475. Advanced Clinical Immunology and Microbiology
Fall, Spring, Summer. 3 credits.
C: MT 473 concurrently. R: Open only to seniors in Clinical Laboratory Sciences.
Application of clinical microbiology.

476. Advanced Clinical Immunology and Hematology
Fall, Spring, Summer. 3 credits.
C: MT 474 concurrently. R: Open only to seniors in Clinical Laboratory Sciences.
Integrative study of immunology and clinical hematology.

477. Advanced Clinical Microbiology Laboratory
Fall, Spring, Summer. 3 credits.
C: MT 476 concurrently. R: Open only to seniors in Clinical Laboratory Sciences.
Application of clinical microbiology.

478. Advanced Clinical Microbiology
Fall, Spring, Summer. 1 credit.
C: MT 477 concurrently. R: Open only to seniors in Clinical Laboratory Sciences.
Theory of clinical microbiology, integration of cognitive material with laboratory results.

485. Master's Thesis Research
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 24 credits in all enrollments for this course.
R: Open only to graduate students in Clinical Laboratory Sciences.
Non-thesis research for Plan B master's students.

MEDICINE

Department of Medicine
College of Human Medicine

450. Cancer Biology
Spring, 3 credits. Interdepartmental with Zoology. Administered by Zoology.
P: BCH 200 or BCH 401; ZDL 221.

512. Infectious Diseases
Spring, 4 credits. Interdepartmental with Microbiology.
P: MIG 511 or approval of department. R: Open only to graduate-professional students in College of Human Medicine.

590. Special Problems in Medicine
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
R: Open only to graduate-professional students in College of Human Medicine.
Supervised work on an experimental, theoretical, or applied problem.

660. Internal Medicine Clerkship
Fall, Spring, Summer. 2 to 18 credits. A student may earn a maximum of 42 credits in all enrollments for this course.
P: PMP 602. R: Open only to graduate-professional students in College of Human Medicine.
Community hospital clerkship. Interviewing skills, history, physical examination. Problem solving and therapy. Care of the whole patient leading to independence in patient management.

668. Hematology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: MEd 608. R: Open only to graduate-professional students in College of Human Medicine.
Data collection, problem solving, and management related to common hematologic disorders of children and adults.

610. Oncology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: MED 608. R: Open only to graduate-professional students in College of Human Medicine.
Data collection, problem solving and management of prevalent cancers in children and adults.
Course Descriptions

MED 611. Cardiology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Evaluation of patients with cardiac diseases. Special diagnostic procedures including cardiac catheterization, phonocardiography, echocardiography, and electrocardiography.

MED 612. Nephrology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Integrated concepts of renal physiology and pathophysiology of renal disease. Clinical experience.

MED 613. Dermatology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Experience in a dermatologist's office to develop clinical, observational, and diagnostic skills in dermatology.

MED 614. Pulmonary Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Pulmonary physiology. Evaluation of pulmonary function. Diagnosis and treatment of common pulmonary diseases.

MED 615. Gastroenterology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Experience in gastrointestinal problems in ambulatory and hospital settings. Emphasis on continuity and comprehensive care.

MED 616. Allergy Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Ambulatory and hospital-based experiences to develop diagnostic skills in allergy. Review of basic therapeutics related to allergic diseases.

MED 617. Neurology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Office and inpatient experience. Evaluation and management of neurological disease.

MED 618. Infectious Diseases Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Clinical problems in infectious and immunologic diseases. Integrated basic science input is provided in seminars.

MED 619. Ambulatory Care Clerkship
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 15 credits in all enrollments for this course. Interdepartmental with Family Practice and Pediatrics. Administered by Family Practice. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine. Continuous and comprehensive patient care under supervision of appropriate physicians.

MED 622. Endocrinology and Metabolism Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Clinical and/or clinical-research clerkship: endocrine diseases, electrolyte abnormalities, endocrine hyperension, or diabetes mellitus.

MED 623. Advanced Medicine
Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Developing regimens for physical medicine procedures, occupational therapy and rehabilitation skills.

MED 625. Physical Medicine and Rehabilitation Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Combined ambulatory and hospital consultative clerkship for diagnostic skills in areas of rheumatic diseases.

MED 626. Advanced Internal Medicine
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Clinical experiences to refine diagnostic and management skills in general internal medicine.

MED 627. Rheumatology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Clinical diagnosis and treatment of emergencies seen in community emergency departments.

MED 628. Advanced Internal Medicine
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in College of Human Medicine. Clinical experience in community-oriented primary care. Emphasis on urban and rural underserved populations.

MED 645. Primary Health Care in Ecuador
Fall, Spring, Summer. 6 credits. R: Open only to graduate-professional students in the colleges of Human and Osteopathic Medicine and to graduate students in the College of Nursing. Special problems and challenges to delivery of primary health care in a developing country. Culture and related health care issues in cities and rural areas.

MICROBIOLOGY

Department of Microbiology
College of Human Medicine
College of Natural Science
College of Osteopathic Medicine
College of Veterinary Medicine

101. Preview of Microbiology
Fall. 1(1-0)
R: Open only to freshmen and sophomores. Not open to students with credit in a microbiology course. Overview of modern microbiology, emphasizing impact on society.

103. Frontiers of Microbiology
Spring. 1(1-0)
R: Open only to freshmen and sophomores. Current microbiology research with significance to modern biological science and impact on society.