

# MEDICAL LABORATORY TECHNOLOGY (MLTS)

## **MLTS 1160L - Medical Laboratory Technology I Lab (Hematology) (1 Credit)**

The laboratory component of the course is utilized to develop skills and competencies required to perform laboratory analysis of blood and body fluids. Offered: Fall, online and traditional options.

Corequisites: MLTS 1160W

Lab hours: 3

## **MLTS 1160W - Medical Laboratory Technology I (Hematology) (3 Credits)**

An in-depth study of the sciences of hematology and body fluids analysis. It deals with the morphology of blood and blood-forming tissues, the principles of blood sample collections, and the composition and function of multiple body fluids. Physiology and pathology are emphasized. Offered: Fall, online only.

Corequisites: MLTS 1160L

Restrictions:

Students with a semester level of Freshman may **not** enroll.

Lecture hours: 3

## **MLTS 1161L - Medical Laboratory Technology II Lab (Blood Bank) (1 Credit)**

The laboratory component of the course is utilized to develop skills and competencies required to perform blood banking procedures and to maintain procedures for the efficient operation of a blood bank. Offered: Spring, online only.

Lab hours: 3

## **MLTS 1161W - Medical Laboratory Technology II (Blood Bank) (3 Credits)**

This course provides an introduction to the principles of immunology and provides the student with a concise and thorough guide to transfusion practices and immunohematology. Offered: Spring or Fall if approved by program director, online only.

Lecture hours: 3

## **MLTS 1182 - Parasitology, Mycology, and Virology (3 Credits)**

A course in clinical parasitology, mycology, and virology covers human fungal, parasitic and viral infections. The course presents mechanisms of infection, life cycles, and infectious states of the organisms as well as disease progression within the host and the practical application of laboratory procedures for detection and identification. Also included is safety, specimen collection, preservation, transport, methods of identification and therapy. Offered: Summer, online only.

Prerequisites: BIOL 2211K

Lecture hours: 3

## **MLTS 1300 - Introduction to Histology (3 Credits)**

This course emphasizes the introductory study of basic histology. Structure and identification of tissue systems and organs is emphasized at the cellular level. The laboratory component is structured to enhance the student's knowledge of certain histological preparations of human and veterinary tissue. Identification of images is achieved through virtual microscopy. Offered: Fall, Spring.

Lecture hours: 2

Lab hours: 3

## **MLTS 1310L - Histology I Lab (1 Credit)**

The course is a laboratory component complementary to MLTS 1310W. It is utilized to develop entry level skills required to perform non-staining histological procedures. Offered: Fall, Spring.

Corequisites: MLTS 1310W

Lab hours: 3

## **MLTS 1310W - Histology I (3 Credits)**

This course emphasizes some of the competencies required to perform routine histological procedures. These would include tissue fixation, principles and application of microtomy, embedding techniques, laboratory operations, decalcification, solution preparation, and processing. Offered: Fall, Spring.

Corequisites: MLTS 1310L

Lecture hours: 3

## **MLTS 1320L - Histology II Lab (1 Credit)**

The laboratory component of the course is utilized to develop skills required to perform routine and special stains. Students will identify and provide clinical correlation of routine and special stains. Offered: Fall, Spring.

Corequisites: MLTS 1320W

Lab hours: 3

## **MLTS 1320W - Histology II (2 Credits)**

This course emphasizes the fundamentals and clinical significance of routine and special histological staining procedures. The student will differentiate between different classes of special stains performed in a histology laboratory. Offered: Fall and Spring.

Corequisites: MLTS 1320L

Lecture hours: 2

## **MLTS 1330 - Histology III (1 Credit)**

Students practice histotechnology procedures in a supervised histology lab setting. The laboratory component of the course is utilized to develop skills and competencies required to perform routine and special histology procedures. Offered: Fall, Spring.

