MEDICAL LAB TECHNOLOGY (MED LAB)

Medical Lab Technology (MED LAB) 100
Medical Laboratory Techniques
This course introduces students to the medical laboratory field, focusing on fundamental principles and essential techniques used in laboratory practice. Emphasis is placed on mastering medical laboratory terminology, basic microscopy skills, accurate computations, laboratory safety protocols, and legal and ethical issues. Students will gain a foundational understanding of how these components contribute to effective specimen analysis and patient care, preparing them for more advanced laboratory studies. Writing assignments, as appropriate to the discipline, are part of the course.
Admission to the Medical Laboratory Assistant or Medical Laboratory Technician program.
2 Laboratory hours. 1 Lecture hours. 2 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 110
Urinalysis & Other Body Fluids
This course introduces students to the principles and procedures used in the analysis of urine and other body fluids, including cerebrospinal, synovial, pleural, pericardial, and peritoneal specimens. Emphasis is placed on specimen collection, handling, physical and chemical testing, microscopic examination, and clinical significance of findings. Students will gain hands-on experience with manual and automated techniques, quality control practices, and the interpretation of results in relation to disease processes. This course prepares students to perform essential diagnostic tests and correlates laboratory data with patient conditions as part of their training in a clinical laboratory setting. Lecture and laboratory components are included. Writing Assignments, as appropriate to the discipline, are part of the course.
Admission to the Medical Laboratory Technician AAS program.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 111
Hematology & Coagulation
This course presents the theory and practices of hematology and coagulation as they apply to the role of a Medical Laboratory Technician. Students will study the formation, function, and morphology of blood cells, along with the identification of normal and abnormal blood cells as they correlate to hematologic diseases. The course also covers the mechanisms of hemostasis and the laboratory evaluation of coagulation, including routine and specialized tests such as PT, aPTT, and D-dimer. Laboratory sessions provide hands-on experience with manual and automated techniques, preparing students for clinical practice and certification requirements.
Admission to the Medical Laboratory Technician AAS program.
4 Laboratory hours. 2 Lecture hours. 4 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 112
Immunohematology
This course provides an in-depth study of immunohematology principles and blood banking techniques essential to the Medical Laboratory Technician profession. Students will learn the immunologic basis of blood group systems, antibody formation, and compatibility testing. Emphasis is placed on the procedures for blood typing, antibody screening and identification, crossmatching, and the detection and management of transfusion reactions. The course includes hands-on laboratory practice with blood specimens, focusing on accuracy, quality control, and safety protocols in the blood bank.
Admission to the Medical Laboratory Technician AAS program.
4 Laboratory hours. 2 Lecture hours. 4 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 113
Phlebotomy Techniques
This foundational course introduces students to the essential principles and practices of phlebotomy. Designed for those pursuing a career in healthcare, this course emphasizes safety, professionalism, and hands-on skill development. Students will explore key topics including anatomy and physiology of the circulatory system, infection control, patient identification, specimen handling, and proper venipuncture and capillary puncture techniques. Emphasis is placed on developing strong communication skills, maintaining patient confidentiality, and following standard precautions to ensure high-quality patient care and specimen integrity. Through a combination of classroom instruction, laboratory practice, and demonstrations, students will gain the foundational knowledge and competencies required for entry-level positions or further training in phlebotomy and the medical laboratory. Writing assignments, as appropriate to the discipline, are part of the course. **This course is not intended for individuals seeking a Phlebotomy Certificate or those interested in becoming a Certified Phlebotomist.**
Admission to the Medical Laboratory Assistant Program.
2 Laboratory hours. 3 Lecture hours. 4 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 114
Immunology
This course provides an introduction to the principles and applications of immunology in the clinical laboratory. Students learn the structure and function of the immune system, antigen-antibody reactions, and the laboratory techniques used to detect and monitor immune responses. Topics include serological assays, immunoassays, complement system evaluation, hypersensitivity, autoimmune disorders, immunodeficiencies, transplant and tumor immunology. Emphasis is placed on specimen handling, quality control, result interpretation, and professional laboratory practice. Writing assignments, as appropriate to the discipline, are part of the course.
Admission to the Medical Laboratory Technician AAS program.
4 Laboratory hours. 2 Lecture hours. 4 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 120
Clinical Chemistry
This course provides foundational concepts in clinical chemistry, including metabolism, electrolyte balance, kidney and liver function, enzymes, hormones, proteins, and toxicology. Students will explore the clinical significance of major analytes and examine how abnormal values relate to common and critical disease states. Emphasis is placed on developing the ability to interpret patient results, recognize potential sources of analytical or preanalytical error, and apply effective troubleshooting strategies. Writing assignments, as appropriate to the discipline, are part of the course.
Admission to the Medical Laboratory Technician program. Grade of C or better in either BIOLOGY 116 or both BIOLOGY 226 and BIOLOGY 227; BIOLOGY 121; and either CHEM 121 or CHEM 201.
4 Laboratory hours. 2 Lecture hours. 4 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 125
Clinical Microbiology
This course introduces students to the principles and practices of microbiology in the clinical laboratory. Emphasis is placed on the detection, identification, and characterization of pathogenic microorganisms, including bacteria, viruses, fungi, and parasites. Students learn specimen collection and handling, culture techniques, staining methods, biochemical and molecular identification, antimicrobial susceptibility testing, and quality control procedures. The course combines didactic instruction with hands-on laboratory experience to develop the technical skills, critical thinking, and professional competencies. Writing assignments, as appropriate to the discipline, are part of the course.
