

SCHOOL OF MEDICAL LABORATORY SCIENCE COURSE DESCRIPTIONS

The 10-month rotating program at the Pennsylvania Hospital School of Medical Laboratory Science is based on a 40-hour week. The following table outlines the courses for all students in the program:

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

Course Number: MLS 490

Course Title: Clinical Hematology and Coagulation

Total Lecture Hours: 34

Total Lab Rotation: 7 week rotation

Course Credit: 7.0 hours

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

Course Number: MLS 491

Course Title: Clinical Immunohematology

Total Lecture Hours: 26

Total Lab Rotation: 7 week rotation

Course Credit: 6.0 hours

Course 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: MLS 492

Course Title: Clinical Chemistry

Total Lecture Hours: 32

Total Lab Rotation: 6 week rotation

Course Credit: 7.0 hours

Course 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 disease. Technical procedures include colorimetry, spectrophotometry, electrophoresis, chromatography, automation, and quality control.

Course Number: MLS 493

Course Title: Clinical Microbiology

Total Lecture Hours: 35

Total Lab Rotation: 8 week rotation

Course Credit: 7.0 hours

Course 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.

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Course Number: MLS 494

Course Title: Clinical Immunology, Serology, and Virology

Total Lecture Hours: 11

Total Lab Rotation: 2 week rotation

Course Credit: 3.0 hours

Course Description: Immune response, immunoglobulins, autoimmunity, complement, disorders of immunity, and related tests. Survey and demonstration of serological diagnostic tests. Basic principles of virology, spirochetology, flow cytometry, and immunophenotyping.

Course Number: MLS 495

Course Title: Clinical Seminar I

Total Lecture Hours: 23

Total Lab Rotation: 4.0 week rotation

Course Credit: 4.0 hours

Course Description: Includes courses in Phlebotomy, Specimen Collection and Processing, Education, Cytogenetics, and Molecular Pathology.

Course Number: MLS 496

Course Title: Clinical Urinalysis

Total Lecture Hours: 7

Total Lab Rotation: 2 week rotation

Course Credit: 2.0 hours

Course 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: MLS 497

Course Title: Clinical Seminar II

Total Lecture Hours: 14

Course Credit: 1.0 hour

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

Course Number: MLS 498

Course Title: Technical Training

Total Lab Rotation: < 20 hours per week

Offered: As needed by individual laboratory

Course Credit: 1.0 hour

Course Description: A training level position designed to offer additional training outside of academic hours in a particular area of the laboratory. After completion of the required laboratory rotation, the trainee may perform tests directly under the supervision of a medical laboratory scientist or supervisor. The training is non-compulsory, but is an integral component 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 compensated an hourly training level wage.