

# Medical Laboratory Science, Certificate

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**Chairperson: Erik Munson, Ph.D., D (ABMM)**

*Department of Medical Laboratory Science website*

The mission of the Department of Medical Laboratory Science (MLSC) is to educate persons to be highly skilled in laboratory medicine and possess those professional qualities necessary for the practice of medical laboratory science. The certificate awarded in this department qualifies one to work as a medical laboratory scientist or technologist (aka, clinical laboratory scientist/technologist) in hospital laboratories, clinics, physicians' offices, research and teaching laboratories, as well as in biotechnology and pharmaceutical companies and public health labs.

The Medical Laboratory Science certificate program sequence includes two years of study. The first year consists of classrooms and labs experience on campus. The teaching laboratories on the university campus are structured to simulate a clinical setting. The second year consists of the clinical practicum required for this certificate which involves clinical rotations in laboratories in the metro-Milwaukee area.

## Accreditation

The Medical Laboratory Science program is accredited by the

National Accrediting Agency for Clinical Laboratory Sciences  
5600 N. River Road, Suite 720  
Rosemont, IL 60018  
(773) 714-8880.

Upon successful completion of the course work and practicum, students are eligible for the appropriate certification and/or licensure examinations. The university assumes no responsibility for the success of its students in obtaining professional certification or other types of professional licensure.

## Admission Requirements

1. A U.S. citizen or an eligible non-citizen
2. Completion of an undergraduate degree from a regionally accredited university in a science-related field with a minimum 2.800 cumulative and science GPA's
3. Completion of the following course prerequisites at a regionally accredited college/university with a minimum grade of C. It is strongly preferred that courses be completed within 5 years of matriculation, however, exceptions may be granted based on a holistic review of the application:
  - a. Two courses in general biology, lab not required
  - b. Two courses in general chemistry (year sequence), with lab
  - c. One course in biochemistry (minimum 3 credit survey course)
  - d. One course in organic chemistry, with lab (of a year-long sequence)
  - e. One course in physiology or a complete anatomy and physiology (A&P) sequence minimum 5 credits
  - f. MLSC 2200 or equivalent (can be taken in first term of the MLSC certificate program)
  - g. One credit in medical ethics (can be taken in first term of the MLSC certificate program)

Certain essential functions represent the non-academic requirements of the program that a student must possess to successfully complete the program and become employable. These include: the ability to distinguish colors, the ability to learn to perform and interpret highly complex testing methods and the ability to disseminate information in an accurate and confidential manner. Students must have good tactile skills, possess adequate physical and emotional health to work under stress and time constraints and demonstrate respect and care for others. Students must also be able to work efficiently and accurately in a clinical laboratory environment that often includes:

- Loud noises
- Strong odors
- Biohazardous materials
- Repetitive motions
- Standing for long periods of time

Ordinarily, MLSC course in the certificate program are not approved for transfer from other institutions except with approval of the department chair. The following courses must be taken in the year immediately preceding the final (clinical) year:

Code	Title	Hours
MLSC 7124	Medical Microbiology 1	4
MLSC 7127	Medical Microbiology 2	4

MLSC 7163	Clinical Chemistry and Concepts 1	4
MLSC 7173	Clinical Chemistry and Concepts 2	4
MLSC 7174	Clinical Hematology 1	4

## Professional Standards

In addition to being evaluated through the use of written examinations and assignments, class participation and practical examinations, medical laboratory science students are also evaluated with respect to their professional qualities. The instructors in most medical laboratory science courses complete a written evaluation of each student. Students who fail to comply with the rules and regulations of the department with respect to immunizations, health insurance, safety, honesty or whose conduct or health is unsatisfactory may be dismissed from the MLSC certificate program.

During the final (clinical) year, students are subject to academic and professional policies of the department as well as the rules and regulations of the affiliating clinical facility to which they are assigned. Students who are in violation of the rules and regulations of the clinical facility are subject to dismissal from that facility. This action is under the jurisdiction of the authorities of that institution in consultation with the university's department chair.

