

MEDICAL LABORATORY SCIENCE, B.S.

THE MEDICAL LABORATORY SCIENCE PROFESSION

Medical laboratory scientists are highly skilled medical professionals who perform diagnostic laboratory testing and work in a variety of settings, including hospitals, public health laboratories, reference laboratories, research facilities, forensics, and industry. Medical laboratory scientists are nationally certified professionals. Some states, including Louisiana, also require a license to practice.

MEDICAL LABORATORY SCIENCE PROGRAM DESCRIPTION

The Medical Laboratory Science (MLS) Program at Xavier University of Louisiana (XULA) is a 4-year program that culminates in a B.S. degree in Medical Laboratory Science. The MLS Program can accommodate up to twenty students per cohort, with one enrollment annually in August. Students majoring in MLS spend the first three years enrolled in didactic courses with the remaining year spent both on campus and at the clinical rotation site.

PROGRAM MISSION AND GOALS

University Mission Statement

Xavier University of Louisiana, founded by Saint Katharine Drexel and the Sisters of the Blessed Sacrament, is Catholic and historically Black. The ultimate purpose of the University is to contribute to the promotion of a more just and humane society by preparing its students to assume roles of leadership and service in a global society. This preparation takes place in a diverse learning and teaching environment that incorporates all relevant educational means, including research and community service.

MLS Program Mission Statement

The mission of the Medical Laboratory Science Program at Xavier University of Louisiana is to prepare students to become skilled medical laboratory professionals who contribute to a more just and humane society by delivering quality patient care, serving the needs of the community, and advancing the body of knowledge in medical laboratory science.

MLS Educational Goals

The XULA MLS Program aims to:

- To provide an educational program within the framework of the University in accordance with the Standards established by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).

- To provide the health care community with qualified individuals who are highly competent to conduct diagnostic laboratory procedures in large medical facilities and small rural laboratories, and who demonstrate positive professional attitudes, ethics, and practices.
- To produce graduates who will serve in leadership roles and contribute toward improving the patient care experience by providing quality care and concern for the dignity and rights of all patients.
- To work toward meeting the workforce needs of New Orleans and the state of Louisiana as well as numerous industries seeking qualified medical laboratory professionals.

MLS Program Learning Outcomes

Graduates of the XULA MLS Program will:

- Possess the knowledge required to be competent entry-level medical laboratory scientists.
- Demonstrate the career entry-level skills necessary to perform, develop, and evaluate the full range of diagnostic laboratory testing.
- Exhibit professional behavior, communicate effectively with various stakeholders, and provide quality, ethical care with concern for the dignity and rights of all patients.
- Contribute to advancing the body of knowledge in medical laboratory science by gaining employment in the profession or by entering graduate or professional educational programs.

CAREER ENTRY-LEVEL COMPETENCIES

Career entry-level competencies reflect the knowledge, skills, judgment, and behavior required of individuals to begin practice as a medical laboratory scientist.

Professional Behaviors and Communication

Demonstrate professional behavior, communicate effectively with various stakeholders, and provide quality, ethical care with concern for the dignity and rights of all patients.

Safety and Compliance

Adhere to established protocols for overall laboratory safety.

Comply with all regulations and accreditation standards relevant to the profession.

Education and Research

Promote quality patient care by participating in continuing education activities, professional career development, and professional and/or service organizations.

Apply pedagogical principles to instruct users of laboratory services regarding appropriate procedures, test selection, and result interpretation.

Evaluate published data sets, research, and clinical studies by applying knowledge of research design and practice.

Laboratory Operations

Apply principles of laboratory operations, including information systems, financial management, and human resources management.

Pre-Analytical Competencies

Perform specimen collection and processing, assess specimen acceptability, and organize workload according to laboratory testing priorities.

Analytical Competencies

Implement quality assurance procedures to ensure the validity of laboratory generated data.

Follow established policies, processes, and procedures for analytical testing.

Perform diagnostic laboratory testing on blood, body fluids, cells, tissues, and other substances.

Post-Analytical Competencies

Report test results, including abnormal and critical values, according to established procedures.

Correlate laboratory data with disease processes, recognize and respond to discrepancies, errors, and other problems, taking appropriate corrective action in a timely manner.

ESSENTIAL FUNCTIONS OF THE MEDICAL LABORATORY SCIENTIST

Essential functions represent requirements that must be met by students for admission, retention, and successful completion of the Medical Laboratory Science Program. Prior to beginning MLS Program-specific courses, students must acknowledge that they are able to meet these requirements with or without reasonable accommodations. Students with accessibility questions or who need to request accommodations should contact the

Office of Disability Services in the Convocation Annex, Room 215A, at 504-520-7607 or disabilityservices@xula.edu.

