contributing to public policy formulation.

456. Foundations of Developmental Biology
Winter of even-numbered years. 3(3-0) ZOL 317 ZOL 417 recommended. Interdepartmental with and administered by the Department of Zoology.
Reading and discussion of original research which posed significant problems of modern developmental biology.

NATURAL SCIENCE NSC (COLLEGE OF)

201. Science Problem Solving Seminar I
Fall. 3(2-0) MTH 108 concurrently, approval of instructor.
Problem solving principles and application of strategies to the disciplines of science and mathematics. Activities reflecting the types of problems encountered in these disciplines emphasized.

202. Science Problem Solving Seminar II
Winter. 2(2-0) NSC 201, approval of instructor.
Continuation of NSC 201. Emphasis upon problem solving in science disciplines and principles of research design.

305. Women in Science
Spring. 3(3-0) Introductory course in chemistry or physics or biological science or approval of instructor.
The development of women scientists of the past, present, and future will be examined. Emphasis will be on representatives from physics, biology, medicine, mathematics, and engineering.

394H. Current Topics in Science (MTC)
Fall, Winter, Spring. 3(3-0) May enroll for a maximum of 9 credits if different topics are taken. Approval of Honors College or course coordinator.
Scientists from several disciplines lecture on a common topic of current scientific interest, indicating the key concepts, the analytic approaches, the processes and the constraints of their respective disciplines.

410. Environmental Toxicology
Winter. 4(4-0) B S 212, BCh 401. Interdepartmental with Agriculture and Natural Resources.
Fat and effects of toxic chemicals in soil, plants, wildlife, and aquatic systems. Interactions between chemicals and the environment which influence their fate and ecological importance.

445. Pest Management: Pesticide Chemistry and Application Systems for Plant Protection
Fall. 5(3-4) CEM 143, ENT 425, HRT 402 or CSS 402, BCh 405 or concurrently or approval of instructor. Interdepartmental with Agriculture and Natural Resources.
A broad overview of pesticide chemistry, efficient usage, environmental fate, legislation and application techniques.

446. Pest Management: Biological Systems for Plant Protection
Fall. 3(3-0) ENT 425, HRT 402 or CSS 402, BCh 405 or concurrently or approval of instructor. Interdepartmental with Agriculture and Natural Resources.
Management of plant pests utilizing host resistance, cultural practices, legislation, and biological systems.

NURSING N E (COLLEGE OF)

200. Nursing I
Spring. 3(3-0) or 4(4-0) Approval of college.
Concepts and theories of nursing in relation to professional nursing practice. Role of nursing in contemporary society.

200. Nursing II
Fall. 107(9) N E 200, FCE 200, FCE 255, CEV 450.