Medical Lab Technology

MLT 131 Introduction to Clinical Laboratory (3 credit, 2 lecture, 2 lab)

Introduction to the Clinical Laboratory will acquaint the MLT student with the SICCM/MLT Program and with the profession of the Medical Laboratory Technology. The course will give the student the fundamentals of the clinical laboratory including safety practice and safety regulations, collection and handling of clinical specimens, laboratory mathematics, basic Quality Assurance, laboratory measurements, and the handling and care of laboratory instrumentation, including laboratory microscopes. **Pre-Requisite:** Acceptance into Medical Laboratory Technology program.

MLT 133 Serology (1.5 credit, 1 lecture, 1 lab)

This course covers an introduction to immunology with an emphasis on applied serology. The immune response, properties and synthesis of antibodies, antigens, antibody reactions and serological procedures most widely performed in the clinical laboratory are the major topics for discussion. **Pre-Requisite:** Successful completion (a "C" or better) in MLT Introduction to the Clinical Laboratory and MLT Phlebotomy.

MLT 135 Clinical Microscopy (1.5 credit, 1 lecture, 1 lab)

A study of the theory and microscopic examination of urine and other body fluids (i.e. synovial fluid, thoracentesis, semen, and gastric fluid). **Pre-Requisite:** MLT 131 Introduction to Clinical Laboratory.

MLT 137 Phlebotomy (3 credit, 2 lecture, 2 lab)

MLT Phlebotomy covers the phlebotomist's role in health care; confidentiality and ethics; Patient's Bill of Rights; Quality Assurance; basic anatomy and physiology of the circulatory system, safety, infection control, isolation techniques; OSHA standards; handling accidental needle stick exposures; phlebotomy equipment; phlebotomy technique, such as the routine venipuncture, dermal punctures, drawing difficult patients; specimen collection and handling techniques; compliance; customer service; patient identification procedures; and competency in phlebotomy. In addition, the student will learn the theory of arterial punctures, but will only observe arterial draws in the clinical setting. **Pre-Requisite:** Successful completion ("C" or better) in MLT Introduction to the Clinical Laboratory.

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MLT 218 Hematology & Hemostasis (5 credit, 4 lecture, 2 lab)

This course offers an introduction to the study of clinical hematology and hemostasis, which emphasizes the basic procedures performed in most clinical laboratories as well as their uses in the diagnosis and follow up of hematological and coagulation disorders. The role of the laboratory in the diagnosis of anemias, leukemias, myeloproliferative disorders, and other diseases affecting the hematopoietic system is stressed along with the hemostatic component, coagulation factors, coagulation cascade mechanism, heredity and acquired bleeding disorders, coagulation factor deficiencies, therapeutic regimes, and laboratory methods for the analysis of clinical conditions. **Pre-Requisite:** MLT 131 Introduction to the Clinical Laboratory, MLT 135 Clinical Microscopy, MLT 137 Phlebotomy, MLT 133 Serology.

MLT 219 Applied Clinical Microbiology (5 credit, 3 lecture, 2 lab)

This course is a study of the normal and pathogenic microflora of man with an emphasis on the methods used for isolation, recognition and identification of microorganisms of medical significance. Included are the types of media used for culturing microorganisms, descriptive cellular and colonial morphology, stains and staining reactions, drug susceptibility testing and procedures used for species identification. Emphasis on host parasite relationships, medical bacteriology, virology, parasitology, and Mycobacteria is also stressed. **Pre-Requisite:** MLT 218 Hematology and Hemostasis, MLT 233 Immunohematology, MLT 235 Clinical Rotation I.

MLT 233 Immunohematology (4 credit, 3 lecture, 2 lab)

This course covers the blood groups of humans and its significance in immunohematology and transfusion services. Also included are the inheritance and properties of blood group antigens and the corresponding antibodies, methods of detection and identification; hemolytic disease processes; processing of group immunology; record keeping regulations; standard quality control. **Pre-Requisite:** MLT 133, MLT 135.

MLT 235 Clinical Rotation I

Clinical Rotation I is supervised clinical experience in hematology/coagulation and in blood banking. The supervision is done by the clinical site coordinator/lab director/instructor. **Pre-Requisite:** MLT 231, MLT 233.

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MLT 237 Clinical Chemistry (4 credit, 3 lecture, 2 lab)

This course offers an introduction to the study of clinical chemistry, emphasizing the basic procedures performed in most clinical laboratories and the use of these procedures in the diagnosis and follow-up of chemical disorders. This course includes normal physiology, laboratory principles, analysis techniques, quality control, quality assurance and interpretations of test results. **Pre-Requisite:** Successful completion ("C" or better) in all first year MLT courses and second year MLT courses of MLT Hematology, MLT Immunohematology, and Clinical Rotation I.

MLT 239 Clinical Rotation II (3 credit, 0 lecture, 15 lab)

Clinical rotation II is supervised clinical experience in chemistry/urinalysis and in microbiology/serology. The supervision is done by the clinical site coordinator/lab director/instructor. **Pre-Requisite:** MLT 235, MLT 236, MLT 237. Must pass each course with a "C" or better.