

MLT-MEDICAL LABORATORY TECHNOLOGY

MLT 1022C Introduction to Medical Laboratory Technology (4 Credits)

This course outlines the role of the medical laboratory technician and introduces the fundamental principles, techniques, and terminology used in medical laboratory technology. It provides an overview of major regulatory agencies, professional associations, patient confidentiality, and safety practices related to HIV and other infectious agents. Students will learn basic laboratory mathematics, medical laboratory ethics, and proper specimen collection and handling. The course introduces students to foundational concepts in laboratory science.

Prerequisite: Admission to the Medical Laboratory Technology program.
Corequisite: MLT 1040C, MLT 1300C, and MLT 1610C

MLT 1040C Phlebotomy (3 Credits)

This course provides students with the knowledge and skills necessary to perform safe and effective blood collection procedures in a clinical setting. Emphasis is placed on proper patient identification, specimen collection techniques, infection control, quality assurance, and professional communication. Students will gain hands-on experience with venipuncture and capillary collection methods, as well as an understanding of the role of the phlebotomist within the healthcare team.

Prerequisite: Admission to the Medical Laboratory Technology Program.
Corequisite: MLT 1022C, MLT 1300C, and MLT 1610C

MLT 1221C Urinalysis and Body Fluids (3 Credits)

This course covers clinical testing and evaluation of urine and other body fluids. Students will learn to correlate physical, chemical, and microscopic lab findings with disease conditions.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, and MLT 1610C
Corequisite: MLT 1302C, MLT 1500C, and MLT 1525C

MLT 1300C Hematology I (4 Credits)

This course overviews the theories and techniques involved in routine hematology. Topics include the hematopoietic system and blood cell physiology, maturation, and morphology. Students will learn blood cell enumeration, identification, hemoglobin analysis, and clinical correlations.

Prerequisite: Admission to the Medical Laboratory Technology program.
Corequisite: MLT 1040C, MLT 1022C, and MLT 1610C

MLT 1302C Hematology II (4 Credits)

This course is a continuation of Hematology I and presents advanced hematology topics as well as the principles and procedures of blood coagulation. Students will examine the role of blood vessels, platelets, and coagulation factors, as well as hematology and hemostasis disease factors.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, and MLT 1610C
Corequisite: MLT 1221C, MLT 1500C, and MLT 1525C

MLT 1401C Medical Microbiology (6 Credits)

This course presents students with principles and methods used in clinical microbiology including taxonomy, isolation, identification, clinical relevance, and antibiotic susceptibility testing of pathogenic bacteria. Students will also receive an introduction to medical parasitology, mycology, and virology.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, and MLT 1610C

MLT 1500C Immunology and Serology (3 Credits)

This course covers basic concepts and laboratory practices related to clinical immunology with an emphasis on antibody-antigen interaction in specific diseases. Students will learn about the immune system and its components along with diagnostic principles and procedures involving serological and molecular testing related to immunity, immune deficiencies and autoimmune disorders.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, and MLT 1610C
Corequisite: MLT 1221C, MLT 1302C, and MLT 1525C

MLT 1525C Immunohematology (4 Credits)

This course overviews the basic theory and concepts of antigen-antibody reactions associated with blood transfusions and relates the concepts of immunology to blood banking procedures using the guidelines from the Association for the Advancement of Blood and Biotherapies. Students will examine genetics, the structure of blood group antigens, the role of antibodies in transfusion, complement interactions, and compatibility testing.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, and MLT 1610C
Corequisite: MLT 1221C, MLT 1302C, and MLT 1500C

MLT 1610C Clinical Chemistry (4 Credits)

This course outlines the theory, clinical correlations, and laboratory procedures related to the chemical analysis of clinical specimens. Students will receive in-depth instruction on specimen processing, analysis, test interpretation, and quality control procedures used in manual and automated clinical chemistry testing.

Prerequisite: Admission to the Medical Laboratory Technology Program.

Corequisite: MLT 1040C, MLT 1022C, and MLT 1300C

MLT 2800L Clinical Practicum I-Core Laboratory (4 Credits)

Students will be assigned to a clinical affiliate for supervised clinical laboratory experience in the core laboratory. This learning experience allows students to perform routine analytical procedures, develop their laboratory skills, and apply program knowledge.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, MLT 1610C, MLT 1221C, MLT 1302C, MLT 1500C, MLT 1525C, and MLT 1401C

Corequisite: MLT 2930, MLT 2807L, and MLT 2811L

MLT 2807L Clinical Practicum II-Blood Banking (4 Credits)

Students will be assigned to a clinical affiliate for supervised clinical laboratory experience in Blood Banking. This learning experience allows students to perform routine blood banking procedures, develop their laboratory skills, and apply program knowledge.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, MLT 1610C, MLT 1221C, MLT 1302C, MLT 1500C, MLT 1525C, and MLT 1401C

Corequisite: MLT 2930, MLT 2800L, and MLT 2811L

MLT 2811L Clinical Practicum III-Microbiology (4 Credits)

Students will be assigned to a clinical affiliate for supervised clinical laboratory experience in a microbiology laboratory. This learning experience allows students to perform routine analytical procedures, develop their laboratory skills, and apply program knowledge.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, MLT 1610C, MLT 1221C, MLT 1302C, MLT 1500C, MLT 1525C, and MLT 1401C

Corequisite: MLT 2930, MLT 2800L, and MLT 2807L

MLT 2930 Medical Laboratory Technology Capstone (1-3 Credits)

This capstone course is designed to guide MLT students in preparing for national certification examinations and entry into the professional workforce. The course allows students to apply their MLT knowledge to case studies and to review all major areas of the MLT curriculum. Students will discuss and review material in hematology, urinalysis, microbiology, clinical chemistry, immunohematology, immunology, molecular methods, laboratory operations, medical ethics, and laboratory safety precautions. Professional development activities are also incorporated to strengthen students' readiness for employment in the clinical laboratory field.

Prerequisite: C or higher in MLT 1040C, MLT 1022C, MLT 1300C, MLT 1610C, MLT 1221C, MLT 1302C, MLT 1500C, MLT 1525C, and MLT 1401C

Corequisite: MLT 2800L, MLT 2807L, and MLT 2811L