

CLINICAL LABORATORY TECHNOLOGY (CLT)

Course Descriptions

CLT 100. Orientation to the Medical Laboratory. 1 Credit Hour.

Orientation to the profession of medical technology, its functions, specialties and responsibilities. The philosophy and ethics of the practice of medical technology are considered and interpersonal relationship of technologist to medical staff, laboratory staff, patient and other departments. Medical terminology will be stressed as well.

Prerequisites: Admission to program and Reading Proficiency

CLT 101. Medical Microbiology. 3 Credit Hours.

Theory and principles of micro-organisms and human disease. Growth requirement of micro-organisms with consideration of media, biochemical reactions, susceptibility testing will be studied. Application of theory will be practiced in laboratory sessions. Additional lab hours required.

Prerequisites: Admission to program and Reading Proficiency

CLT 110. Urinalysis and Body Fluids. 2 Credit Hours.

This course is an introduction to urine and body fluid analysis. It 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. Practical application will be stressed. Additional hours required. (Credit is only allowed for either CLT 110 or CLT 102.)

Prerequisites: Admission to the program or permission of the program director and Reading Proficiency

CLT 111. Hematology and Coagulation. 4 Credit Hours.

This course is an introduction to the theory and principles of the physiology of blood forming organs. Blood cell maturation, blood dyscrasia, techniques of staining, counting and differentiating cell morphology will be presented. Additional lab hours required. (Credit is only allowed for either CLT 111 or CLT 103.)

Prerequisites: CLT 100 with a minimum grade of "C" or permission of the program director, and Reading Proficiency

CLT 113. Pathogenic Bacteriology. 2 Credit Hours.

This course presents the study of micro-organisms with emphasis on the bacteria associated with human diseases. Theory and principles of isolation, identification, biochemical reactions, growth requirements, and susceptibility testing will be considered. Theory and practical application will be stressed. Additional lab hours required. (Credit is only allowed for either CLT 113 or CLT 104.)

Prerequisites: CLT 101 with a minimum grade of "C" or permission of the program director, and Reading Proficiency

CLT 115. Immunology and Serology. 2 Credit Hours.

This course is the study of the theories and principles of immunological reactions. Included are antigen-antibody reactions, complement action, humoral and cellular immune response, and other body defenses, and reactions to infectious and non-infectious agents. Serological methodology will also be discussed, demonstrated, and practiced. Additional lab hours required. (Credit is only allowed for either CLT 115 or CLT 210.)

Prerequisites: CLT 101 with a minimum grade of "C" and Reading Proficiency

CLT 120. Clinical Laboratory Skill Development. 4 Credit Hours.

This course provides practice of fundamental skills common to most clinical laboratories. Skills such as pipetting, phlebotomy, use of small instruments, laboratory mathematics, determination of cell counts and other diagnostic procedures will be developed. Quality assurance and problem-solving skills will be emphasized. (Credit is only allowed for either CLT 120 or CLT 105.)

Prerequisites: CLT 110, CLT 111, CLT 113, CLT 115 all with minimum grades of "C" and Reading Proficiency

CLT 202. Clinical Practice I. 4 Credit Hours.

Practical experience is attained in one of the clinical affiliated laboratories. The students rotate through each of the major departments of the clinical (medical) laboratory and are closely supervised by bench technologists and faculty.

Rotation and practical experience is gained in microbiology, clinical chemistry, blood bank, hematology, urinalysis, serology and immunology departments.

Prerequisites: CLT 120 with a minimum grade of "C" and Reading Proficiency

CLT 207. Clinical Practice II. 4 Credit Hours.

A continuation of CLT 202. Twenty-four hours clinical practice each week in hospital or private laboratories.

Prerequisites: CLT 202 with a grade of "S" and Reading Proficiency

CLT 211. Parasites, Fungi and Intracellular Pathogens. 2 Credit Hours.

The role of parasites, fungi, and intracellular organisms in human diseases with emphasis on differential microscopic and culture methods are presented. Diagnostic tests used for identification and susceptibility testing will be discussed. Practical application will be stressed. Additional lab hours required. (Credit is only allowed for either CLT 211 or CLT 200.)

Prerequisites: CLT 101 with a minimum grade of "C" or permission of program director, and Reading Proficiency

CLT 213. Introduction to Clinical Chemistry. 2 Credit Hours.

This course is an introduction to the principles and procedures of various laboratory tests performed in Clinical Chemistry. Specimen collection, instrumentation, mathematical calculations and quality control will be discussed. An introduction to proteins, carbohydrates and lipids will be provided. (Credit is only allowed for either CLT 213 or CLT 201.)

Prerequisites: BIO 208, CHM 101 or CHM 105, CLT 100, MTH 140 (or MTH 140S) or MTH 160 (or MTH 160S), all with minimum grades of "C" or permission of program director, and Reading Proficiency

CLT 215. Immunohematology. 4 Credit Hours.

This course includes the basic immunological and genetic principles governing blood groups and transfusion medicine. Theory and principles of routine laboratory testing procedures will be presented. Additional lab hours required. (Credit is only allowed for either CLT 215 or CLT 204.)

Prerequisites: CLT 115 with minimum grade of "C" or permission of program director, and Reading Proficiency

CLT 217. Clinical Chemistry. 5 Credit Hours.

This course is an advanced study of the principles and procedures of various laboratory tests performed in the chemistry department. The clinical significance of proteins, enzymes, carbohydrates, lipids, electrolytes and blood gases will be covered. Endocrinology, therapeutic drug monitoring and toxicology will be discussed. (Credit is only allowed for either CLT 217 or CLT 206.)

Prerequisites: CLT 213 with a minimum grade of "C" or permission of program director, and Reading Proficiency

CLT 219. Professional Skills Seminar. 1 Credit Hour.

This course will stress the inter-relationships of laboratory tests correlated with diseases. Significance of laboratory testing and results will be taught with a dynamic overview of diagnosis and prognosis. The course also includes cross cultural communication and principles of technical training sufficient to orient a new employee. Additional lab hours required. (Credit is only allowed for either CLT 219 or CLT 205.)

Prerequisites: CLT 202 with a grade of "S" or permission of the program director and Reading Proficiency

Corequisites: CLT 207