

# MEDICAL LAB TECH/ PHLEBOTOM (MLT)

## **MLT 0047 Phlebotomy**

**Clock Hours:** 15

**Prerequisites:** 18 years of age or older

**Corequisites:** MLTL 0047

This course explores the principles of collecting blood specimens for the purpose of laboratory analysis. Principles of basic cardiovascular anatomy and physiology, blood drawing equipment, safety procedures, standard precautions, specimen processing, and medical terminology will be stressed.

## **MLT 1040 Laboratory Specimens and Microscopy**

**Credit Hours:** 3

**Prerequisites:** Admission into the MLT Program

A course designed to explore basic procedures for obtaining laboratory specimens. Laboratory safety, quality control, laboratory math and basic lab testing and microscopy of urine and body fluid specimens will be emphasized.

## **MLT 1300 Hematology**

**Credit Hours:** 3

**Prerequisites:** Admission into the MLT Program

This course introduces the student to blood components and laboratory tests for normal and pathological hematology. Emphasis is placed on evaluations of anemias, leukemias, and abnormal hemoglobin levels. Bone marrow and body fluid analysis will also be discussed.

## **MLT 1330 Hemostasis**

**Credit Hours:** 2

**Prerequisites:** Admission into the MLT Program

This course is designed to introduce the student to the basics of laboratory test in hemostasis and to provide the student with simulated testing procedures for coagulation problems.

## **MLT 1440 Parasitology and Mycology**

**Credit Hours:** 2

**Prerequisites:** Admission into the MLT Program

This course explores the life cycles, modes of transmission, and pathophysiology of clinically significant parasites and clinically important fungi.

## **MLT 1500 Immunology/Serology**

**Credit Hours:** 3

**Prerequisites:** Admission into the MLT Program

**Corequisites:** MLTL 1500

This course is designed to instruct in theory on principles of immunology and serological procedures including the action of antigens, formation of antibodies, types of immunity, and the methods of immunization involved in the prevention of disease.

## **MLT 1525 Immunohematology**

**Credit Hours:** 3

**Prerequisites:** Admission into the MLT Program

**Corequisites:** MLTL 1525

This course explores the body's immune response as it relates to the area of immunohematology. The student will develop an understanding of the relationship between serology and the immune response. Blood banking principles, including the genetics of blood group inheritance, transfusion, antibody identification, cord and emergency blood use, and hemolytic diseases of the newborn will be discussed. Quality control in blood banking and immunohematology will be emphasized.

## **MLT 1610 Clinical Chemistry**

**Credit Hours:** 4

**Prerequisites:** MLT 2760 with a grade of "C" or higher

**Corequisites:** MLT 1300, MLTL 1230, and MLTL 2760

This course explores principles of biochemical reactions used for diagnostic evaluation of human physiology and organ systems. Procedures for quantification of electrolytes, blood gases, proteins, carbohydrates, hormones, lipids, enzymes and drugs and their medical implications in health and disease will be explored. Case-based instructional activities will be incorporated into the lecture sessions.

## **MLT 2401 Medical Microbiology**

**Credit Hours:** 3

**Prerequisites:** Admission into the MLT Program

**Corequisites:** MLTL 2401

A course designed to introduce the procedures for cultivating pathogenic microorganisms from human specimens and to introduce the methods of bacterial identification that are used in a clinical setting. The relation of microorganisms to disease will be studied.

## **MLT 2760 Clinical Instrumentation**

**Credit Hours:** 3

**Prerequisites:** Admission into the MLT Program

A course designed to explore principles of operation and maintenance of the instruments used in the clinical laboratory. Safety, OSHA regulations, and quality control will be emphasized.

## **MLT 2930 Pathology Seminar**

**Credit Hours:** 2

**Prerequisites:** MLT 1040, MLT 1300, MLT 1330, MLT 1440, MLT 1500, MLT 1525, MLT 1610, MLT 2401, and MLT 2760 - all courses with a grade of "C" or higher

Capstone course designed to guide MLT students in preparing for national certification examinations. Course consists of case-based learning, which students are required to complete PRIOR to coming to class, and review of pertinent areas of content, both of which are intended to prepare students in each of the five major disciplines, along with general laboratory practice of the clinical laboratory. Students will participate in field trips and symposiums as available in order to transition into the professional world.