Vision and Hearing

Determine and macroscopic and microscopic elements of objects, read and interpret text, numbers, and graphs displayed in print and/or a display monitor.

Discriminate color and interpret color reactions.

Auditory ability sufficient to recognize and respond to alarms and emergency signals, taking appropriate action in a timely manner.

Mobility

Move and maneuver safely and efficiently throughout the classrooms, laboratories, and workspaces to complete assigned tasks.

Perform intricate manual procedures that require good hand-eye coordination.

Communication

Interpret and communicate information in an effective, clear, accurate, and professional manner utilizing various formats (i.e., written, verbal, or assisted with an interpreter).

Follow verbal and written instructions in English to properly perform diagnostic laboratory procedures.

Prepare accurate laboratory reports to legibly record laboratory data.

Analytical Skills

Receive, analyze, and interpret information to satisfactorily perform assigned tasks.

Employ critical thinking ability to provide effective clinical judgment.

Read and comprehend educational and technical materials, including, but not limited to, textbooks, policy manuals, and procedure manuals.

Demonstrate the ability to detect performance deviations and correct them.

Behavior

Work independently, in small groups, or as a part of a larger health care team to maintain the highest standards of healthcare delivery.

Perform laboratory testing by properly operating various types of laboratory analyzers and equipment.

Demonstrate the ability to manage workloads, while prioritizing tasks, maintaining organization and efficiency, and working effectively under stress.

Treat others with dignity and respect, regardless of their background, values, and opinions.

Safety

Demonstrate the ability to recognize, handle, and safely dispose of biohazardous materials, including contaminated sharps.

Practice established safety precautions to minimize risk of injury to self and others.

ADMINISTRATION AND FACULTY

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CLINICAL AFFILIATE

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1515 Jefferson Highway
New Orleans, LA 70121

PROGRAM ACCREDITATION

The MLS Program is currently seeking external accreditation by the National Accrediting Agency for Clinical Laboratory Science (NAACLS). Contact information for NAACLS is below:

NAACLS

5600 N. River Rd, Suite 720 Rosemont IL 60018-5119

Phone: 773.714.8880 | Fax: 773.714.8886

info@naacls.org

CERTIFICATION

Obtaining professional certification confirms that an individual has met academic standards, completed clinical prerequisites, and has achieved acceptable performance levels on a certification exam. Passing a certification exam by an approved certification agency is one of the requirements for Louisiana licensure. Taking the certification exam as soon as possible after graduation is strongly encouraged.

Successful completion of the MLS Program and awarding of the B.S. Medical Laboratory Science degree is not contingent upon passing any external certification exam.

Certification Agencies

American Society for Clinical Pathology Board of Certification (ASCP-BOC)

<https://www.ascp.org/content/board-of-certification?srsId=AfmBOoqeJhUE9rev587yyvs-B7VLpUu-mBdnikWt07b2ttECYPOh7rfH#>

American Medical Technologists (AMT)

<https://americanmedtech.org/certification/get-certified>

American Association of Bioanalysts (AAB)

<https://www.aab.org/aab/mt.asp>

LICENSURE

Louisiana State Board of Medical Examiners (LSBME)

<https://www.lsbme.la.gov/content/application-instructions-initial-licensure-clinical-laboratory-personnel>

Medical laboratory personnel in the state of Louisiana must hold current Louisiana licensure. Applicants for licensure must have passed a national exam approved by LSBME. A passing score report must be sent directly from the exam agency to LSBME.

A temporary license may be issued to recent graduates who have registered for an approved certification exam. Confirmation of the exam date must be submitted before the temporary license is granted. A passing score report sent directly from the exam agency to LSBME is required.

Trainee licenses may be issued to students who work under supervision while in a medical laboratory science program.

Additional requirements for licensure may be required by the state in which you choose to practice.

OUTCOMES

Program outcomes, including external certification outcomes, graduation rates, and placement rates will be made public as the data becomes available. The first cohort of the XULA MLS Program will graduate in May 2025.

PROGRAM OF STUDY

The program's interdisciplinary curriculum provides students with content knowledge across STEM fields, training a generation of students to become future leaders in MLS. Upon graduation, students will qualify to sit for the MLS certification exam offered by the American Society for Clinical Pathology Board of Certification (ASCP BOC) and the American Medical Technologists (AMT) examination. Upon receipt of a passing score, students will qualify for licensure by the Louisiana State Board of Medical Examiners. All MLS majors will be required to complete a total of 124 hours of coursework that includes the Xavier Core Curriculum, required courses in MLS, Biology, Chemistry, Mathematics and clinical practicum courses at Ochsner.