Admission to the Medical Laboratory Technician program. Grade of C or better in either BIOLOGY 116 or both BIOLOGY 226 and BIOLOGY 227; BIOLOGY 121; and MCROBIO 233.
4 Laboratory hours. 2 Lecture hours. 4 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 201
Medical Laboratory Assistant Skills
This course is designed to prepare students to apply knowledge and perform duties as a Medical Laboratory Assistant (MLA). Students will learn to collect, transport, and process blood and non-blood specimens, prepare reagents and controls, and perform waived and point-of-care tests in accordance with established protocols and quality standards. The course emphasizes effective communication with patients and healthcare teams, ethical practice, safety, and compliance. Graduates will demonstrate professionalism and sound judgment essential for success in a medical laboratory environment. Writing, as appropriate to the discipline, is a part of the course.
Admission to the Medical Laboratory Assistant Program.
4 Clinical hours. 4 Laboratory hours. 3 Lecture hours. 7 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 223
Clinical Practicum: Urinalysis & Body Fluids
This clinical practicum provides students with supervised, hands-on clinical experience in urinalysis and body fluid testing within an accredited laboratory setting. Students will perform routine and specialized procedures, including specimen handling, chemical and microscopic analysis, quality control, and result correlation with disease states. Students are prepared for entry-level practice in urinalysis and body fluid laboratory services.
Concurrent enrollment in or successful completion of MED LAB 225, 226, 227, 228, 229, and 233.
3 Clinical hours. 1 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 225
Clinical Practicum: Hematology & Coagulation
This clinical practicum provides students with supervised, hands-on clinical experience in hematology and coagulation testing within an accredited laboratory setting. Students will perform routine and specialized procedures, including complete blood counts, blood smear evaluation, coagulation assays, and analysis using both manual and automated methods. Students are prepared for entry-level practice in hematology and coagulation laboratory services.
Concurrent enrollment in or successful completion of MED LAB 223, 226, 227, 228, 229, and 233.
12 Clinical hours. 3 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 226
Clinical Practicum: Immunohematology
This clinical practicum provides students with supervised, hands-on experience in blood banking and transfusion services within an accredited clinical laboratory. Students will perform routine and specialized procedures, including ABO and Rh typing, antibody screening and identification, crossmatching, and compatibility testing, using both manual and automated methods. Students will develop professional skills, including effective communication, ethical practice, critical thinking, and teamwork, in preparation for entry-level practice in immunohematology and transfusion services.
Concurrent enrollment in or successful completion of MED LAB 223, 225, 227, 228, 229, and 233.
6 Clinical hours. 1.5 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 227
Clinical Practicum: Immunology
This clinical practicum provides students with supervised, hands-on experience in immunology within an accredited clinical laboratory. Students will perform routine and specialized immunologic procedures, including antigen-antibody detection methods, autoimmune and infectious disease serology, immunoassays, and screening tests using both manual and automated techniques. Emphasis is placed on proper specimen handling, quality control, method evaluation, and interpretation of immunologic results in correlation with patient conditions. Students will also develop essential professional competencies, including effective communication, ethical practice, critical thinking, and teamwork in preparation for entry-level practice in clinical immunology testing.
Concurrent enrollment in or successful completion of MED LAB 223, 225, 226, 228, 229, and 233.
6 Clinical hours. 1.5 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 228
Clinical Practicum: Clinical Chemistry
This clinical practicum provides students with supervised, hands-on experience in clinical chemistry within an accredited clinical laboratory. Students apply classroom knowledge to real patient testing by performing routine chemistry analyses, operating automated instruments, evaluating quality control, and following proper specimen handling and safety procedures. Emphasis is placed on developing technical competence, accuracy, professionalism, and the ability to interpret and troubleshoot clinical chemistry results.
Concurrent enrollment in or successful completion of MED LAB 223, 225, 226, 227, 229, and 233.
9 Clinical hours. 2 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 229
Clinical Practicum: Clinical Microbiology
This clinical practicum provides supervised, hands-on experience in a clinical microbiology laboratory, allowing students to apply the principles and techniques learned in the didactic course. Students practice specimen processing, culture and isolation methods, staining and microscopic examination, biochemical and rapid identification procedures, and antimicrobial susceptibility testing. The practicum emphasizes aseptic technique, biosafety, quality control, workflow organization, and accurate documentation. Through direct participation in routine laboratory operations, students develop the technical skills, professional behavior, and critical thinking required for entry-level competency as Medical Laboratory Technicians.
Concurrent enrollment in or successful completion of MED LAB 223, 225, 226, 227, 228, and 233.
12 Clinical hours. 3 Credit Hours.
Offered At: MX

Medical Lab Technology (MED LAB) 233
Clinical Practicum Seminar
This seminar course supports Medical Laboratory Technician students during their clinical rotations by providing structured discussions on professionalism, interprofessional communication, and current issues in clinical laboratory science. Students participate in weekly check-ins to reflect on clinical experiences, address challenges, and strengthen their readiness for entry-level practice.
Concurrent enrollment in or successful completion of MED LAB 223, 225, 226, 227, 228, and 229
1 Lecture hours. 1 Credit Hours.
Offered At: MX