608. **Pediatric Specialty Clerkship**  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 43 credits. HM 602; primary clerkship.  
Clinical experience with pediatric patients under the direction of members of the faculty of the Department of Human Development and community pediatricians. Fall: Saginaw. Winter, Lansing. Spring, Grand Rapids. Summer, Flint.

609. **Human Development and Pediatric Sub-Specialties**  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. HM 602.  
Electives selected in clinical and basic sciences related to pediatrics and human development.

610. **Ambulatory Pediatrics**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll 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 reenroll for a maximum of 12 credits. PHD 608.  
Combined office and clinic experience in evaluating and managing pediatric patients with infectious diseases.

612. **Neonatology**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll 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 reenroll for a maximum of 12 credits. PHD 608.  
Office, clinic and hospital experience in diagnostic and therapeutic pediatric cardiology including special diagnostic procedures.

614. **Pediatric Endocrinology and Metabolism**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.  
Clinic 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 reenroll for a maximum of 12 credits. PHD 608.  
Clinical experience in evaluating and managing pediatric patients with common hematologic and oncologic disorders.

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

430. **Drug Abuse**  
Fall of odd-numbered years. 4(4-0) PHM 621A or PHM 621B and approval of department.  
Action, 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.

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

503. **Cell Biology**  
Fall. 5(5-0) Admission to the College of Human Medicine. Interdepartmental with the departments of Biochemistry, Microbiology, and Public Health, and Physiology. Administered by the Department of Microbiology and Public Health. Principles of cell biology for medical students.

520A. **Principles of Pharmacology**  
Fall. 4(4-0) PSL 500B, PSL 500C.  
Drug absorption, distribution, biotransformation, elimination, receptor theory and pharmacogenetics; chemical toxicity; autonomic nervous system, cardiovascular and renal pharmacology.

520B. **Principles of Pharmacology**  
Winter. 4(4-0) PSL 500A; BCH 501.  
Drug absorption, distribution, biotransformation, elimination, antagonism; receptor theory and pharmacogenetics. Cardiovascular, renal and gastrointestinal drugs. Endocrine and autonomic pharmacology.

521A. **Pharmacodynamics**  
Winter. 5(4-2) PHM 520A. Primarily for students of Veterinary Medicine. Endocrine, autonomic and central nervous system pharmacology; chemotherapy: antimicrobials, antibacterials, antineoplastics.

521B. **Pharmacodynamics**  
Spring. 4(4-0) PHM 520B or PHM 520A.  
Pharmacology of the central and peripheral nervous systems. Cardiovascular, renal and gastrointestinal drugs. Endocrine and autonomic pharmacology.

810. **Synaptic Transmission**  
Winter of even-numbered years. 4(4-0) PHM 521A or PHM 521B and approval of department.  
Synaptic transmission related to the autonomic nervous system.

PHARMACOLOGY AND TOXICOLOGY  
PHM

(Note change effective July 1, 1978. Formerly Department of Pharmacology)

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

PHILIPONPHU  
PHL

College of Arts and Letters  
Each of the courses PHL 101, PHL 102, PHL 103 is an independent introductory to philosophical inquiry. The courses may be taken independently and in any order.