MEDICAL LAB TECHNICIAN (MLTP)

MLTP 101 Phlebotomy3 Credits
Orientation to the clinical lab areas and workflow. Emphasis on venipuncture and dermal collections. Skills necessary for limiting pre-analytic errors with sample collections and processing. Knowledge of POC testing, patient collection instructions, send out testing and informatics. Review of regulatory, ethical and legal issues, healthcare delivery system, certification and licensure, organ systems, basic medical terminology, infection prevention, and professionalism.
Corequisites: MLTP 102.
Fees: Yes.

MLTP 102 Applied Phlebotomy2 Credits
Clinical laboratory experience at an affiliated site. Application of knowledge and skills to venipuncture and dermal collections, sample processing, POC testing, patient collection instructions, send-out testing, informatics, OSHA practices and phlebotomist professionalism are included.
Corequisites: MLTP 101.

MLTP 105 Introduction to Medical Laboratory Technology3 Credits
Introduction to medical laboratory fundamentals. Medical laboratory organization, professional roles, ethics, regulatory agencies, safety, systems of measurement, basic equipment, quality assessment, computer applications, and automation topics included. Basic skills in laboratory math, medical terminology, and specimen collection and processing will be developed.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Fall.

MLTP 132 Clinical Hematology and Coagulation3 Credits
Introduction to the theory and practical application of hematology and hemostasis as it relates to the medical laboratory. Bone marrow, blood cell formation, hemoglobin structure and synthesis, cell function and morphology, and coagulation are explored. Correlation of test results with normal results, blood cell disorders and clotting abnormalities emphasized. Laboratory techniques, instrumentation, and quality assurance in the hematology/hemostasis lab.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 132L.
Terms Typically Offered: Spring.

MLTP 132L Clinical Hematology and Coagulation Lab1 Credit
Introduction to the theory and practical application of hematology and hemostasis as it relates to the medical laboratory. Bone marrow, blood cell formation, hemoglobin structure and synthesis, cell function and morphology, and coagulation are explored. Correlation of test results with normal results, blood cell disorders and clotting abnormalities emphasized. Laboratory techniques, instrumentation, and quality assurance in the hematology/hemostasis lab.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 132.
Terms Typically Offered: Spring.
Fees: Yes.

MLTP 138 Clinical Immunology2 Credits
Fundamentals and procedures of the immune defenses as it relates to medical laboratory testing. Innate and adaptive immune responses, deficiencies, autoimmunity, hypersensitivity and tissue transplantation. Exploration of serologic techniques and instrumentation in the detection and diagnoses of viral illness, immune related diseases and its applications in immunohematology. Introduction to theories and principles of molecular testing methods.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 138L.
Terms Typically Offered: Fall.

MLTP 138L Clinical Immunology Lab1 Credit
Fundamentals and procedures of the immune defenses as it relates to medical laboratory testing. Innate and adaptive immune responses, deficiencies, autoimmunity, hypersensitivity and tissue transplantation. Exploration of serologic techniques and instrumentation in the detection and diagnoses of viral illness, immune related diseases and its applications in immunohematology. Introduction to theories and principles of molecular testing methods.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 138.
Terms Typically Offered: Fall.
Fees: Yes.

MLTP 141 Clinical Immunohematology2 Credits
Theoretical principles and procedures in immunohematology and application in the medical laboratory. Blood banking procedures and potential problems in blood bank testing relative to antibody identification, compatibility testing, transfusion reactions, and maternal/neonatal screening for hemolytic disease of the newborn.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 141L.
Terms Typically Offered: Spring.

MLTP 141L Clinical Immunohematology Lab1 Credit
Theoretical principles and procedures in immunohematology and application in the medical laboratory. Blood banking procedures and potential problems in blood bank testing relative to antibody identification, compatibility testing, transfusion reactions, and maternal/neonatal screening for hemolytic disease of the newborn.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 141.
Terms Typically Offered: Spring.
Fees: Yes.

MLTP 142 Clinical Microscopy2 Credits
Introduction to microscopy in the medical laboratory. Emphasis on kidney function and urine formation: examination of the physical, chemical, and microscopic components of urine. Body fluid analysis of feces, seminal, vaginal, amniotic, cerebrospinal, serous, and synovial fluids. Critical analysis and problem solving with regards to pre-analytic, analytic, and post-analytic variables in sample testing.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 142L.
Terms Typically Offered: Fall.