Prior to advancing into the third year of the MLS program, students must complete an application and interview and have met MLS requirements before advancing into the professional phase. Transfer students are expected to have completed the major requirements prior to registering for MLS courses in their junior year and are expected to complete Core requirements prior to graduation. The Department of Biology will host informational sessions on and off campus to highlight the program.

Enrollment criteria for the program include:

1. Minimum 2.7 GPA
2. Having withdrawn from fewer than three courses
3. Earned a "C" or better in prerequisite Biology and Chemistry courses

If a student has declared MLS as their major, by their third year said student must have completed MDLS 2000 (or equivalent) with a "C" or better, complete an MLS application and interview, and be accepted into the professional (advanced) phase of the MLS program. Students who have not declared MLS as their major, must complete all the prerequisite courses, complete MDLS 2000 (or equivalent) with a "C" or better, complete an MLS application and interview, and be accepted into the professional (advanced) phase of the MLS program to declare MLS as their major.

FIRST YEAR

Credit Hours

First Semester

BIOL 1230 - General Biology I	3
BIOL 1230L - General Biology I Laboratory	1
CHEM 1010/1010D - General Chemistry I	3
CHEM 1011L - General Chemistry I Laboratory	1
MATH 1020 - Quantitative Reasoning	3
ENGL 1000 - Intensive English Composition and Rhetoric or ENGL 1010 English Composition and Rhetoric	3
XCOR 1000 - College Experience	1
Semester hours:	15

Second Semester

BIOL 1240 - General Biology II	3
BIOL 1240L - General Biology II Laboratory	1
CHEM 1020/1020D - General Chemistry II	3
CHEM 1021L - General Chemistry II Laboratory	1
ENGL 1020 - English Composition and Literature or ENGL 1023H Introduction to Literature for Honor Students	3
XCOR 1011 - Xavier Experience or XCOR 1012 - New Orleans Experience	3
Semester hours:	14

SECOND YEAR

First Semester

BIOL 2010 - General Microbiology	3
BIOL 2010L - General Microbiology Laboratory	1

The Human Past	3
African American Heritage & Legacies	3
Creative Expressions & Engagements	3
Free Electives	3
Semester Hours:	16

Second Semester

CHEM 2210/2210D - Organic Chemistry I	3
CHEM 2230L - Organic Chemistry I Laboratory	1
The Examined Life	3
Human Behavior	3
Faith and Society	3
MDLS 2000 - Intro to MLS	3
Semester Hours:	16

THIRD YEAR

First Semester

MDLS 3030 - Hematology I	3
MDLS 3030L - Hematology I Lab	1
MDLS 3100 - Clinical Microbiology I	3
MDLS 3100L - Clinical Microbiology I Lab	1
MDLS 3080 - Clinical Immunology	3
MDLS 3080L - Clinical Immunology Lab	1
MDLS 3524 - Clinical Chemistry I	3
MDLS 3524L - Clinical Chemistry I Lab	1
Semester Hours:	16

Second Semester

MDLS 3040 - Hematology II	3
MDLS 3040L - Hematology II Lab	1
MDLS 4122 - Immunohematology	3
MDLS 4122L - Immunohematology Lab	1
MDLS 3110 - Clinical Microbiology II	3
MDLS 3110L - Clinical Microbiology II Lab	1
MDLS 3534 - Clinical Chemistry II	3
MDLS 3534L - Clinical Chemistry II Lab	1
Semester Hours:	16

FOURTH YEAR

First Semester

XCOR 3010 - Engaging the Mission	3
MDLS 3000 - Professional Skills	3
MDLS 4123 - Urinalysis and Body Fluids	2
MDLS 4123L - Urinalysis and Body Fluids Lab	1
MDLS 4000 - Senior Capstone - Management, Education and Research for MLS Majors	2
Free Electives	4
Semester Hours:	15

Second Semester

XCOR 3020 - Engaging Global Issues	3
MDLS 4232 - Clinical Immunohematology Practicum	3
MDLS 4233 - Clinical Hematology and Urinalysis Practicum	3
MDLS 4234 - Clinical Microbiology Practicum	3
MDLS 4235 - Clinical Serology and Immunology Practicum	1
MDLS 4236 - Clinical Chemistry Practicum	3
Semester Hours	16

Total Program Hours: **124**

Approved by Academic Council on 3/21/2023