

**171H. Our Biological Nature (N)**

Fall. 4(4-0)

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)

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 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 125. 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 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 reenroll for a maximum of 8 credits if different topic is 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, Spring, Summer. 2 to 4 credits. May reenroll 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 Morrill 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.

**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 NSC  
(COLLEGE OF)**

**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**

(437.) Fall. 4(3-2) 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.

**445. Pest Management II: Pesticide Chemistry and Application Systems for Plant Protection**

(435.) Winter. 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.

**446. Pest Management III: Biological Systems for Plant Protection**

(436.) Spring. 3(3-0) ENT 425, BOT 405, HRT 402 or CSS 402. 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 reenroll 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**

(U C 492.) 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, Summer. 1 to 15 credits. Approval of instructor.

**802. Essentials of Electron Microscopy**

Fall, Winter, Spring. 2(2-0) Approval of instructor; NSC 810 or NSC 820 or NSC 830 concurrently.

Principles of electron microscopy including optical theory, instrument design and construction and selected specimen preparative procedures. Emphasis on current literature.

**810. Methods in Transmission Electron Microscopy**

Fall, Winter, Spring. 3(1-5) Approval of instructor; 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.

**Descriptions – Natural Science (College of)**  
**of**  
**Courses**

**820. Methods in Scanning Electron Microscopy**  
Fall, Winter, Spring. 3(1-5) Approval of instructor; 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) Approval of instructor; NSC 802 or concurrently.  
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 N E**  
**(COLLEGE OF)**

(Effective July 1, 1980. Formerly School of Nursing.)

**200. 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.

**300. Nursing II**  
Fall, Summer. 10(7-9) N E 200.  
Independent nursing role. The well individual. Holistic approach to Man. Impact of developmental levels upon client health. Application of nursing process in maintaining wellness.

**301. Nursing III**  
Fall, Winter. 10(6-12) N E 300.  
Independent nursing role. Application of nursing process in a variety of health care settings. Healthy clients adapting to stress at all stages in the life cycle.

**302. 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.

**400. Nursing V**  
Fall, Spring. 10(5-15) N E 302, N E

**407.**  
Individuals in diminished-unstable health states and families in stable health states. Community assessment skills. Interdisciplinary approach to health care systems. Relates research findings to practice.

**401. Nursing VI**  
Winter, Summer. 10(4-18) N E 400.

Individuals in compensated-decompensated health states, families in diminished-unstable health states, and communities in optimal health states. Functions interdependently within health care teams. Applies research findings to practice.

**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) N E 301 or concurrently, approval of college.  
Critical reading and critique of nursing research literature; define research terminology and procedures and apply to terminal nursing through discussion and writing.

**440. Clinical Problems in Adaptation I**  
Fall, Summer. 5(5-0) PSL 241 and approval of school.  
Homeostasis; 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 school.  
Continuation of N E 440.

**490. Special Problems in Nursing**  
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll 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 reenroll for a maximum of 6 credits if different topic is 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. Interdepartmental 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. 3(3-0) Majors or approval of instructor.  
Conceptual frameworks of family. Assessment of family health behavior.

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

**543. Health and Adaptation of the Elderly**  
Fall. 3(3-0) Baccalaureate degree in health science; approval of instructor. Interdepartmental with the Department of Community Health Science.  
Health and adaptation of the aged individual experiencing the normative biophysiological and psychodevelopmental changes related to the aging process.

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

**565. Primary Care Seminar II: Interdisciplinary Team Functioning**  
(550.) 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**  
(562.) 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.  
Policy influence on health care delivery systems.

**570. Nursing Theories and Conceptual Models**  
Fall. 3(3-0) STT 421 or approval of instructor.  
Issues, problems and processes of theory and concept development.

**580. Nursing Clinician Practicum I**  
Winter. 5(3-6) N E 564, N E 540, approval of school.  
Beginning skill development in physical assessment, interviewing, history taking and health assessment of adult and child. Limited clinical experience with selected patients.

**581. Nursing Clinician Practicum II**  
Spring. 5(2-9) N E 580, approval of school.  
Nursing management of clients in primary care. Health maintenance and health promotion. Single acute problems. Continuity of care. Longitudinal study of a family.

**582. Nursing Clinician Practicum III**  
Summer. 5(2-9) N E 581, approval of school.  
Management skills for clients in diminished-unstable and compensated-decompensated health states in primary care. Longitudinal study of a family.

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

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

**595. Selected Topics**  
Fall, Winter, Spring. 2 to 6 credits. May reenroll for a maximum of 6 credits if different topics are selected. Approval of instructor.  
Selected issues, trends, programs or theories in nursing.

**899. Master's Thesis Research**  
(599.) Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 15 credits. N E 570, approval of instructor.  
Clinical problem related to primary health care.