OBSTETRICS, GYNECOLOGY AND REPRODUCTIVE BIOLOGY OGR

College of Human Medicine

608. *Obstetrics/Gynecology Clerkship*

Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 43 credits. H M 602.

Experience with gynecologic and obstetrical patients, 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 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, Summer. 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. 1(0-3) 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.

534. *Clinical Science V*

Summer. 1(0-3) 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. 1(0-3) Admission to a college of medicine.

A continua tion of O M 534.

536. *Clinical Science VII*

Winter. 1(0-3) Admission to a college of medicine.

Continuation of O M 535.

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.

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 new born; 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. 6 credits. May reenroll for a maximum of 12 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. 6 credits. May reenroll for a maximum of 12 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.

658. *Otorhinolaryngology Clerkship*

Fall, Winter, Spring, Summer. 6 credits. May reenroll for a maximum of 12 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.

OSTEOPATHIC MEDICINE OST (COLLEGE OF)

500. *Historical and Biological Foundations of Osteopathic Medicine*

Summer. 2(2-0) Admission to a college of medicine or approval of department.

Historical development of the osteopathic profession. Integration of biological and osteopathic principles in the consideration of health and disease.

516. *Medical Ethics*

Winter. 3(3-0) Interdepartmental with and administered by the College of Human Medicine.

Analysis and evaluation of the ethical elements of medical decision making. Topics include: patient rights, physican responsibilities, euthanasia, informed consent, parentalism, confidentiality, biomedical research, and allocation of scarce resources.

520. *Normal Endocrine Structure and Function*

Winter. 2 to 6 credits. BCH 502, PSL 500A, ANT 560, ANT 565 or approval of department.

An integrated basic science course presenting a series of lectures and laboratories related to the normal structure and function of the endocrine organs. Prerequisite for studying endocrine diseases in systems biology.

530. *Comprehensive Patient Evaluation I*

Summer. 2 to 6 credits. Admission to a college of medicine. ANT 565 or concurrently.

Interdepartmental course in physical examination skills. Stresses comprehensive, osteopathic evaluation of the patient.

531. *Comprehensive Patient Evaluation II*

Fall. 2 to 6 credits. OST 530, ANT 565.

Continuation of OST 530.

532. *Comprehensive Patient Evaluation III*

Winter. 2 to 6 credits. OST 531.

Interdepartmental course in physical examination skills. Stresses application of comprehensive, osteopathic evaluation of the patient. Introduction to office procedures and physical diagnosis.

533. *Comprehensive Patient Evaluation IV*

Spring. 2 to 6 credits. OST 532.

Interdepartmental course in physical examination skills. Stresses comprehensive, osteopathic evaluation of the patient. Includes preceptorship and appropriate systems biology clinical experiences.

534. *Comprehensive Patient Evaluation and Management I*

Fall, Summer. 2 to 6 credits. OST 533.

Physical examination skills, diagnosis and patient management. Stresses comprehensive, osteopathic evaluation and management of the patient. Includes preceptor assignment and appropriate systems biology clinical experiences.

535. *Comprehensive Patient Evaluation and Management II*

Fall, Winter. 2 to 6 credits. OST 533.

Continuation of OST 534.

536. Comprehensive Patient Evaluation and Management III
Winter, Spring. 2 to 6 credits. OST 533.
Continuation of OST 535.

537. Comprehensive Patient Evaluation and Management IV
Spring, Summer. 2 to 6 credits. OST 533.
Continuation of OST 536.

551. Introduction to Laboratory Medicine
Fall. 2 credits. ANT 560.
Introduction to laboratory medicine leading to proficiency in patient evaluation and diagnosis through understanding of common pathologies and basic laboratory procedures in blood, urine and feces analysis.

552. Systems Biology - Integumentary
Summer. 2 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PHM 521B, PTH 502.
A multidisciplinary approach to the integumentary system providing a functional integration of basic science and clinical information.

553. Systems Biology - Nervous System
Summer. 10 credits. ANT 563, PSL 500A, PTH 502, BCH 502, PHM 521B, MPH 521.
A multidisciplinary approach to the nervous system providing a functional integration of basic science and clinical information.

554. Systems Biology - Cardiovascular
Fall. 15 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PHM 521B, PTH 502.
A multidisciplinary approach to the cardiovascular system providing functional integration of basic science and clinical information.

555. Systems Biology - Respiratory
Winter. 8 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PHM 521B, PTH 502.
A multidisciplinary approach to the respiratory system providing functional integration of basic science and clinical information.

