



## **WALLACE STATE COMMUNITY COLLEGE HANCEVILLE, AL**

### **CLINICAL LABORATORY TECHNICIAN PROGRAM COURSE DESCRIPTIONS**

#### **CLT 106 Laboratory Calculations and Statistics. 2 hrs. (2- 0)**

This course incorporates practical application of mathematical concepts in the clinical laboratory. Instruction includes the metric system, solution preparation, dilutions, and other laboratory calculations. Upon completion, students should be able to make determinations of precision and accuracy using statistical data for various laboratory departments. **Code C**

#### **CLT 108 Clinical Laboratory Computers. 2 hrs. (0-4)**

This course introduces terminology, concepts and methods of using computers in the laboratory setting. Coverage includes microcomputer hardware components, basic software utilities, and networks. Upon completion, students should be able to utilize basic software, keyboards and discuss integration of laboratory results and information systems. **Code C**

#### **CLT 111 Urinalysis and Body Fluids. 3 hrs. (2-2)**

This course focuses on the theory and techniques in the examination of urine and other body fluids. The student is introduced to the physical and chemical properties of these fluids as well as microscopic examination of sediment and the identification of cells and crystals. Upon completion, students should be able to perform basic urinalysis and correlate laboratory results to renal disorders and other disease states. **Code C**

#### **CLT 121 CLT Hematology. 5 hrs. (3-4)**

In this course the theory and techniques of hematology are covered. The student is presented with blood components, normal and abnormal cell morphology, hemostasis, and selected automated methods. Upon completion, students should be able to perform various procedures including preparation and examination of hematologic slides and relate results to specific disorders. **Code C**

#### **CLT 131 Laboratory Techniques. 3 hrs. (2-2)**

This course covers the basic principles and techniques used in the clinical laboratory. Emphasis is placed on terminology, basic microscopy, safety, and computations. Upon completion, students should be able to perform various basic laboratory analyses and utilize basic theories of laboratory principles. **Code C**

#### **CLT 141 CLT Microbiology I. 5 hrs. (3-4)**

The student is presented with theories, techniques, and methods used in basic bacteriology. Focus is on bacterial isolation, identification, and susceptibility testing. Upon completion, students should be able to select media, isolate and identify microorganisms, and discuss modern concepts of epidemiology. **Code C**

#### **CLT 142 CLT Microbiology II. 5 hrs. (3-4)**

The student is presented with the theories, techniques, and methods used in basic parasitology, mycology, and virology. Emphasis is placed on special bacteria, identification, life cycles, culture growth, and pathological states of infection and infestation. Upon completion, students should be able to identify certain parasites, demonstrate various staining and culture procedures, and discuss the correlation of certain microorganisms to pathological conditions. **Code C**

#### **CLT 151 CLT Clinical Chemistry. 5 hrs. (3-4)**

This course emphasizes theories and techniques in basic and advanced clinical chemistry. Coverage includes various methods of performing biochemical analyses on clinical specimens. Upon completion, students should be able to apply the principles of clinical chemistry, evaluate quality control, and associate abnormal test results to clinical significance. **Code C**

**CLT 161 Integrated Laboratory Simulation. 2 hrs. (0-4)**

This course provides an opportunity for the student to perform clinical laboratory procedures from all phases of laboratory testing as a review of previous laboratory courses. Emphasis is placed on case studies, organization of tasks, timing, accuracy, and simulation of routine operations in a clinical laboratory. Upon completion, students should be able to organize tasks and perform various basic laboratory analyses with accuracy and precision. **Code C**

**CLT 181 CLT Immunology. 2 hrs. (1-2)**

Theory and techniques in immunology are presented to the student. Emphasis is placed on the basic principles of the immune system, serologic testing, the production of specific antibodies and their use in the identification of infectious organisms. Upon completion, students should be able to relate basic principles of immunology, describe techniques for analytical methods utilizing immunological concepts, and correlate results of analyses to certain disease states. **Code C**

**CLT 191 CLT Immunoematology. 5 hrs. (3-4)**

Theory and techniques in immunoematology are presented to the student. In this course coverage includes antigen and antibody reactions including blood typing, antibody detection and identification, and compatibility testing. Upon completion, students should be able to apply theories and principles of immunoematology to procedures for transfusion and donor services, and correlate blood banking practices to certain disease states and disorders. **Code C**

**CLT 293 CLT Clinical Seminar. 1-2 hrs. (1 or 2-0)**

This course is a cumulative review of clinical laboratory science theory. The seminar consists of an on-campus summation of previous classes emphasizing recall, application of theory, correlation, and evaluation of all areas of clinical laboratory science. Upon completion, students should be able to apply theory of analytical methods, recognize normal, abnormal, and erroneous results, and relate laboratory results to pathological conditions. **Code C**

**CLT 294 Clinical Laboratory Practicum I. 3 hrs. (0-9) PREREQUISITE:**

CLT 106, 108, 111, 121, 131, 141, 142, 151, 161, 181, 191.

This supervised practicum is within the clinical setting and provides laboratory practice in hematology and urinalysis. Emphasis is placed on clinical skills and performance in areas such as specimen preparation and examination, instrumentation, reporting of results, management of data and quality control. Upon completion, students should be able to process specimens, perform analyses utilizing various methods including instrumentation, report results, manage data and quality control using information systems. **Code C**

**CLT 295 Clinical Laboratory Practicum II. 3 hrs. (0-9) PREREQUISITE:**

CLT 106, 108, 111, 121, 131, 141, 142, 151, 161, 181, 191.

This supervised practicum is within the clinical setting and provides laboratory practice in microbiology. Emphasis is placed on clinical skills and performance in areas such as recovery, isolation, culturing and identification of microorganisms. Upon completion, students should be able to isolate, culture, analyze microorganisms utilizing various methods, report results, manage data and quality control using information systems. **Code C**

**CLT 296 Clinical Laboratory Practicum III. 3 hrs. (0-9)**

PREREQUISITE: CLT 106, 108, 111, 121, 131, 141, 142, 151, 161, 181, 191.

This supervised practicum is within the clinical setting and provides laboratory practice in serology and immunoematology. Emphasis is placed on clinical skills and performance in areas such as the detection and identification of antibodies, the typing of blood, and compatibility testing of blood and blood

components. Upon completion, students should be able to perform the screening for and identification of antibodies, compatibility testing, record and manage data and quality control using information systems.

**Code C**

**CLT 297 Clinical Laboratory Practicum IV. 3 hrs. (0-9)**

PREREQUISITE: CLT 106, 108, 111, 121, 131, 141, 142, 151, 161, 181, 191.

This supervised practicum is within the clinical setting and provides laboratory practice in clinical chemistry. Emphasis is placed on clinical skills and performance in areas such as computerized instrumentation and the ability to recognize technical problems. Upon completion, students should be able to perform biochemical analyses by various methods, including testing utilizing computer oriented instrumentation, report test results, manage patient data and quality control statistics using information systems. **Code C**