172H. Our Place in Nature (N)  
Winter 4(4-0)  
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)  
The nature and significance of science and technology in Western culture, with emphasis on their roles in shaping our creative activities, particularly those within the arts.

1814. Natural Science (N)  
Fall 4(3-2) Not open to students with credit in NSC 115. Enrollment in ATL 101 or approval of department.  
Scientific methods emphasizing development and modification of experimentation 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 NSC 125. NSC 181 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 NSC 135, 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 cosmology are also introduced.

200. Technology, Society and Public Policy  
Winter 3(3-0) Twelve credits from natural science or engineering. Interdepartmental with and administered by Engineering.  
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.

292. Selected Topics  
(U.C. 292) Fall, Winter, Spring 3 to 5 credits. May repeat for a maximum of 3 credits if different topic is taken.  
Interdisciplinary study of topics in the natural sciences as related to the humanities and social sciences.

300. Supervised Individual Study  
Fall, Winter, Spring, Summer 2 to 4 credits. May repeat 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.

310. Science and Pseudoscience  
Spring 3(3-0) Juniors.  
Techniques of reasoned, critical analysis applied to science-related ideas such as astrology, gods from outer space, and the secret life of plants. Specific topics selected from recent writings.

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.

335. Science, Health and the Consumer  
Spring 4(4-0) Juniors or approval of department.  
Scientific basis for decisions affecting individual and public health. Emphasis is on learning to use scientific principles to make rational judgments in these areas.

380. Issues in Science and Religion  
Winter 4(4-0) Juniors or approval of department. Interdepartmental with the Department of Religious Studies and Justin Merrill Inter-College Programs. 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.

IDC. Interdisciplinary Issues in Aging  
For course description, see Interdisciplinary Courses.

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.

NATURAL SCIENCE (COLLEGE OF) NSC

390H. The Human Organism  
Winter 3(3-0) Approval of the Honors College or course coordinator.  
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. Our Universe  
Fall 3(3-0) Approval of the Honors College or course coordinator.  
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.

392H. The Uniqueness of Man  
Spring 3(3-0) Approval of the Honors College, or course coordinator.  
Physiological processes, behavioral mechanisms, genetic information, life support systems, physical disorders and adjustment to hostile environments.

410. Environmental Toxicology  
Winter 4(4-0) B.S. 212, BCH 401.  
Interdepartmental with Agriculture and Natural Resources.  
Fate 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.

444. Pest Management I: Systems Management for Plant Protection  
(Fall) Not open to students with credit in NSC 810 to 830.  
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.

445. Pest Management II: Pesticide Chemistry and Application Systems for Plant Protection  
(Fall) Not open to students with credit in NSC 810 to 830.  
Interdepartmental with Agriculture and Natural Resources.  
A broad overview of pesticide chemistry, efficient usage, environmental fate, legislation and application techniques.

446. Pest Management III: Biological Systems for Plant Protection  
(Fall, Winter) Not open to students with credit in NSC 810 to 830.  
Interdepartmental with Agriculture and Natural Resources.  
Management of plant pests utilizing host resistance, cultural practices, legislation, and biological systems.

460. Clinic in Natural Science Teaching  
Fall, Winter, Spring, Summer 1 credit. May repeat for a maximum of 6 credits. Bachelor's degree.  
Each practicum will deal with a specific science or science-related problem and its implications for instruction. Discussions are intended to have immediate application by participants.

492. Integrative Studies  
Fall, Winter, Spring, Summer 3 to 5 credits.  
Juniors.  
In-depth study of topics which require an integration within or among the natural sciences or between the natural sciences and other major areas of human knowledge.

801. Special Problems in Electron Microscopy  
Fall, Winter, Spring 1 to 15 credits. Approval of instructor.  
Principles of electron microscopy including optical theory, instrument design and construction and selected specimen preparative procedures. Emphasis on current literature.
Descriptive NATURAL SCIENCE (College of) Courses

810. Methods in Transmission Electron Microscopy
Fall, Winter, Spring. 3(1-5) NSC 802 or concurrently. Use of the transmission electron microscopes and preparative instruments. Preparative technique for biological and nonbiological materials. Photographic principles including interpretation of micrographs.

