

## **CLBT - Clinical Laboratory Technology**

### **CLBT 1010 - Introduction to Clinical Lab Technology** 2.000 Credits

Prerequisites: Regular Status

Introduces students to the terms, concepts, procedures, and equipment used in a professional clinical laboratory. Topics include professional ethics and regulatory agencies; laboratory safety, equipment, and techniques; phlebotomy/specimen processing; related lab math, quality control concepts; process improvement; documentation and computer usage; and point of care testing. Practical experience in phlebotomy will be provided in the institution laboratory and/or the clinical setting.

### **CLBT 1030 - Urinalysis/Body Fluids** 2.000 Credits

Prerequisites: BIOL 2113; BIOL 2113L; CLBT 1010

Provides theory and techniques required to conduct tests on urine and various body fluids. Theory and tests are related to disease states and diagnosis. Topics include fundamental theory of urinalysis; basic urinalysis tests; correlation of urinalysis to disease states; related lab math; body fluid tests; special urinalysis and related testing; and safety and quality control.

### **CLBT 1040 - Hematology/Coagulation** 5.000 Credits

Prerequisites: BIOL 2113; BIOL 2113L; CLBT 1010

Introduces the fundamental formation, function, and degradation of blood cells. Topics include reticuloendothelial system and blood cell formation, complete blood count and differential, other related blood test, related lab math, correlation of test results to disease states, coagulation and fibrinolysis, instrumentation for hematology and coagulation, critical values and blood cell dyscrasias, safety and quality control, and process improvement.

### **CLBT 1050 - Serology/Immunology** 3.000 Credits

Prerequisites: CLBT 1010

Introduces the fundamental theory and techniques applicable to serology and immunology practice in the medical laboratory. Topics include immune system, antigen and antibody reactions, immunological diseases, related lab math, common serological techniques, safety and quality control, and process improvement.

### **CLBT 1060 - Immunohematology** 5.000 Credits

Prerequisites: CLBT 1050

Provides an in-depth study of immunohematology principles and practices as applicable to medical laboratory technology. Topics include genetic theory and clinical applications, immunology, donor unit collection, related lab math, pre-transfusion testing, management of disease states and transfusion reactions, safety and quality control, and process improvement.

### **CLBT 1070 - Clinical Chemistry** 5.000 Credits

Prerequisites: BIOL 2114; BIOL 2114L; CHEM 1212; CHEM 1212L; CLBT 1010

Develops concepts and techniques of clinical chemistry applicable to medical laboratory technology. Topics include carbohydrates, electrolytes and acid-base balance, nitrogenous compounds, related lab math, enzymes and endocrinology, liver functions, lipids, toxicology and therapeutic drug monitoring, safety and quality control, correlation of disease states, process improvement (team approach), and critical thinking skills.

### **CLBT 1080 - Microbiology** 6.000 Credits

Prerequisites: CLBT 1010

Introduces fundamental microbiology and parasitology theory and techniques applicable to disease state identification. Topics include microbiology fundamentals; basic techniques; clinical microbiology; related lab math; anti-microbial sensitivity; safety and quality control; parasitology; mycology, mycobacteriology, and virology; correlation of disease states; and process improvement.

### **CLBT 2090 - Clinical Phlebotomy, Urinalysis, and Serology** 3.000 Credits

Prerequisites: CLBT 1010; CLBT 1030; CLBT 1050

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include urinalysis tests, serological tests and techniques, blood and specimen processing, correlation of test results to disease states, safety and quality control, and quality assurance. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

### **CLBT 2100 - Clinic Immunohematology Practicum** 4.000 Credits

Prerequisites: CLBT 1060

Provides students with an opportunity for in-depth application and reinforcement of immunohematology principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include specimen processing; slide and tube immunological techniques; criteria for special techniques; component and therapy practices; management of disease states; transfusion complications; safety; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

### **CLBT 2110 - Clinic Hematology/Coagulation Practicum** 4.000 Credits

Prerequisites: CLBT 1040

Provides students with an opportunity for in-depth application and reinforcement of hematology/coagulation principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include complete blood count and differentials; other related blood tests; coagulation and fibrinolysis tests; correlation of test results to disease states and critical values; instrumentation; safety; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

### **CLBT 2120 - Clinical Microbiology Practicum** 4.000 Credits

Prerequisites: CLBT 1080

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include specimen inoculations; stains; culture work-ups; bacterial identification; anti-microbial sensitivity; media preparation; safety; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2130 - Clinical Chemistry Practicum

4.000 Credits

Prerequisites: CLBT 1070

Provides students with an opportunity for in-depth application and reinforcement of chemistry principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include therapeutic drugs and toxicology; automated and manual chemistry; immuno chemistry; special chemistry; safety; correlation of test results to disease states and critical values; instrumentation; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2180 - CLT Certification Review I

1.000 Credits

Prerequisites: CLBT 1030; CLBT 1040; CLBT 1050

Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for the medical laboratory technician level. Topics include review of professional ethics, regulatory agencies, safety, and fundamental techniques; phlebotomy and specimen collection and processing; quality control concepts; computer applications; urinalysis and body fluids; hematology and coagulation; and immunology and serology.

CLBT 2190 - CLT Certification Review II

1.000 Credits

Prerequisites: CLBT 1060; CLBT 1070; CLBT 1080

Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for the medical laboratory technician level. Topics include review of immunohematology; clinical chemistry in solutions; microbiology; parasitology, mycology, mycobacteriology, and virology; and test taking skills.