590. Special Problems in Pediatrics
Fall, Winter, Spring, Summer. 1 to 6 credits. Approval of department.
Each student will work under direction of a faculty member on an experimental, theoretical or applied problem.

600. Pediatrics Clerkship
Fall, Winter, Spring, Summer. 6 or 8 credits. Grade P in all courses offered in terms 1 through 8 for approval of department.
Practical clinical exposure in the area of pediatrics. Program developed to achieve proficiency in motor skills and aptitudes: comprehension of concepts and principles; patient evaluation, diagnosis, management and therapy.

620. Directed Studies
Fall, Winter, Spring, Summer. 2 to 24 credits. PHD 600 or approval of department. Study in general or specialty pediatrics.

PEDIATRICS AND HUMAN DEVELOPMENT
PHD

College of Human Medicine

520. Genetics Clinic
Fall, Winter, Spring, Summer. 1 to 3 credits. May enroll for a maximum of 9 credits. Students will interview and examine patients with heritable disorders, perform related laboratory diagnostic procedures, and participate in genetic counseling conferences and discussions.

531. Medical Genetics
Fall. (1-0) Admission to a college of medicine or approval of department.
Basic genetic principles and their application to clinical medicine, prenatal genetic diagnosis, exercises in genetic counseling and the importance of relevant laboratory tests.

532. Phenomena of Development
Fall. (5-0) PHD 531 or approval of department.
Normal psychological and physical development of the human including intellectual, social, emotional and endocrinological growth from infancy through adolescence. Clinical examples highlight deviations from the normal course of development.

590. Special Problems in Human Development
Fall, Winter, Spring, Summer. 1 to 6 credits. May enroll for a maximum of 12 credits. Human Medicine students or approval of department.
Each student will work under direction of a staff member on an experimental, theoretical or applied problem.

607. Ambulatory Care Clerkship
Fall, Winter, Spring, Summer. 1 to 3 credits. May enroll for a maximum of 9 credits. H M 602. Interdepartmental with the departments of Community Health Science, Family Practice, and Medicine. Administered by the Department of Family Practice.
Outpatient experience, lasting an equivalent of 34 half-days and extending over a minimum of 26 weeks. Continuous and comprehensive patient care under supervision of appropriate physicians.

605. Pediatric Specialty Clerkship
Fall, Winter, Spring, Summer. 1 to 17 credits. May enroll for a maximum of 43 credits. H M 602; primary clerkship.
Clinical experience with pediatric patients under the direction of members of the faculty of the Department of Human Development and community pediatrics. Fall, Saginaw, Winter, Lansing. Spring, Grand Rapids, Summer, Flint.

609. Human Development and Pediatrical Specialties
Fall, Winter, Spring, Summer. 1 to 17 credits. May enroll for a maximum of 34 credits. H M 602.
Elected experiences in selected clinical and basic sciences related to pediatrics and human development.

610. Ambulatory Pediatrics
Fall, Winter, Spring, Summer. 1 to 12 credits. May enroll for a maximum of 12 credits. PHD 608.
Clinical experience in outpatient and community settings involving ongoing child health care including chronic medical illnesses and common behavioral problems.

611. Infectious Diseases
Fall, Winter, Spring, Summer. 1 to 12 credits. May enroll for a maximum of 12 credits. PHD 608.
Combined office or clinic and inpatient experience in evaluating and managing pediatric patients with infectious diseases.

612. Neonatology
Fall, Winter, Spring, Summer. 1 to 12 credits. May enroll for a maximum of 12 credits. PHD 608.
Clinical experience involving modern neonatal techniques and care patterns for the sick neonate.

613. Pediatric Cardiology
Fall, Winter, Spring, Summer. 1 to 12 credits. May enroll for a maximum of 12 credits. PHD 608.
Office, clinic and hospital experiences in diagnostic and therapeutic pediatric cardiology including special diagnostic procedures.

614. Pediatric Endocrinology and Metabolism
Fall, Winter, Spring, Summer. 1 to 12 credits. May enroll for a maximum of 12 credits. PHD 608.
Clinical and hospital experience in evaluating patients with endocrine and metabolic disorders.

615. Pediatric Hematology and Oncology
Fall, Winter, Spring, Summer. 1 to 12 credits. May enroll for a maximum of 12 credits. PHD 608.
Clinical experience in evaluating and managing pediatric patients with common hematologic and oncologic disorders.

PHARMACOLOGY AND TOXICOLOGY
PHM

College of Human Medicine
College of Osteopathic Medicine
College of Veterinary Medicine

350. Introductory Human Pharmacology
Spring. 3(3-0) PSL 432 or PSL 241 or concurrently; or approval of department.
General principles; central nervous system, autonomic nervous system, cardiovascular and renal drugs; chemotherapy; and other selected basic topics.

430. Drug Abuse
Fall of odd-numbered years. 4(4-0) Juniors or approval of department. Biology and chemistry recommended.
Actions, mechanism of action, toxicity and uses of drugs of abuse. Sociological and psychological aspects of drug abuse and the legal aspects of the sale and distribution of drugs are considered.

450. Introduction to Chemical Toxicology
Spring. 3(3-0) B S 210, B S 211, B S 212, CEM 242.
Potential risk of environmental chemicals to animal and human health.

501. Special Problems
Fall, Winter, Spring, Summer. 1 to 3 credits. May enroll for a maximum of 9 credits. Approval of department.
Limited amounts of individual work on selected research problems for undergraduate students.

502. Medical Pharmacology I
(F502B.) Fall. 4(4-0) PSL 500A or PSL 500E, BCH 509 or BCH 512.
Drug absorption, distribution, biotransformation, elimination, antagonism; receptor theory and pharmacogenetics. Chemotherapy: anti-neoplastic, antiviral and antimicrobial agents. Toxicology and emergency therapies. Pharmacology related to the autonomic nervous system.

521. Medical Pharmacology II
(F521B.) Winter. 4(4-0) PHM 520.
Pharmacology of the central and peripheral nervous systems. Cardiovascular, renal and gastrointestinal drugs. Endocrine and autonomic pharmacology.

554. Veterinary Pharmacology and Toxicology I
(F554A.) Fall. 4(4-0) PSL 550B. PSL 550C.
Drug absorption, distribution, biotransformation, elimination, receptor theory and pharmacogenetics: chemical toxicity; autonomic nervous system, cardiovascular and renal pharmacology.

555. Veterinary Pharmacology and Toxicology II
(F555A.) Winter. 5(4-2) PHM 554.
Endocrine, autacoid and central nervous system pharmacology; chemotherapy; antimicrobials, anthelmintics, antineoplastics.