820. Methods in Scanning Electron Microscopy
Fall, Winter, Spring. 3(1-5) NSC 802 or concurrently. Use of the scanning electron microscope and preparative equipment. Preparative technique for biological and nonbiological materials. Interpretation of micrographs.

830. Analytical Electron Microscopy
Fall, Winter, Spring. 2(1-3) NSC 802 or concurrently. Use of X-ray analysis on electron microscopes and electron microscopes with biological and physical materials. Methods of preparation and analysis of product data.

NURSING (COLLEGE OF) N E 440
(Effective July 1, 1980. Formerly School of Nursing.)

College of Natural Science

Nursing I
Spring. 4(4-0). Admission to School of Nursing. Concepts and theories of nursing, science and man in relation to professional nursing practice. Role of nursing in contemporary society.

Nursing II

Nursing III

Nursing IV
Winter, Spring. 10(5-15) N E 301, N E 441. Promotion of adaptation of individuals in diminished-stable health states and families in stable health states. Relates research findings to practice.

Nursing V

401. Nursing VI

405. Nursing VII
Fall, Spring. 10(3-21) N E 401. Integration of nursing, biological and behavioral sciences stressing application of the nursing process to the care of individuals, families and communities in depleted health states. Applies research findings to practice.

407. Introduction to Nursing Research
Winter, Spring. 2(2-0). Approval of instructor. Critical reading and critique of nursing research literature; define research terminology and procedures and apply to clinical nursing through discussion and writing.

440. Clinical Problems in Adaptation I
Fall, Summer. 5(5-0) PSI 241 and approval of instructor. Homeostatic range of physiological alterations to stress. Man’s adaptive maladaptive responses.

441. Clinical Problems in Adaptation II
Fall, Winter. 5(5-0) N E 440 and approval of instructor. Continuation of N E 440.

490. Special Problems in Nursing
Fall, Winter, Spring, Summer. 1 to 5 credits. May renew for a maximum of 12 credits. Approval of school. Exploration of certain areas in nursing in greater depth and/or from a different perspective than possible within the limits of required courses.

490H. Honors Work
(400H) Fall, Winter, Spring, Summer. 1 to 12 credits. Approval of school.

495. Selected Topics in Nursing
Fall, Winter, Spring. 2 to 6 credits. May renew for a maximum of 6 credits if different topics are taken. Approval of school. Allows exploration of unique issues in nursing. Topics to be selected from current issues.

521. Evaluation of Health Services
Spring. 2 to 4 credits. Approval of instructor. Interdisciplinary with and administered by the Department of Community Health Science. Use of experimental and quasi-experimental designs. Cost benefit and efficiency models. Assessment of health services delivery.

540. Family Health Seminar
(561.) Fall, Spring. 3(3-0). Majors or approval of instructor. Conceptual frameworks of family. Assessment of family health behavior.

541. Facilitating Patient Participation
(532.) Winter. 2(2-0). N E 564 or approval of instructor. Learning theories and methods to promote patient self care.

564. Primary Care Seminar I:
Role of Family Nurse Clinician
Fall, 2(2-0). Approval of instructor. Role of the Family Nurse Clinician in primary care.

565. Primary Care Seminar II:
Interdisciplinary Team Functioning
Winter, 2(2-0). Approval of instructor. Theories of team functioning. Communication, consultation, collaboration, conflict and decision making. Role strategies.

566. Primary Care Seminar III:
Organizational Structure
Spring. 3(3-0) N E 564, N E 565 or approval of instructor. Organization of primary care. Administration of the nursing service.

567. Primary Care Seminar IV:
Health Care Policy
(563.) Summer. 3(3-0) N E 566 or approval of instructor. Issues, problems and processes of theory and concept development.

580. Nursing Clinician Practicum I

581. Nursing Clinician Practicum II

582. Nursing Clinician Practicum III

583. Nursing Clinician Practicum IV
Fall, Winter, Spring. 5(2-9) N E 582, approval of school. Management skills for clients in depleted-compensated and depleted-compensated health states in primary care. Longitudinal study of a family.

590. Special Problems
Fall, Winter, Spring. 1 to 6 credits. May renew for a maximum of 12 credits. Approval of instructor. Individual or group in-depth study of specific areas in nursing. Independent study.