390. 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.

NATURAL SCIENCE
(COLLEGE OF)

201. Science Problem Solving Seminar I
Fall, 2(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.

203. Science Problem Solving Seminar III
Spring. 2(1-3). May reenroll for a minimum of 4 credits. NSC 202, approval of instructor. Applied experience in research. Design and implementation of simple research problems. Relationship of science and society.

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.

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 modem concepts of the universe, the origin of the earth and life upon it.

392H. The Uniqueness of Human Beings
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 Pest Protection
(Fall.) Fall, 4(3-2) FSC 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 Pest Protection
(Fall.) Winter, 3(3-0) CEM 132. Interdepartmental with Agriculture and Natural Resources. A broad overview of pesticide chemistry, efficient use, environmental fate, legislation and application techniques.

446. Pest Management III: Biological Systems for Pest Protection
(Fall.) Spring. 3(3-0) ENT 425, BOT 408, 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 participant 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 830 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 techniques for biological and nonbiological materials. Photographic principles including interpretation of micrographs.

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 techniques 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 microscopes with biological and physical materials. Methods of preparation and analysis of product data.

NURSING
(COLLEGE OF)

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

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.

300. Nursing II

301. Nursing III
Winter. 10(6-12) N E 300. Care of individuals at risk across the life span. Application of entire nursing process in a variety of health care settings.

302. Nursing IV

400. Nursing V

401. Nursing VI
Descriptions — Nursing

405. Nursing VII
Spring. 10(3-21) N E 401.
Nursing of individuals and families with de­
plicated health. Analysis of community health is­
sues. Integration of theory and research from
nursing and related sciences. Interdependent
clinical practice within health care systems.

407. Introduction to Nursing
Research
Spring. 2(2-0) N E 301 or concurrently,
aproval of college.
Lecture and independent activities are used to
facilitate an understanding of the research pro­
cess, terminology, and types of investigations
undertaken in nursing. Findings relevant to
practice are discussed.

440. Clinical Problems in Adaptation
I
Fall. 8(3-9) AN 316, FSL 240, FSL 241, MFP 334, PFM 350; approval of college.
Theoretical concepts necessary to understanding
of individual's adaptive-maladaptive re­
sponses to stress. Emphasis on pathophysiology.

441. Clinical Problems in Adaptation
II
Winter. 8(3-9) N E 440.
Emphasis placed upon individual's adaptive-
maladaptive responses. Use of clinical case pre­
sentations.

490. Special Problems in Nursing
Fall, Winter, Spring, Summer. 1 to 6
credits. May reenroll for a maximum of 12 cred­
ts. Approval of college.
Exploration of particular areas in nursing in
greater depth and/or from a different perspec­
tive than possible within the limits of required
courses.

490H. Honors Work
(490H) Fall, Winter, Spring, Summer.
1 to 12 credits. Honors College students or ap­
proval of college.

495. Selected Topics in Nursing
Fall, Winter, Spring, Summer. 2 to 6
credits. May reenroll for a maximum of 6 cred­
ts if different topic is taken. Approval of college.
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 in­
structor. Interdepartmental with and adminis­
tered by the Department of Community Health
Science.
Use of experimental and quasi-experimental de­
signs. Cost-benefit and efficiency models. As­
essment of health services delivery.

540. Family Health Seminar for the
Clinical Nurse Specialist
(540) Fall. 3(3-0) Majors or approval of
instructor.
Conceptual frameworks of family. Assessment of
family health behavior.

541. Facilitating Patient
Participation
(541) Winter. 2(2-0) N E 564 or ap­
proval of instructor.
Learning theories and methods to promote pa­
tient self care.

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

544. Aging, Environment, and,
Health: An Interactional
Approach
Winter. 3(3-0) Baccalaureate degree in
health science; approval of instructor.
Quality and quantity of interaction between the
aged and their environment as an index of the
health status of the older individual.

564. Primary Care Seminar I: Role of
the Clinical Nurse Specialist
(564) Fall. 2(2-0) Approval of instruc­
tor.
Rule of nurse in advanced practice. Dimensions
of primary care within the health care system.

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

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

587. Primary Care Seminar IV: Health
Care Policy
(587) Spring. 3(3-0) N E 594 or ap­
proval of instructor.
Policy influence on health care delivery sys­
tems.

580. Clinical Nurse Specialist
Practicum I
(580) Winter. 2(1-3) N E 584, approval of
college.
Beginning skill development in physical as­
sessment and interviewing, history taking.

580B. Clinical Nurse Specialist
Practicum I
(580B) Winter. 3(1-6) N E 580A, ap­
proval of college.
Completion of physical examination and patient
history, interpreting data. Health assessment of
adult.

581. Clinical Nurse Specialist
Practicum II
(581) Fall. 5(2-9) N E 580B, CMS 521 or con­
currently, approval of college.
Nursing management of clients in primary care.
Focus on health maintenance, health promotion
and self care. Single acute problems. Longitudi­
nal study of a family.

582. Clinical Nurse Specialist
Practicum III
Winter. 5(3-9) N E 581, approval of
college.
Primary care management of clients with
chronic health problems. Utilizes stress-
adaptation framework. Longitudinal study of a
family.

583. Clinical Nurse Specialist
Practicum IV
Spring. 5(2-9) N E 582, approval of col­
lege.
Primary care management of clients with mul­
tiple health problems. Focus on loss theory.
Longitudinal study of a family.

590. Special Problems
Fall, Winter, Spring. 1 to 6 credits.
May reenroll for a maximum of 12 credits. Ap­
proval 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 dif­
ferent topics are selected. Approval of instruc­
tor.
Selected issues, trends, programs or theories in
nursing.

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

OBSTETRICS, GYNECOLOGY
AND REPRODUCTIVE
BIOLOGY

College of Human Medicine

608. Obstetrics/Gynecology Clerkship
Fall, Winter, Spring. Summer. 1 to 17
credits. May reenroll for a maximum of 43 cred­
ts. H M 602.
Experience with gynecologic and obstetrical pa­
tients, in in-patient and out-patient settings,
under the direction of community practitioners
and members of the MSU faculty.

609. Obstetrics and Gynecology
Advanced Clerkship
Fall, Winter, Spring, Summer. 4 to 16
credits. May reenroll for a maximum of 16 cred­
ts. OGR 608, approval of department and ap­
proval of community coordinator.
Advanced clinical experience in gynecology
and/or obstetrics.

610. Gynecology Ambulatory Clinic
Fall, Winter, Spring, Summer. 4 to 16
credits. May reenroll for a maximum of 16 cred­
ts. H M 602.
Contraception, management of abnormal Pap
smear, pregnancy and abortion counseling, and
general office gynecology.