

**PENNSYLVANIA HOSPITAL  
SCHOOL OF MEDICAL LABORATORY SCIENCE  
COURSE DESCRIPTIONS**

**Note: Affiliated colleges and universities assign credit according to individual requirements**

**Course Number:** MT490

**Course Title:** Clinical Hematology/Coagulation

**Total Lecture Hours:** 34

**Total Lab Rotation:** 7 Week Rotation

**Credit:** 7 hours

**Description:** Composition and function of blood; diseases related to blood disorders; and role of platelets and coagulation. Manual and automated techniques of diagnostic tests for abnormalities.

**Course Number:** MT491

**Course Title:** Clinical Immunohematology

**Total Lecture Hours:** 26

**Total Lab Rotation:** 7 Week Rotation

**Credit:** 6 hours

**Description:** Review of immunologic and genetic principles that relate to Immunohematology. Procedures/topics cover blood collection, donor testing, storage and labeling of blood products, pre-transfusion testing, adverse reactions to transfusion, histocompatibility and regulatory requirements of FDA, CAP and AABB.

**Course Number:** MT492

**Course Title:** Clinical Chemistry

**Total Lecture Hours:** 32

**Total Lab Rotation:** 6 Week Rotation

**Credit:** 7 hours

**Description:** Enzymology, endocrinology, biochemistry of lipids, carbohydrates and proteins; metabolism of nitrogenous end products; physiology and metabolism of fluids and electrolytes; and toxicology as related to the body and diseases. Technical procedures include colorimetry, spectrophotometry, electrophoresis, chromatography, automation and quality control.

**Course Number:** MT493

**Course Title:** Clinical Microbiology

**Total Lecture Hours:** 35

**Total Lab Rotation:** 8 Week Rotation

**Credit:** 7 hours

**Description:** Review of all aspects of Bacteriology, Mycobacteriology, Mycology, and Parasitology including specimen processing, culture identification, clinical features of infectious disease, and the role of the clinical microbiology laboratory.

**Course Number:** MT 494

**Course Title:** Clinical Immunology, Serology, Virology

**Total Lecture Hours:** 11

**Total Lab Rotation:** 3 Week Rotation

**Credit:** 3 hours

**Description:** Immune response, immunoglobulins, autoimmunity, complement, disorders of immunity, and related tests. Survey and demonstration of serological diagnostic tests. Basic principles of Virology and Spirochetology. Basic principles of flow cytometry / immunophenotyping.

**Course Number:** MT495

**Course Title:** Clinical Seminar I

**Total Lecture Hours:** 23

**Total Lab Rotation:** 4 Week Rotation

**Credit:** 4 hours

**Description:** Includes courses in Phlebotomy, Specimen Collection and Processing, Anatomical Pathology/Cytology Laboratory Overview, Laboratory Management, Education and Molecular Pathology.

**Course Number:** MT496

**Course Title:** Clinical Urinalysis

**Total Lecture Hours:** 7

**Total Lab Rotation:** 2 Week Rotation

**Credit:** 2 hours

**Description:** Renal anatomy and physiology, normal and abnormal urinary constituents, basic laboratory urinalysis, including processing, analysis, and reporting results of urine specimens. Formation, function and testing of body fluids.

**Course Number:** MT497

**Course Title:** Clinical Seminar II

**Total Lecture Hours:** 14

**Credit:** 1 hour

**Description:** Includes lectures in Orientation, Introduction to Clinical Laboratory Science, Laboratory Safety, HIPAA, Library Services, Research Design, Laboratory Information System and Laboratory Procedure Writing,

**Course Number:** MT498

**Course Title:** Technical Training

**Total Lab Hours:** <20 hours per week

**Offered:** As needed by individual laboratory

**Credit:** 1 hour

**Description:** A training level position designed to offer additional training outside of academic hours in a particular area of the laboratory. After completing the required laboratory rotation, the trainee may perform tests directly under the supervision of a technologist or supervisor. The training is non-compulsory, but is an integral part of the established curriculum as it builds on skills learned during the required rotation and immerses the student in a real-time laboratory experience. Students are paid an hourly training level wage.