

2024-2025 TTC Catalog - Medical Laboratory Technology (MLT)

MLT 101 - Introduction to Medical Laboratory Technology

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Spring

This course provides an introduction to laboratory medicine, including techniques for routine laboratory procedures, medical terminology, safety, and an overview of each area within the laboratory.

Prerequisite

Meet MLT program admission and progression requirements, health examination, major medical insurance, Hepatitis B vaccine series, current CPR certification and SLED check. and

BIO 112

and

CHM 110

Corequisite

AHS 104

Grade Type: Letter Grade

Division: Health Sciences

MLT 103 - Introductory Topics in Medical Microbiology

Lec: 4.0 **Lab:** 0 **Credit:** 4.0

Course Offered

Summer

This course introduces the medical microbiology lab including basic anatomy and physiology of microorganisms, specimen collection, quality assurance, infection control, bioterrorism/pandemics, and a survey of key microorganisms including bacteria, parasites, mycotic agents, viruses, and prions.

Prerequisite

MLT 101

Grade Type: Letter Grade

Division: Health Sciences

MLT 106 - Urinalysis and Body Fluids

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Spring

This course is an introduction to the theoretical components of the analysis of urine and body fluids.

Prerequisite

MLT 101

Grade Type: Letter Grade

Division: Health Sciences

MLT 107 - Clinical Experience in Urinalysis and Body Fluids

Lec: 0 **Lab:** 3.0 **Credit:** 1.0

Course Offered

Summer

This course provides a clinically-based rotation which correlates cognitive and technical skills in urinalysis and body fluid analysis for the MLT student.

Prerequisite

MLT 101

and

MLT 106

Grade Type: Letter Grade

Division: Health Sciences

MLT 109 - Hematology I

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Spring

This course provides a study of the basic principles of hematology including terminology; cell basics and hematopoiesis. Additional topics include automated, manual, and molecular techniques used in diagnosis and treatment.

Corequisite

MLT 101

Grade Type: Letter Grade

Division: Health Sciences

MLT 111 - Hematology II

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Spring

This course provides a study of the basic principles of hematology including terminology; red blood cell (RBC) function; RBC morphology and inclusions; hemoglobinopathies and other RBC defects, plus automated, manual, and molecular techniques used in diagnosis and treatment of erythropoietic problems.

Prerequisite

MLT 109

Grade Type: Letter Grade

Division: Health Sciences

MLT 115 - Immunology

Lec: 3.0 **Lab:** 0 **Credit:** 3.0

Course Offered

Summer

This course provides a study of the immune system, disease states and the basic principles of immunological testing.

Prerequisite

MLT 101

and

MLT 111

Grade Type: Letter Grade

Division: Health Sciences

MLT 116 - Basic Concepts of Blood Banking

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Fall

This course introduces the theory and basic practice of introductory blood banking skills, including ABO, Rh, and other blood group systems Q and antibody screening.

Prerequisite

MLT 115

Grade Type: Letter Grade

Division: Health Sciences

MLT 135 - Clinical Chemistry and Instrumentation

Lec: 2.5 **Lab:** 1.5 **Credit:** 3.0

Course Offered

Summer

This course is a study of the chemical elements in human specimens and their relationship to organ system function. It provides theory and application of laboratory instrumentation used in measuring chemical elements in human specimens, calibration, QC, interferences and clinical correlation

Prerequisite

MLT 101

Grade Type: Letter Grade

Division: Health Sciences

MLT 206 - Advanced Microbiology I

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Fall

This course provides a study of gram positive cocci, gram negative cocci, gram positive bacilli, fastidious gram negative bacilli, spirochetes and mycoplasma, including currently accepted procedures for identification and susceptibility testing of these microorganisms in the clinical laboratory.

Prerequisite

MLT 103

Grade Type: Letter Grade

Division: Health Sciences

MLT 207 - Advanced Microbiology II

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Fall

This course is a study of gram negative bacilli, obligate anaerobes, viruses, mycobacteria and fungi, including currently accepted procedures for identification of these microorganisms in the clinical laboratory, and an overview of specific disease processes associated with microorganisms.

Prerequisite

MLT 206

Grade Type: Letter Grade

Division: Health Sciences

MLT 211 - Advanced Hematology I

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Fall

This course provides a study of the basic principles of hemostasis including terminology; automated, manual and molecular techniques used in diagnosis and treatment of hemostatic problems; and discussions of normal and abnormal hemostatic function. Discussions of normal leukopoietic function, benign leukopoietic diseases, and the techniques used in diagnosis and treatment of benign leukopoietic diseases will be included.

Prerequisite

MLT 111

Grade Type: Letter Grade

Division: Health Sciences

MLT 212 - Advanced Hematology II

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Fall

This course provides a study of the basic principles of hematology including terminology; automated, manual and molecular techniques used in diagnosis and

treatment of leukopoietic problems; leukocyte function; leukocyte morphology and inclusions, and other leukocyte defects.

Prerequisite

MLT 211

Grade Type: Letter Grade

Division: Health Sciences

MLT 216 - Advanced Skills in Blood Banking

Lec: 1.5 **Lab:** 1.5 **Credit:** 2.0

Course Offered

Fall

This course introduces advanced theory and advanced blood banking skills, including antibody identification and donor compatibility testing.

Prerequisite

MLT 116

Grade Type: Letter Grade

Division: Health Sciences

MLT 271 - Clinical Applications I

Lec: .5 **Lab:** 7.5 **Credit:** 3.0

Course Offered

Spring

This course provides clinical experience in a supervised setting for developing technical proficiency in routine chemistry laboratory procedures.

Prerequisite

MLT 135

Grade Type: Letter Grade

Division: Health Sciences

MLT 272 - Clinical Applications II

Lec: .5 **Lab:** 7.5 **Credit:** 3.0

Course Offered

Spring

This course provides clinical experience in a supervised setting for developing technical proficiency in routine microbiology laboratory procedures.

Prerequisite

MLT 207

Grade Type: Letter Grade

Division: Health Sciences

MLT 273 - Clinical Applications III

Lec: .5 **Lab:** 7.5 **Credit:** 3.0

Course Offered

Spring

This course provides clinical experience in a supervised setting for developing technical proficiency in routine hematology laboratory procedures.

Prerequisite

MLT 212

Grade Type: Letter Grade

Division: Health Sciences

MLT 274 - Clinical Applications IV

Lec: .5 **Lab:** 7.5 **Credit:** 3.0

Course Offered

Spring

This course provides clinical experience in a supervised setting for developing technical proficiency in routine immunohematology laboratory procedures.

Prerequisite

MLT 216

Grade Type: Letter Grade

Division: Health Sciences