556. Systems Biology - Urinary
Winter. 7 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PHM 521B, PTH 502.
A multidisciplinary approach to the urinary system providing functional integration of basic science and clinical information.

557. Systems Biology - Gastrointestinal
Spring. 13 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PHM 521B, PTH 502.
A multidisciplinary approach to the gastrointestinal system providing functional integration of basic science and clinical information.

558. Systems Biology - Growth and Aging
Spring. 7 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PHM 520B, PTH 502.
A multidisciplinary approach to growth, development, and aging within (but not limited to) the field of pediatrics and gerontology providing functional integration of basic science and clinical information.

559. Systems Biology - Reproductive
Spring. 7 credits. ANT 560, ANT 565; PSL 500A; MPH 521; BCH 502; PHM 520B; PTH 502.
A multidisciplinary approach to the male and female reproductive system providing functional integration of basic science and clinical information (includes obstetrics and gynecology).

560. Systems Biology - Musculoskeletal
Summer. 6 credits. ANT 560, ANT 565; PSL 500A; MPH 521; BCH 502; PHM 521B; PTH 502.
A multidisciplinary approach to the musculoskeletal system providing functional integration of basic science and clinical information.

590. Special Problems
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.

600. Ambulatory Care
Fall, Winter, Spring, Summer. 24 credits. Grade P in all courses offered in Terms 1-8 or approval of department.
A multidisciplinary approach in clinical settings to the ambulatory patient to achieve proficiency in motor skills, aptitudes, comprehension of concepts and principles: patient evaluation, diagnosis, management, and therapy.

610. The Osteopathic Examination I
Summer. 1(0-4) Admission to a college of medicine or approval of instructor.
Instruction in the osteopathic examination.

611. The Osteopathic Examination II
Fall. 1(0-4) OST 610 or approval of instructor.
Continuation of OST 610.

612. The Osteopathic Examination III
(F M 650.) Winter. 1(0-4) OST 611 or approval of instructor.
Continuation of OST 611.

613. The Osteopathic Examination IV
Spring. 1(0-4) OST 612 or approval of instructor.
Continuation of OST 612.

614. The Osteopathic Examination V
Fall, Winter, Spring, Summer. 1(0-4) OST 613.
Continuation of OST 613.

615. The Osteopathic Examination VI
Fall, Winter, Spring, Summer. 1(0-4) OST 613.
Continuation of OST 614.

616. The Osteopathic Examination VII
Fall, Winter, Spring, Summer. 1(0-4) OST 613, OST 614, OST 615 or approval of instructor.
Continuation of OST 615.

PACKAGING PKG

College of Agriculture and Natural Resources

210. Principles of Packaging
Fall, Winter, Spring, Summer. 3(3-0)
A general course in packaging principles covering the growth and development of the field, and the technological and motivational problems involved in present day packaging. Consideration will be given to the basic functions of the package and their relation to the needs and wants of our society.

320. Packaging Materials
Fall, Winter. 4(4-0) PKG 210, PHY 237, CEM 131, CEM 161, CEM 132.
Common packaging materials including wood, paper, paperboard, plastics, metal foils and sheets, glass, adhesives, cushioning media; their basic properties in relation to performance of package.

330. Package Printing
Winter. 3(3-0) PKG 320 or approval of school.
Basic printing processes used for packaging materials. Advantages, disadvantages and identification of these printing methods.

340. Packaging and the Environment
Winter. 4(4-0)
Broad study of the effects of packaging on environmental quality, including solid waste, air and water quality, laws, economics, energy considerations and resources conservation.

422. Packaging Systems
Winter, Spring. 4(4-0) PKG 320 or approval of school.
Design, use and evaluation of packages and packaging systems. A one-day field trip is required.

423. Dynamics of Packaging
Spring. 4(3-3) PKG 422 or approval of school.
A study of the protective function of the packaging systems in relation to their environment and shock and vibration isolation methods. A one-day field trip is required.

424. Packaging Problems
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. PKG 422, 2.50 grade-point average and approval of school.
Development of solutions to specific packaging problems.

425. Packaging Process Analysis
Fall, Spring. 4(4-0) PKG 422.
The integrated study of the operation structure and control of the packaging and package-making process. A one-day field trip is required.

427. Packaging Materials and Systems Laboratory
Fall, Winter, Spring. 4(2-6) PKG 320, PKG 422 or approval of school.
Methods of measuring properties of packaging materials. Design, manufacture and performance testing of complete packages. Techniques for evaluating test results. Value of various test methods.