

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.) Winter. 4(2-3) 171H.

A continuation of 171H.

173H. Honors Natural Science
(191H.) Spring. 4(2-3) 172H.

Continuation of 172H.

181. Natural Science
Fall. 4(2-3) Approval of department.

The role of methods in science emphasizing the development and modification of systems of explanation. The nature of the cell and sexual reproduction as background for Mendelian gene theory and its modern modifications. Social implications are emphasized.

182. Natural Science
Winter. 4(2-3) 181 or approval of department.

Methods in science continued with emphasis on evolutionary ideas regarding the origin of earth features and existing life forms. The origin and development of man is considered along with a number of modern problems.

183. Natural Science
Spring. 4(2-3) 182 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 interaction. Modern concepts of the nature of matter are also introduced.

200. Technology and Society
Winter. 3(3-0) One term of American Thought and Language. Interdepartmental with and administered by the Engineering Department.

An attempt to describe and analyze portions of current technology and its desired and undesired consequences; and exploration of avenues for assessing such consequences for future technologies.

300. Supervised Individual Study
Fall, Winter, Spring, Summer. 2 to 4 credits. May re-enroll for a maximum of 12 credits. Approval of department.

Selected students requesting individual study of interdisciplinary problems will work under supervision of University College professors. Variable elective credit will be determined when the student secures instructor, adviser, and department approval.

321. Studies in Natural Science I
Fall. 4(2-3) Juniors.

An interdisciplinary analysis of the nature of science and its role in the human experience, with emphasis on science as a way of knowing. Subject matter used includes material from the physical sciences.

322. Studies in Natural Science II
Winter. 4(2-3) Juniors.

An interdisciplinary study of the nature of science and its role in the human experience, with emphasis on the way science affects society and is, in turn, affected by society. Subject matter used includes material from the biological sciences.

323. Studies in Natural Science III
Spring. 4(2-3) Juniors.

An interdisciplinary approach to the nature of science and its role in the human experience, with emphasis on man and his understanding of the world around him. Subject matter used includes material from the historical sciences.

401. Technology Assessment
Spring. 3(3-0) Seniors, or approval of department. Interdepartmental with and administered by the Engineering Department.

Sociotechnical evaluation of impact of proposed technologies on economic, political, and cultural aspects of society. Identification of technical strategies and social goals. Techniques of assessment.

**NATURAL SCIENCE NSC
(COLLEGE OF)**

230. The Role of the Natural Sciences in Future Environments

Fall. 4(4-0) Approval of college. Interdepartmental with the departments of Entomology, Geology, Physics, and Zoology.

Physical and biological science concepts relevant to understanding of environmental issues. Options for action in areas of population size, energy and life support system. Illustrated by case studies.

IDC. Human Adjustment to Environment
For course description see Interdisciplinary Courses.

390H. The Human Organism
Winter. 3(3-0) Juniors; approval of the Honors College.

The importance of new discoveries in biology for our understanding of the human organism with emphasis from the fields of genetics, molecular biology, behavior, developmental biology, physiology and ecology.

391H. Man's Universe
Fall. 3(3-0) Juniors; approval of the Honors College.

A creative review by senior faculty from astronomy, biochemistry, biophysics, geology, physics, and philosophy of the impact of recent space probes in developing modern concepts of the universe, the origin of the earth and life upon it.

400. Nature and Uses of Electron Microscopes
Fall. 3(2-1) MTH 111, Juniors, 1 year college physics.

Principles of electron optics including history, construction, and design of electron optical equipment. Lectures and demonstrations will be given on uses of various types of electron microscopy in representative biological and physical sciences.

435. Pest Management I: Pesticide Chemistry and Application Systems for Plant Protection
Fall. 5(3-4) CEM 132. Interdepartmental with Agriculture and Natural Resources.

A broad overview of pesticide chemistry, efficient usage, environmental fate, legislation and application techniques.

436. Pest Management II: Biological Systems for Plant Protection

Winter. 3(3-0) ENT 430, BOT 405, HRT 402 or CSC 402. Interdepartmental with Agriculture and Natural Resources.

Management of plant pests utilizing host resistance, cultural practices, legislation, and biological systems.

437. Pest Management III: Systems Management for Plant Protection

Spring. 4(3-2) 435 and 436, FSM 200 or EC 201. Interdepartmental with Agriculture and Natural Resources.

Designed to integrate knowledge and improve ability in arriving at pest management decisions of varying complexity involving the fields of agronomy, wildlife, horticulture, entomology, and plant pathology.

471. Environmental Topics in Nonmetropolitan Regions

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

Environmental topics in nonmetropolitan regions including issues on: production agriculture, service industries, nonagricultural uses, rural urban balance, discussion topics and case studies.

801. Special Problems in Electron Microscopy

Fall, Winter, Spring, Summer. 1 to 15 credits. Approval of instructor.

810. Methods in Transmission Electron Microscopy

Fall, Winter, Spring. 3(1-5) 400 or approval of instructor.

Use of the transmission electron microscopes and preparative instruments. Preparative technique for biological and nonbiological materials. Photographic principles including interpretation of micrographs.

820. Methods of Scanning Electron Microscopy

Fall, Winter, Spring. 3(1-5) 400 or approval of instructor.

Use of the scanning electron microscope and preparative equipment. Preparative technique for biological and nonbiological materials. Interpretation of micrographs.

830. Analytical Electron Microscopy

Fall. 2(1-3) 810 or 820 or approval of instructor.

Use of X-ray analysis on electron microscopes and electron microprobes with biological and physical materials. Methods of preparation and analysis of product data.

NURSING NE

College of Natural Science

205. Foundations of Nursing
Fall. 3(2-3) Approval of school.

Introduction to principles basic in identifying nursing problems and their use in sound planning of patient care.