

# 2023-2024 TTC Catalog - Medical Laboratory Technology (MLT)

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## 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

AHS 104

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

AHS 142

and

BIO 112

and

CHM 110

**Grade Type:** Letter Grade

**Division:** Health Sciences

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## 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

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## **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

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## **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

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## **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

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**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

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**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

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**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

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**MLT 135 - Clinical Chemistry and Instrumentation**

**Lec:** 2.0 **Lab:** 3.0 **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

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**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

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## **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

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## **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

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## **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

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## **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

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## **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

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## **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

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**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

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**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

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