MLTP 142L Clinical Microscopy Lab1 Credit
Introduction to microscopy in the medical laboratory. Emphasis on kidney function and urine formation: examination of the physical, chemical, and microscopic components of urine. Body fluid analysis of feces, seminal, vaginal, amniotic, cerebrospinal, serous, and synovial fluids. Critical analysis and problem solving with regards to pre-analytic, analytic, and post-analytic variables in sample testing.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 142.
Terms Typically Offered: Fall.
Fees: Yes.

MLTP 180 Applied Immunohematology3 Credits
Clinical laboratory experience in the principles and procedures of immunohematology at an affiliated site. Online-supported, off-campus clinical laboratory experience taught by clinical faculty. Emphasis is on the application of knowledge and technical skills to clinical testing, methodology, instrumentation, quality control, correlation of laboratory data with pathophysiology, OSHA practices, and medical laboratory technician professionalism are included.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Fall.

MLTP 182 Applied Hematology and Body Fluids3 Credits
Clinical laboratory experience in principles and procedures of hematology, hemostasis, urinalysis, and body fluids at affiliated site. Online-supported, off-campus clinical laboratory experience taught by clinical faculty. Emphasis on application of knowledge and technical skills to clinical testing, methodology, instrumentation, quality control, correlation of laboratory data with pathophysiology, OSHA practices, and medical laboratory technician professionalism are included.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Fall.

MLTP 195 Independent Study1-3 Credits
Course may be taken multiple times up to maximum of 6 credit hours.

MLTP 231 Clinical Microbiology I3 Credits
Study of normal flora and pathogenic microorganisms. Methods for recovery, identification of pathogens, culture techniques, procedures, antibiotic testing, automation, and interpretation of clinical data. Emphasis on clinical specimens, testing algorithms and data correlation including diagnostics, public health, safety, and quality control.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 231L.
Terms Typically Offered: Fall.

MLTP 231L Clinical Microbiology I Lab1 Credit
Study of normal flora and pathogenic microorganisms. Methods for recovery, identification of pathogens, culture techniques, procedures, antibiotic testing, automation, and interpretation of clinical data. Emphasis on clinical specimens, testing algorithms and data correlation including diagnostics, public health, safety, and quality control.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 231.
Terms Typically Offered: Fall.
Fees: Yes.

MLTP 232 Clinical Microbiology II3 Credits
Basic identification and classification of pathogenic bacteria with unusual growth requirements, fungi, parasites, and viruses. Sample collection, processing, isolation methods, immunologic diagnosis, and treatment. Bioterrorism topics also explored.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Spring.

MLTP 242 Clinical Chemistry3 Credits
Application of human pathophysiology and relation to laboratory testing. Cardiovascular disease, kidney function, acid-base metabolism, liver, bone, carbohydrate disorders, endocrine, malignancy, and exogenous substances. Exploration of measurement methodologies, instrumentation, reagents and reactions, standards, and control usage in quality assurance. Critical analysis and problem solving with regards to pre-analytic, analytic, and post-analytic variables in sample testing.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 242L.
Terms Typically Offered: Spring.

MLTP 242L Clinical Chemistry Lab1 Credit
Application of human pathophysiology and relation to laboratory testing. Cardiovascular disease, kidney function, acid-base metabolism, liver, bone, carbohydrate disorders, endocrine, malignancy, and exogenous substances. Exploration of measurement methodologies, instrumentation, reagents and reactions, standards, and control usage in quality assurance. Critical analysis and problem solving with regards to pre-analytic, analytic, and post-analytic variables in sample testing.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Corequisites: MLTP 242.
Terms Typically Offered: Spring.
Fees: Yes.

MLTP 250 Applied Chemistry and Serology3 Credits
Clinical laboratory experience in the principles and procedures of chemistry and serology at an affiliated site. Online-supported, off-campus clinical laboratory experience taught by clinical faculty. Emphasis is on the application of knowledge and technical skills to clinical testing, methodology, instrumentation, quality control, correlation of laboratory data with pathophysiology, OSHA practices, and medical laboratory technician professionalism are included.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Fall.

MLTP 252 Applied Microbiology3 Credits
Clinical laboratory experience in the principles and procedures of clinical microbiology at an affiliated site. Online-supported, off-campus clinical laboratory experience taught by clinical faculty. Emphasis is on the application of knowledge and technical skills to clinical testing, methodology, instrumentation, quality control, correlation of laboratory data with pathophysiology, OSHA practices, and medical laboratory technician professionalism are included.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Fall.

MLTP 253 Certification Exam Review1 Credit
Review of key principles and content in preparation for national certification examination.
Prerequisites: Acceptance into the Medical Laboratory Technician Program.
Terms Typically Offered: Fall.
Fees: Yes.