In medical laboratory science courses, a student who in any way acts dishonestly in class assignments or examinations is in violation of the Health Sciences Professional Academic Honesty policy may be subject to dismissal from the certificate program.

For the safety of patients, peers and themselves, students are required to dress appropriately while attending clinical laboratory science sessions for all courses.

## Academic Progression

Successful program progression requires students to complete each term in a lock-step sequence with a grade of C or higher in all courses in the certificate program. Each course is only offered once each academic year and should a student fall out of sequence, they will be delayed one year to continue. Students who fail to maintain progress necessary to meet the minimum requirements because of grade point average or excessive failure (F or U) grades are subject to review by the MLSC Progress and Promotions Committee, and they may be dismissed from the MLSC certificate program.

During the final (clinical) year the academic actions taken are varied in severity dependent upon the scholastic and/or professional deficiency. These actions are the following: written warning, clinical academic warning, clinical academic censure and required to withdraw. The method of making up unacceptable grades during the final year which have resulted in the issuing of an action of clinical academic warning or clinical academic censure are determined by mutual agreement between the university department chair and the affiliation clinical program director. The MLSC Progress and Promotion Committee prescribes, in writing, conditions under which these students are allowed to continue. Students who do not meet the conditions thus stipulated are dismissed from the certificate program.

Students must have a criminal background check prior to beginning their clinical assignments. Some clinical sites may have requirements beyond those of the university (e.g. physical examination, drug testing, etc.). Students are expected to participate in the state clinical laboratory science conference during the final (clinical) year of the program.

The certificate in Medical Laboratory Science requires completion of the following courses:

Code	Title	Hours
First Year		
MLSC 7124	Medical Microbiology 1	4
MLSC 7127	Medical Microbiology 2	4
MLSC 7163	Clinical Chemistry and Concepts 1	4
MLSC 7173	Clinical Chemistry and Concepts 2	4
MLSC 7174	Clinical Hematology 1	4
Second Year		
MLSC 7180	Concepts in Clinical Education Methods and Practicum	2
MLSC 7181	Modern Management Concepts for the Medical Laboratory and Practicum	2
MLSC 7183	Clinical Chemistry and Practicum	6
MLSC 7184	Clinical Hematology 2 and Practicum	4
MLSC 7185	Clinical Hemostasis and Practicum	3
MLSC 7186	Clinical Immunohematology and Practicum	6
MLSC 7187	Clinical Immunology and Practicum	2
MLSC 7188	Clinical Microbiology and Practicum	6
MLSC 7189	Clinical Urinology and Practicum	2
<b>Total Credit Hours:</b>		<b>53</b>

Students must complete all MLSC courses with a C or better and have a cumulative GPA of at least 2.200 prior to entering the final clinical year (fall/spring) of the program.

## Accelerated Bachelor's-Certificate Degree Program

The accelerated program allows students to complete the first year (20 cr.) of the two-year certificate program in their senior year of undergraduate study, which then allows students to complete the Bachelor of Science degree and Certificate in Medical Laboratory Sciences in five years instead of six years. Eligible students can apply for admission to the accelerated certificate program as early as the first term of the junior year.

Students accepted to the accelerated MLSC certificate program must meet the listed program prerequisites and be on track with their undergraduate degree to allow the twenty (20) MLSC certificate credits be taken in the senior year in addition to any remaining B.S. degree requirements. The twenty (20) credits can be used to fulfill both undergraduate and graduate certificate requirements:

<b>Senior</b>			
<b>First Term</b>	<b>Hours</b>	<b>Second Term</b>	<b>Hours</b>
MLSC 7163	4	MLSC 7127	4
MLSC 7124	4	MLSC 7173	4
MLSC 2200 <sup>1</sup>	3	MLSC 7174	4
Remaining B.S. degree course work		Remaining B.S. degree course work	
	<b>11</b>		<b>12</b>
<b>Fifth Year</b>			
<b>First Term</b>	<b>Hours</b>	<b>Second Term</b>	<b>Hours</b>
Enrolled in 33 cr. of year-long MLSC clinical courses (SY graded)		Completion of year-long MLSC clinical courses (graded)	33
	<b>0</b>		<b>33</b>
<b>Total Credit Hours: 56</b>			

<sup>1</sup> MLSC 2200 fulfills the BISC lab cognate and is a prerequisite for the MLSC program. It can be taken in either the junior or senior year.

