810. Methods in Transmission Electron Microscopy
Fall, Winter, Spring. 3(1-5) NSC 802 or concurrently.
Use of the transmission electron microscopy and preparative equipment. 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)**

**College of Natural Science**

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.

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-uneatable 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) Approval of school.
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) PSL. 241 and approval of school.
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 school.
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 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. Interdisciplinary with and administered by the Department of Community Health Science.

540. **Family Health Seminar**
(561) Fall, Winter. 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
(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
(563) Spring. 3(3-0) N.E. 564, N.E. 565 or approval of instructor.
Organization of primary care. Administration of the nursing service.

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. 3(3-0) 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. 3(2-9) N.E. 580, approval of school.

582. **Nursing Clinician Practicum III**
Summer. 3(2-9) N.E. 581, approval of school.
Management skills for clients in diminished-unchable and compensated decompensated health states in primary care. Longitudinal study of a family.

583. **Nursing Clinician Practicum IV**
Fall. 3(2-9) N.E. 382, approval of school.
Management skills for clients in decompensated 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.
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
Full, 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.

**OBSTETRICS, GYNECOLOGY AND REPRODUCTIVE BIOLOGY**

College of Human Medicine

533. Introduction to Obstetrics and Gynecology
Winter. 11-0) Admission to a college of medicine or approval of department: H M 514 concurrently. Normal physiology and endocrinology of menstrual cycle, conception, pregnancy, and labor. Diagnosis of high risk pregnancy.

608. Obstetrics/Gynecology Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 43 credits. H M 502. Experience with gynecologic and obstetrical patients, in-patients 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. 4 to 16 credits. May reenroll for 16 credits. OGR 608, approval of department and approval 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 credits. H M 602. Contraception, management of abnormal Pap smear, pregnancy and abortion counseling, and general office gynecology.

611. Case Studies in Obstetrics and Gynecology
Fall, Winter, Spring. 8 to 16 credits. May reenroll for a maximum of 16 credits. H M 602. The student will design, pretest and field test a simulation of a clinical problem in obstetrics and gynecology.

**OSTEOPATHIC MEDICINE O M**

College of Osteopathic Medicine

532. Clinical Science III
Winter. 10-3) Admission to a college of medicine. A clinical study program providing an opportunity to learn the skills of history taking and physical examination by actual performance of the involved techniques on patients under physician supervision.

533. Clinical Science IV
Spring. 10-3) Admission to a college of medicine or approval of department. Continuation of O M 532.

534. Clinical Science V
Summer. 10-3) Admission to a college of medicine. A clinic-based program providing additional emphasis on history taking and physical examination as well as developing fundamental abilities in diagnosis and problem solving in the clinic setting.

535. Clinical Science VI
Fall. 10-3) Admission to a college of medicine. A continuation of O M 534.

536. Clinical Science VII
Winter. 10-3) Admission to a college of medicine. Continuation of O M 535.

537. Clinical Science VIII
Spring. 10-3) Admission to a college of medicine. Continuation of O M 536.

590. Special Problems in Osteopathic Medicine
Fall, Winter, Spring, Summer. 1 to 8 credits. May reenroll for a maximum of 32 credits. Approval of department. Each student will work under direction of a faculty member on an experimental, theoretical or applied problem.

620. Directed Studies
Fall, Winter, Spring, Summer. 2 to 24 credits. May reenroll for a maximum of 48 credits. Admission to a college of medicine or approval of department. Individual or group work on special problems in medicine.

650. Medicine Clerkship
Fall, Winter, Spring, Summer. 2 to 24 credits. May reenroll for a maximum of 48 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in osteopathic medicine. Program developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

651. Obstetrics—Gynecology Clerkship
Fall, Winter, Spring, Summer. 12 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in obstetrics and gynecology. Program developed to achieve efficiency in obstetrical patient evaluation, management, motor skills, aptitudes; care of normal and abnormal patients; evaluation of postpartum patient; management of gynecologic problems.

653. Surgery/Anesthesiology Clerkship
Fall, Winter, Spring, Summer. 12 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in area of surgical diagnosis, management, treatment. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

654. Anesthesiology Clerkship
Fall, Winter, Spring, Summer. 4 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in area of anesthesiology. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

655. Emergency Medicine Clerkship
Fall, Winter, Spring, Summer. 4 credits. Grade P in all courses offered in terms 1 through 8. A clerkship organized to develop skills in the acute evaluation and management of patients in the hospital emergency room and other locations.

656. Orthopedics Clerkship
Fall, Winter, Spring, Summer. 4 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in area of orthopedics. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

657. Neurology Clerkship
Fall, Winter, Spring, Summer. 4 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in area of neurology. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

658. Otorhinolaryngology Clerkship
Fall, Winter, Spring, Summer. 4 credits. Grade P in all courses offered in terms 1 through 8. Clinical exposure in area of otorhinolaryngology. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.