

Medical Laboratory Technology

The Medical Laboratory Technology curriculum prepares individuals to perform clinical laboratory procedures in chemistry, hematology, microbiology, and transfusion medicine that may be used to maintain health and in the diagnosis or treatment of disease.

Course work emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality assurance in reporting/recording and interpreting findings involving tissues, blood, or body fluids.

Graduates are eligible to take examinations given by the American Society of Clinical Pathology (ASCP) Board of Certification. Employment opportunities include laboratories in hospitals, physician office laboratories, blood donation centers, industry, and research facilities.

For specific information about potential positions and wages in medical laboratory technology employment, visit the Central Piedmont Career Coach website.

MLT 110. Introduction to Mlt. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces all aspects of the medical laboratory profession. Topics include health care/laboratory organization, professional ethics, basic laboratory techniques, safety, quality assurance, and specimen collection. Upon completion, students should be able to demonstrate a basic understanding of laboratory operations and be able to perform basic laboratory skills.

MLT 111. Urinalysis & Body Fluids. 2.0 Credits. Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the laboratory analysis of urine and body fluids. Topics include physical, chemical, and microscopic examination of the urine and body fluids. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting urinalysis and body fluid tests.

Prerequisites: Take MLT 120, minimum grade of C

MLT 120. Hematology/Hemostasis I. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the theory and technology used in analyzing blood cells and the study of hemostasis. Topics include hematology, hemostasis, and related laboratory testing. Upon completion, students should be able to demonstrate theoretical comprehension of hematology/hemostasis, perform diagnostic techniques, and correlate laboratory findings with disorders.

MLT 126. Immunology and Serology. 2.0 Credits. Class-1.0. Clinical-0.0. Lab-2.0. Work-0.0

This course introduces the immune system and response and basic concepts of antigens, antibodies, and their reactions. Emphasis is placed on basic principles of immunologic and serodiagnostic techniques and concepts of cellular and humoral immunity in health and disease. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing and interpreting routine immunologic and serodiagnostic procedures.

MLT 127. Transfusion Medicine. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the blood group systems and their applications in transfusion medicine. Emphasis is placed on blood bank techniques including blood grouping and typing, pretransfusion testing, donor selection and processing, and blood component preparation and therapy. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing/interpreting routine blood bank procedures and recognizing/resolving common problems.

Prerequisites: Take MLT 126, minimum grade of C

MLT 130. Clinical Chemistry I. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the quantitative analysis of blood and body fluids and their variations in health and disease. Topics include clinical biochemistry, methodologies, instrumentation, and quality control. Upon completion, students should be able to demonstrate theoretical comprehension of clinical chemistry, perform diagnostic techniques, and correlate laboratory findings with disorders.

Prerequisites: Take CHM 130 CHM 130A

MLT 140. Introduction to Microbiology. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces basic techniques and safety procedures in clinical microbiology. Emphasis is placed on the morphology and identification of common pathogenic organisms, aseptic technique, staining techniques, and usage of common media. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting basic clinical microbiology procedures.

MLT 216. Professional Issues. 1.0 Credit. Class-0.0. Clinical-0.0. Lab-2.0. Work-0.0

This course surveys professional issues in preparation for career entry. Emphasis is placed on work readiness and theoretical concepts in microbiology, immunohematology, hematology, and clinical chemistry. Upon completion, students should be able to demonstrate competence in career entry-level areas and be prepared for the national certification examination.

MLT 220. Hematology/Hemostasis II. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers the theories and techniques used in the advanced analysis of human blood cells and hemostasis. Emphasis is placed on the study of hematologic disorders, abnormal cell development and morphology, and related testing. Upon completion, students should be able to demonstrate a theoretical comprehension and application of abnormal hematology and normal and abnormal hemostasis.

Prerequisites: Take MLT 120, minimum grade of C

MLT 230. Clinical Chemistry II. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to supplement the biochemical and physiologic theory presented in MLT 130. Emphasis is placed on special chemistry techniques and methodologies. Upon completion, students should be able to recognize and differentiate technical and physiological causes of unexpected test results.

Prerequisites: Take MLT 130

MLT 240. Special Clinical Microbiology. 3.0 Credits. Class-2.0.

Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to introduce special techniques in clinical microbiology. Emphasis is placed on advanced areas in microbiology. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting specialized clinical microbiology procedures.

Prerequisites: Take MLT 140

MLT 251. MLT Practicum I. 1.0 Credit. Class-0.0. Clinical-3.0. Lab-0.0.

Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. MLT Practicum I.

Prerequisites: Take MLT 110, minimum grade of C

MLT 266. MLT Practicum II. 6.0 Credits. Class-0.0. Clinical-18.0.

Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

MLT 267. MLT Practicum II. 8.0 Credits. Class-0.0. Clinical-24.0.

Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

MLT 276. MLT Practicum III. 6.0 Credits. Class-0.0. Clinical-18.0.

Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

MLT 277. MLT Practicum III. 8.0 Credits. Class-0.0. Clinical-24.0.

Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.