

# MLAB - MEDICAL LAB TECH

## **MLAB 1201 Introduction to Clinical Laboratory Science 2 Credit Hours (1 Lec, 4 Lab)**

An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, and ethics. End-of-Course Outcomes: The student will demonstrate laboratory safety; perform laboratory math; and describe quality control. The student will demonstrate the use of basic laboratory equipment; and explain accreditation and certification. Prerequisites: Acceptance into the Medical Lab Technician Program.

Course Type: Technical/Vocational Course

## **MLAB 1227 Coagulation 2 Credit Hours (1 Lec, 4 Lab)**

A course in coagulation theory, procedures, and practical applications. Includes quality control, quality assurance, safety and laboratory procedures which rely on commonly performed manual and/or semi-automated methods. End-of-Course Outcomes: Apply principles of safety, quality assurance and quality control in coagulation; evaluate specimen acceptability; compare and contrast coagulation processes under normal and abnormal human conditions; perform basic laboratory coagulation analysis; and evaluate laboratory test results and correlate with patient condition(s). Co-requisite: MLAB 1415.

Course Type: Technical/Vocational Course

## **MLAB 1311 Urinalysis and Body Fluids 3 Credit Hours (2 Lec, 4 Lab)**

An introduction to the study of urine and body fluid analysis. Includes the anatomy and physiology of the kidney, physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids as well as quality control, quality assurance and safety. End-of-Course Outcomes: The student will evaluate the suitability of clinical specimens; perform a routine urinalysis and explain the principles of each test; and describe the composition, formation, and function of selected body fluids. The student will exhibit an understanding of the anatomy and functions of the renal system; and evaluate laboratory test outcomes and correlated test results with patient condition(s). Co-requisite: MLAB 1201.

Course Type: Technical/Vocational Course

## **MLAB 1361 Clinical Rotation I Medical Lab Technician 3 Credit Hours (15 Lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. End-of-Course Outcomes: As outlined in the learning plan, the student will apply the theory, concepts, and skills involving specialized materials, equipment, procedures, regulations, laws and interactions within and among political, economic, environmental, social, and legal systems associated with the particular occupation and the business/industry; and demonstrate legal and ethical behavior, safety practices, and interpersonal and teamwork skills communicating in the applicable language of the occupation and the business or industry. Key Concepts: Students will be provided with clinical experiences to gain proficiency and competence in the performance of diagnostic examinations and techniques in clinical chemistry, hematology, coagulation, phlebotomy, and urinalysis. Students must demonstrate compliance with standard Quality Assurance programs, specimen processing, and care of equipment. Prerequisites: MLAB 1311, MLAB 1201, MLAB 1415, MLAB 2401 and PLAB 1223.

Course Type: Technical/Vocational Course

## **MLAB 1415 Hematology 4 Credit Hours (3 Lec, 4 Lab)**

The study of blood cells in normal and abnormal conditions. Instruction in the theory and practical application of hematology procedures, including quality control, quality assurance, safety, manual and/or automated methods as well as blood cell maturation sequences, and normal and abnormal morphology with associated diseases. End-of-Course Outcomes: Apply principles of safety, quality assurance and quality control in Hematology; evaluate specimen acceptability; compare and contrast hematology values under normal and abnormal conditions; perform and explain principles and procedures of tests to include sources of error and clinical significance of results; and evaluate normal and abnormal cell morphology with associated diseases. Corequisite: MLAB 1227.

Course Type: Technical/Vocational Course

## **MLAB 2401 Clinical Chemistry 4 Credit Hours (3 Lec, 4 Lab)**

An introduction to the principles and procedures of various tests performed in Clinical Chemistry. Presents the physiological basis, principle and procedure, and clinical significance of test results, including quality control and reference values. Includes basic chemical laboratory technique and safety, electrolytes, acid-base balance, proteins, carbohydrates, lipids, enzymes, endocrine function, and toxicology. End-of-Course Outcomes: Apply principles of safety, quality assurance and quality control in Clinical Chemistry; evaluate specimen acceptability for chemical analysis; compare and contrast human body chemistry levels under normal and abnormal conditions; explain and perform procedures found in a clinical chemistry laboratory; and evaluate laboratory test outcomes and correlate test results with patient condition(s). Co-requisite: MLAB 1415.

Course Type: Technical/Vocational Course