

MEDICAL LABORATORY SCIENCE (B.S.)

The Bachelor of Science in Medical Laboratory Science program consists of two years of pre-professional courses and two years of professional courses. The program fulfills the requirements for clinical laboratory science education of the National Accrediting Agency for Clinical Laboratory Sciences. Upon completion of this program, the student receives a Bachelor of Science in Medical Laboratory Science degree and is eligible to take a national certification examination in Medical Laboratory Science. Granting of the Bachelor of Science in Medical Laboratory Science degree IS NOT contingent up the student's passing any type of external certification or licensure examination.

This program is accredited by:

National Accrediting Agency for Clinical Laboratory Sciences
(NAACLS)
5600 N. River Road, Suite 720, Rosemont, IL 60018
Phone: 773-714-8880 Fax: 773-714-8886
Email: info@naacils.org
Website: www.naacils.org

The work of the medical laboratory scientist involves performing a vast array of laboratory tests to provide accurate diagnostic information to the physician and the health care team. The medical laboratory scientist operates sophisticated laboratory instrumentation, evaluates and utilizes the best possible testing methods, and effectively teaches and supervises students and laboratory personnel. While the majority of medical laboratory scientists work in hospitals or other clinical laboratories, graduates are also prepared for positions in federal, state and local public health departments, in industrial or research laboratories and in medical laboratory science education.

The Medical Laboratory Science program utilizes the facilities of the Eugene Applebaum College of Pharmacy and Health Sciences, the faculty of the Department of Applied Health Sciences, and the laboratories and pathology departments of clinical affiliates. This program includes clinical experiential coursework for all students who meet or exceed grade requirements.

Admission

Admission to the professional program requires completion of the pre-professional course requirements and satisfaction of specific admission requirements listed below. The application deadline for matriculation into the professional program is May 1 of each year for the subsequent Fall semester.

Since applicants who are admitted will eventually be working as members of a health care team, the admissions committee evaluates candidates based on their personal qualities as well as their academic achievement. Therefore, throughout the interview and the completion of other application requirements, criteria such as an applicant's maturity, motivation, knowledge of the profession, interpersonal skills, personal integrity, and empathy for others are evaluated.

Admission Requirements

The student wishing to apply to the professional program must meet the following admission requirements:

1. Cumulative grade point averages by the end of the second semester of the year preceding admission to the professional program of

- a. overall grade point average of 2.7 or above in pre-professional courses
 - b. grade point average of 2.7 or above in all science and mathematics prerequisite courses
 - c. no grade lower than 'C' in any pre-requisite course.
2. No more than two repeats or withdrawals (marks of 'W' or 'WF') in science courses preferred. (If all courses are withdrawn in a single semester, it counts as one 'W'.)
 3. Completion of all pre-professional courses (or their equivalents) by the end of the Spring/Summer semester prior to beginning the professional program (up to two general education courses can remain to be completed within the first professional year after admission).
 4. Completion of the professional program application form and associated requirements and submission of official transcripts to:

Eugene Applebaum College of Pharmacy and Health Sciences
Office of Student Affairs
259 Mack Avenue, Suite 1600
Detroit, MI 48201

APPLICATION DEADLINE: The deadline for applications is May 1. Prospective students are urged to submit applications as early as possible. Specific directions for submitting application materials are indicated on the website.

APPLICATION REVIEW: All applications will be reviewed for completeness. The Admissions Committee will interview qualified applicants with completed applications submitted by the deadline date. A number of criteria will be evaluated, including academic achievement and personal qualities. Upon completion of all admission interviews, applicants will be notified of the final admission decision. This typically occurs in June of each year.

All requests for additional information should be addressed to the Department of Applied Health Sciences, Medical Laboratory Science Program, Eugene Applebaum College of Pharmacy and Health Sciences.

Prerequisite Coursework

Math and science prerequisites effective for the 2022 admission cycle:

Code	Title	Credits
BIO 1510 & BIO 1511	Basic Life Mechanisms and Basic Life Mechanisms Laboratory	4
BIO 2270 & BIO 2271	Principles of Microbiology and Principles of Microbiology Lab	5
BIO 2870	Anatomy and Physiology	5
CHM 1100 & CHM 1130	General Chemistry I and General Chemistry I Laboratory ¹	5
CHM 1140 & CHM 1150	General Chemistry II and General Chemistry II Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
MAT 1070	College Algebra	5

¹ General Chemistry I and General Chemistry I Lab were formerly numbered CHM 1220 and CHM 1230.

Pre-professional Curriculum

There are three components of coursework that must be completed prior to beginning the Medical Laboratory Science program: (1) math and science prerequisite requirements; (2) non-science prerequisite requirements; and (3) University General Education requirements (<http://>

bulletins.wayne.edu/undergraduate/general-information/general-education/). The following requirements are listed by their Wayne State University title and course number. For comparable courses at other colleges, students should consult the Office of Transfer Credit (<https://wayne.edu/transferecredit/>).

