

**Request for Authorization to Plan (Notice of Intent)
Bachelor of Science in Medical Laboratory Science
University of Wisconsin-Milwaukee**

SUBMISSION TRACK

NOI Fast-Track Submission

ABSTRACT

The University of Wisconsin (UW)-Milwaukee proposes to establish a Bachelor of Science (BS) in Medical Laboratory Science (MLS). This program currently exists as a successful sub-major within the Biomedical Sciences Degree. The MLS program prepares students to specialize in diagnostic laboratory testing. Laboratory testing is the single highest-volume medical activity affecting Americans, and it drives about two-thirds of all medical decisions made by doctors and other healthcare professionals. There is a high market demand for MLS professionals, but like many healthcare professions, there is a severe workforce shortage. Graduates from the MLS program have high job placement (99% of graduates find a laboratory career within 1 year).

Establishing the BS in Medical Laboratory Science as a stand-alone bachelor's degree aids in visibility to students and for marketing purposes, clearly documents the presence of this degree for all stakeholders and creates conditions for appropriate reporting for institutional data.

Students pay standard undergraduate tuition until they are admitted into the professional phase of the program (spring semester, junior year). At that time, students pay a differential tuition to help cover teaching laboratory equipment, reagents and other costs.

PROGRAM INFORMATION

University Name: University of Wisconsin-Milwaukee

Title of Proposed Academic Program: Medical Laboratory Science

Degree Designation(s): Bachelor of Science (BS)

Suggested Classification of Instructional Programs (CIP) Code: 51.1005

Mode of Delivery: Single institution, face-to-face with some online didactic courses (Blended).

Department or Functional Equivalent: School of Biomedical Sciences and Healthcare Administration within the College of Health Professions and Sciences

Proposed Date of Authorization: February 2025

Proposed Date of Implementation: September 2025

PROGRAM INFORMATION

Rationale:

This degree is an existing submajor of the Biomedical Sciences degree and has also operated as BS in Medical Technology or BS in Clinical Laboratory Science. The degree was established in 1975 in the School of Allied Health Professions. Establishing the BS in Medical Laboratory Science as a stand-alone bachelor's degree aids in visibility to students and for marketing purposes, clearly documents the presence of this degree for all stakeholders and creates conditions for appropriate reporting for institutional data.

Need as Suggested by Market Demand:

Market demand for medical laboratory professionals in WI and nationally is high. WI data 2022 demonstrates replacement job demand at approximately twice the annual program completions at the Associate and Bachelor's degree level.

CIP Code	Description	Annual Openings	Jobs Change	012 Jobs	2023 Jobs	Associate's Degree > All Completions > 2022 Completions	Bachelor's Degree > All Completions > 2022 Completions
51.1004	Clinical/Medical Laboratory Technician						
51.1005	Clinical Laboratory Science/Medical Technology/Technologist						
	Total	744	1,276	6,291	7,626	94	94

Table: MLT-MLS completions and market demand 2023 (EMSI: state data from the Wisconsin Department of Workforce Development)

Creating an independent degree for MLS at UWM will not solve the workforce shortage but will improve visibility of the major for students. 46% of the MLS students who completed the program enrolled as second degree and transfer students (2009-2019). A typical student comment is "I would have enrolled in this program earlier if I knew about it".

Need as Suggested by Current Student Demand:

The student demand for the MLS program has been consistent. Using UWM's OAIR Analytics Dashboard, the program typically has more than 150 students enrolled in the program (Table below). 33 % of enrollment (2021) in MLS is from diverse groups. In the interest of supporting the academic and professional success of first generation and diverse students, this program is best positioned as an independent major.

Major or area of concentration/submajor	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021*
Medical laboratory Sciences	190	192	165	155	130
MLS targeted %	30	27	27	28	33

Data source: UWM OAIR Department Analytics Dashboard and OAIR Enrollment by Filed of Study and Plan Type

*covid related enrollment effect

Overview of the Program:

The MLS program requires 129 credits of general education, pre-professional and professional coursework. During the first 2 years, students complete general education requirements along with required scientific prerequisites. If students meet the academic requirements they are admitted to the professional phase of the program during the spring semester of their 3rd year. Students then complete a series of didactic and

laboratory coursework on-campus until the last half of the Fall semester, at which time students start their clinical internship with one of our clinical affiliates. The students then graduate in the spring semester upon finishing their clinical internship along with online didactic coursework. The plan of study for this degree is shown in the next section.

Projected Time to Degree:

The required curriculum within the BS-Medical Laboratory Program is developed for a student to complete the degree in 4 years.