## Tuition and Financial Aid

Students with completed bachelor's degrees in the MLSC certificate program are admitted to Health Science Professional. As a certificate program, students may be eligible for financial aid. Completion of the Free Application for Federal Student Aid (FAFSA) is required in order to apply for financial aid.

## University Policies

- Academic Advising (<https://bulletin.marquette.edu/policies/academic-advising/>)
- Academic Censure - Health Science Professional (<https://bulletin.marquette.edu/policies/academic-censure/healthscienceprofessional/>)
- Academic Integrity (<https://bulletin.marquette.edu/policies/academic-integrity/>)
- Academic Misconduct (<https://bulletin.marquette.edu/policies/academic-misconduct-policy/>)
- Academic Program Definitions (<https://bulletin.marquette.edu/policies/academic-programs-defined/>)
- Accelerated Degree Programs (<https://bulletin.marquette.edu/policies/accelerated-degree-programs/>)
- Attendance - Health Science Professional (<https://bulletin.marquette.edu/policies/attendance/healthscienceprofessional/>)
- Awarding Diplomas and Certificates (<https://bulletin.marquette.edu/policies/awarding-diplomas-certificates/>)
- Background Checks, Drug Testing (<https://bulletin.marquette.edu/policies/background-checks-drug-testing/>)
- Commencement (<https://bulletin.marquette.edu/policies/commencement/>)
- Conferral of Degrees and Certificates (<https://bulletin.marquette.edu/policies/conferral-degrees-certificates/>)
- Course Levels (<https://bulletin.marquette.edu/policies/course-levels/>)
- Credit Hour (<https://bulletin.marquette.edu/policies/credit/>)
- Credit Load - Health Science Professional (<https://bulletin.marquette.edu/policies/credit-load/healthscienceprofessional/>)
- Faculty Grading (<https://bulletin.marquette.edu/policies/faculty-grading/>)
- Family Education Rights and Privacy Act-FERPA (<https://bulletin.marquette.edu/policies/ferpa/>)

- Grade Appeals (<https://bulletin.marquette.edu/policies/grade-appeals/>)
- Grading System - Undergraduate and Health Science Professional (<https://bulletin.marquette.edu/policies/grading-system/undergraduate-healthscienceprofessional/>)
- Graduation - Health Science Professional (<https://bulletin.marquette.edu/policies/graduation/healthscienceprofessional/>)
- Immunization and Tuberculosis Screening Requirements (<https://bulletin.marquette.edu/policies/immunization-and-tuberculosis-screening/>)
- Last Date of Attendance/Activity (<https://bulletin.marquette.edu/policies/last-dateof-attendance-activity/>)
- Medical Withdrawal (<https://bulletin.marquette.edu/policies/medical-withdrawal/>)
- Military Call to Active Duty or Training (<https://bulletin.marquette.edu/policies/militarycall-active-duty-training/>)
- Registration - Health Science Professional (<https://bulletin.marquette.edu/policies/registration/healthscienceprofessional/>)
- Repeated Courses - Health Science Professional (<https://bulletin.marquette.edu/policies/repeated-courses/healthscienceprofessional/>)
- Student Consumer Complaints (<https://bulletin.marquette.edu/policies/student-complaints/>)
- Student Data Use and Privacy (<https://bulletin.marquette.edu/policies/student-data-use-privacy/>)
- Transcripts-Official (<https://bulletin.marquette.edu/policies/transcripts-official/>)
- Transfer Course Credit - Health Science Professional (<https://bulletin.marquette.edu/policies/transfer-course-credit-policy/healthscienceprofessional/>)
- Withdrawal - Health Science Professional (<https://bulletin.marquette.edu/policies/withdrawals/healthscienceprofessional/>)