All pre-professional coursework must be completed with a grade of 'C' or better.

Math and science prerequisite coursework must be completed within six years prior to admission to the professional program. Exceptions to this policy may be made on a case-by-case basis at the discretion of the program faculty. Documentation of competency must be provided by the applicant requesting the exception

Code	Title	Credits
Pre-professional Courses		
BIO 1510 & BIO 1511	Basic Life Mechanisms and Basic Life Mechanisms Laboratory	4
BIO 2270 & BIO 2271	Principles of Microbiology and Principles of Microbiology Lab	5
BIO 2870	Anatomy and Physiology	5
CHM 1100 & CHM 1130	General Chemistry I and General Chemistry I Laboratory	5
CHM 1140 & CHM 1150	General Chemistry II and General Chemistry II Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
MLS 2080	Medical Laboratory Science Seminar	1
MLS 3330	Medical Terminology	1
COM 1010	Oral Communication: Basic Speech	3
ENG 1020	Introductory College Writing	3
ENG 3010	Intermediate Writing (or any Intermediate Composition (IC) course)	3
MAT 1070	College Algebra	5
STA 1020	Elementary Statistics	3
University General Education Requirements:		
Cultural Inquiry (CI)		3
Social Inquiry (SI)		3
Diversity, Equity and Inclusion (DEI)		3
Global Learning Inquiry (GL)		3
Civic Literacy (CIV)		3
Wayne Experience (WE)		1
Total Credits		64

Candidates for the Bachelor of Science in Medical Laboratory Science degree must complete 120-134 credits in course work, including sufficient credits to fulfill the University General Education Requirements (<http://bulletins.wayne.edu/undergraduate/general-information/general-education/>) not satisfied by either required courses or the student's choice of electives in the pre-professional program. The distribution of the total credits for the degree will be between the pre-professional program and the following professional program.

MLS Professional Curriculum

Science courses in this program are taken under the direction of the faculty of Medical Laboratory Science in cooperation with the faculty of the Department of Applied Health Sciences and the staff of affiliated clinical institutions.

Third and Fourth Years

Code	Title	Credits
MLS 3020	Hematology I	4
MLS 3040	Immunohematology I	4
MLS 3080	Instrumentation Lecture and Laboratory	4
MLS 3100	Urine and Body Fluid Analysis	3
MLS 3280	Clinical Chemistry Lecture and Laboratory	4
MLS 4040	Laboratory Operations	3
MLS 4210	Hemostasis Lecture and Laboratory	2
MLS 4230	Hematology II	3
MLS 4240	Immunohematology II	3
MLS 5500	Immunology and Serology	3
MLS 5510	Diagnostic Microbiology I	4
MLS 5520	Diagnostic Microbiology II	4
MLS 5530	Medical Laboratory Science Simulation Laboratory	2
MLS 5550	Molecular Diagnostics	3
MLS 5996	MLS Clinical Pathology Review	2
Total Credits		48

Clinical Experience

(Second Semester/Senior Year):

Code	Title	Credits
MLS 4000	Clinical Hematology	5
MLS 4010	Clinical Chemistry	4
MLS 4020	Clinical Blood Bank	3
MLS 4030	Clinical Microbiology	4
Total Credits		16

Courses are completed at a clinical laboratory affiliated with the Eugene Applebaum College of Pharmacy and Health Sciences.

Medical Laboratory Science Honors

This program is open to students pursuing a Bachelor of Science in Medical Laboratory Science degree who maintain an overall cumulative grade point average of 3.3 or higher and complete a minimum of twelve honors course credits.

Code	Title	Credits
MLS 4990	Professional Directed Study	2
Research and thesis to be completed under the direction of a faculty member whose expertise includes the student's area of interest. Along with the thesis paper, student will prepare a poster to be presented at the Eugene Applebaum College of Pharmacy and Health Sciences annual Research Day. Adviser and a second reader will read the completed thesis.		

At least one HON 42XX interdepartmental Honors seminar 3
 Select a minimum of 6 additional credits earned utilizing Honors Option in two or more of the following MLS program courses: 6

MLS 3020	Hematology I	
MLS 3040	Immunohematology I	
MLS 3080	Instrumentation Lecture and Laboratory	
MLS 3100	Urine and Body Fluid Analysis	
MLS 3280	Clinical Chemistry Lecture and Laboratory	
MLS 4040	Laboratory Operations	
MLS 4210	Hemostasis Lecture and Laboratory	
MLS 4230	Hematology II	
MLS 4240	Immunohematology II	

MLS 5500	Immunology and Serology
MLS 5510	Diagnostic Microbiology I
MLS 5520	Diagnostic Microbiology II
MLS 5550	Molecular Diagnostics
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Total Credits	11