Year 1

Fall Semester	Credits
BIOLOGICAL SCI 202 Anatomy & Physiology I	4
BIOMEDICAL SCI 101 Intro Clinical Lab Science*	2
BIOMEDICAL SCI 205 Intro Diagnostic Medicine*	3
CHEMISTRY 102 General Chemistry	5
GER Elective-Arts	3
Total	17

Spring Semester	Credits
BIOLOGICAL SCI 203 Anatomy & Physiology II	4
CHEMISTRY 104 Gen Chemistry & Qualitative Analysis	5
GER Elective-Social Science	3
GER Elective-Humanities	3
Total	15

Year 2

Fall Semester	Credits
BIOLOGICAL SCI 150 Foundations of Biological Sci I	4
BIOMEDICAL SCI 301 & 302 & 303 Pathophysiology	3
CHEMISTRY 341 Organic Chemistry Lecture	3
CHEMISTRY 342 Organic Chemistry Lab	2
GER Elective-Humanities	3
Total	15

Spring Semester	Credits
BIOLOGICAL SCI 325 Genetics	4
BIOMEDICAL SCI 304 & 305 Pathophysiology	2
HEALTH SCI 224 Comp Tools for HC Professionals	3
KIN 270 Statistics in Health Sciences (QLB)	3
Total	15

Year 3

Fall Semester (Apply for Advancement)	Credits
BIOLOGICAL SCI 383 Gen Microbiology	4
BIOMEDICAL SCI 427 Clinical Immunology	3
BIOMEDICAL SCI 428 Clinical Immunology Lab	1
CHEMISTRY 501 Biochemistry	3
HEALTHCARE ADMIN 249 Writing for Pro Dev (OWCB)	3
Total	14

Spring Semester	Credits
BIOMEDICAL SCI 420 & 421 Intro Hematology/Lab	4
BIOMEDICAL SCI 431 & 432 Clinical Chemistry/Lab	4
BIOMEDICAL SCI 534 & 535 Med Microbiology/Lab	5
BIOMEDICAL SCI 560 Molecular & Genetic Diagnostics	2
Total	16

Summer Semester	Credits
BIOMEDICAL SCI 521 Applied Clinical Hematology	2
BIOMEDICAL SCI 522 Hemostasis	1
BIOMEDICAL SCI 536 Applied Clinical Microbiology	2
BIOMEDICAL SCI 537 Med Parasitology & Mycology	2
BIOMEDICAL SCI 541 Urinalysis	1
BIOMEDICAL SCI 542 Applied Clinical Chemistry	2
Total	10

Year 4

Fall Semester	Credits
BIOMEDICAL SCI 523 Lectures in Adv Hematology	1
BIOMEDICAL SCI 529 Intro to Immunohematology	3
BIOMEDICAL SCI 530 Immunohematology/Blood Bank Lab	1
BIOMEDICAL SCI 547 Clinical Lab Diagnosis	5
BIOMEDICAL SCI 548 Clinical Lab Practicum	5
BIOMEDICAL SCI 555 Toxicology & TDM	1
Total	16

Spring Semester	Credits
BIOMEDICAL SCI 524 Adv Clinical Hematology Practicum	3
BIOMEDICAL SCI 531 Adv Lectures in CLS	1
BIOMEDICAL SCI 532 Adv Clinical Immunohematology	3
BIOMEDICAL SCI 538 Adv Clinical Microbiology Practicum	3
BIOMEDICAL SCI 544 Adv Clinical Chemistry Practicum	3
Total	16

Notes

*BMS 101 and 205 are recommended for students but not required for graduation.

Accreditation:

The proposed BS MLS degree meets all Higher Learning Commission requirements. This program is accredited by the National Accreditation Agency for Clinical Laboratory Sciences (NAACLS). First accreditation was awarded in 1987- and 10-year accreditation was awarded in 2020.

Institution and University of Wisconsin System Program Array:

Similar programs exist at UW LaCrosse, UW Stevens Point, UW Oshkosh and Marquette University. UW Milwaukee is uniquely placed in a major urban location and offers a cost-effective tuition rate as compared to other local programs.

UNITID	Description	Bachelor's Degree > All Completions > 2022 Completions	In state tuition	Non resident tuition
239105	Marquette University	13	45862	45860
240329	University of Wisconsin-La Crosse	23	7575	16404
240453	University of Wisconsin-Milwaukee	173	8091	19956
240365	University of Wisconsin-Oshkosh	14	6422	13995
240480	University of Wisconsin-Stevens Point	16	6698	15402

UW Milwaukee data reflects all completion in the B.S. Biomedical Science including the MLS sub major. Actual 2022 MLS completions are 24. (this artifact supports the need to move specific professional sub majors in the BMS major to independent majors.

Table: Bachelor's MLS programs in WI EMSI: The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics

Anticipated Resources:

As a program focused on lab-based teaching and research, MLS has considerable needs in for capital and supply expenditures. S&E and capital equipment budget funds are shared among the programs in the Biomedical Sciences department. Some lab supply expenses are offset by differential tuition. Despite significant S&E expense, this program operates with a balanced budget.

The program is delivered by certified medical laboratory scientists as required per the specialty accreditor and further supported by faculty in the Biomedical Sciences program. Faculty and instructional staff participate in credit bearing course delivery across multiple programs in the Biomedical Sciences department.

MLS certified Ph.D.: 2

MLS certified advanced degree: 2

MLS certified bachelor's degree: 1

Biomedical Sciences faculty and staff (in addition to MLS certified) : 5

Program growth and existing revenue generation will support any additional program personnel and budget needs.

Additional Fast Track Elements (if submitted for fast-track consideration):

The Medical Laboratory Sciences program currently exists as a sub-major within the Bachelor of Science in Biomedical Sciences Degree. The proposed program will be consistent with UW system, state, and federal guidelines and policies. There are no additional resources that will be required to offer this program as its own degree.