Lab hours: 3

## **MLTS 1340 - Clinical Histology Externship (5 Credits)**

This course is the practicum designed to enhance and refine techniques taught in the first semester. Students are required to complete at least 300 clinical hours in an approved affiliate histology laboratory. Orientation to department and institutional policies and procedures is required. Offered: Spring, Fall.

Prerequisites: MLTS 1310L and MLTS 1320L

Lab hours: 30

**MLTS 1350 - Histology V (2 Credits)**

A study of immunohistochemistry procedures and interpretations.

Offered: Spring, Summer.

Prerequisites: MLTS 1330 and MLTS 1300 and MLTS 1310W and MLTS 1320W and MLTS 1310L and MLTS 1320L

Lecture hours: 2

**MLTS 1360 - Histology VI (1 Credit)**

Various professional topics are presented for discussion including board exam reviews, professionalism, laboratory information systems, and management principles. Offered: Spring, Summer.

Prerequisites: MLTS 1310W and MLTS 1320W and MLTS 1330 and MLTS 1300

Lecture hours: 1

**MLTS 2010L - Medical Laboratory Technology III Lab (Microbiology) (2 Credits)**

The laboratory component of the course develops the skills and competencies required to perform the diagnostic procedures in clinical microbiology. Offered: Spring; online and traditional options.

Prerequisites: BIOL 2211K

Corequisites: MLTS 2010W

Lab hours: 6

**MLTS 2010W - Medical Laboratory Technology III (Microbiology) (2 Credits)**

This course presents a study of human clinical bacteriology including general bacteriology, aerobic gram-positive cocci, gram-negative bacilli, gram-negative cocci, gram-positive bacilli and anaerobes. Discussion is centered on the cultivation, methods of identification, antimicrobial susceptibility testing, serological diagnosis and correlation to disease states. Offered: Spring or Fall if approved by program director; online only.

Prerequisites: BIOL 2211K

Corequisites: MLTS 2010L

Lecture hours: 2

**MLTS 2020L - Medical Lab Technology IV Lab (Chemistry) (1 Credit)**

The laboratory component is used to develop the skills and competencies required to operate and standardize the instruments utilized in the performance of chemical tests. The use of quality control is emphasized. Offered: Summer; online and traditional options.

Prerequisites: CHEM 1212K

Corequisites: MLTS 2020W

Lab hours: 3

**MLTS 2020W - Medical Laboratory Technology IV (Chemistry) (3 Credits)**

An in-depth study of analytical techniques utilized to measure the biochemical entities of blood and various body fluids. The correlation of test results to human physiology and pathology is emphasized. Offered: Summer or Fall if approved by program director, online only.

Prerequisites: CHEM 1212K

Corequisites: MLTS 2020L

Lecture hours: 3

**MLTS 2630 - Medical Laboratory Technology Externship (15 Credits)**

Students are introduced to the clinical laboratory in an affiliate clinical laboratory setting. The students receive an orientation to each department and an introduction to hospital policies and procedures. Each student rotates through appropriate departments and is allowed to demonstrate and develop their skills and competencies in blood bank, hematology, microbiology, chemistry, phlebotomy and body fluid analysis under the supervision of the laboratory staff instructor. Offered: Fall.

Prerequisites: (MLTS 1160 or MLTS 121 or MLTS 131 or MLTS 1160W) and (MLTS 1161 or MLTS 231 or MLTS 1161W) and (MLTS 2010 or MLTS 236 or MLTS 2010W) and (MLTS 2020 or MLTS 241 or MLTS 2020W)

Corequisites: MLTS 2670

Lab hours: 36

**MLTS 2670 - Seminars in Medical Laboratory Science (1 Credit)**

Seminar presentations on various topics related to medical laboratory science (topic reviews for board exams, professionalism, laboratory information systems, case presentations and/or other). Offered: Fall; online option only.

Prerequisites: MLTS 1160W and MLTS 1160L and MLTS 1161W and MLTS 1161L and MLTS 1182 and MLTS 2010W and MLTS 2010L and MLTS 2020W and MLTS 2020L

Corequisites: MLTS 2630

Lecture hours: 1