

Medical Laboratory Science (BSMedLabSci)

The student preparing for a career in medical laboratory science completes a minimum of 120 semester hours of academic work.

Students complete 96 semester hours toward the Bachelor of Science in Medical Laboratory Science (BSMedLabSci) degree before advancing to the clinical education practicum requirement in the final year in which they enter a National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) accredited Medical Laboratory Science (MLS) program for an additional 12 to 16 months of clinical education. After successful completion of the clinical education practicum requirement, the student is awarded the Bachelor of Science in Medical Laboratory Science from the University and is eligible to take the national certification examination administered by the American Society for Clinical Pathology (ASCP) Board of Certification (BOC). Successful completion of this exam results in national certification as a Medical Laboratory Scientist.

The purpose of this degree program is to meet the increasing demand for laboratory professionals in hospital and clinic laboratories, research, industry, public health, education, and laboratory management. Medical laboratory science is also an excellent foundation for graduate study in medicine, dentistry, management, education, and other disciplines.

All students must complete a sequence of general education; major requirements, which include clinical education practicum requirements; and special requirements, which include electives.

Total Hours Required: 120

Plan of Study

The Plan of Study is a suggested four-year course sequence to support academic planning and serves as a helpful guide. Currently enrolled students should meet with their academic advisor to tailor their course selections and timelines to their individual goals and circumstances.

Course	Title	Hours
Year 1		
Semester 1		
M 408R	Differential and Integral Calculus for the Sciences	4
CH 301	Principles of Chemistry I	3
BIO 311C	Introductory Biology I	3
<u>First-Year Signature Course (090)</u>		3
Hours		13
Semester 2		
CH 302C	Foundations of Chemistry II	3
BIO 311D	Introductory Biology II	3
CH 204	Introduction to Chemical Practice	2
RHE 306	Rhetoric and Writing	3
<u>Social and Behavioral Sciences (080)</u>		3
Hours		14
Semester 3		
GOV 310L	American and Texas Government	3
<u>U.S. History (060)</u>		3
Hours		6
Year 2		
Semester 1		
CH 320M	Organic Chemistry I	3
BIO 325	Genetics	3
SDS 320E	Elements of Statistics	3
MIS 302F	Foundations of Information Technology Management	3

<u>Foreign Language and Culture</u>		3
Hours		15
Semester 2		
CH 320N	Organic Chemistry II	3
CH 220C	Organic Chemistry Laboratory	2
MBS 326M	Introductory Medical Microbiology and Immunology	3
MBS 226L	General Microbiology Laboratory	2
<u>Foreign Language and Culture</u>		3
Hours		13
Semester 3		
GOV 312L	Issues and Policies in American Government	3
<u>U.S. History (060)</u>		3
Hours		6
Year 3		
Semester 1		
MBS 360K	Immunology	3
MBS 260L	Immunology Laboratory	2
MBS 361	Human Infectious Diseases	3
BCH 369	Fundamentals of Biochemistry	3
<u>Humanities (040)</u>		3
Hours		14
Semester 2		
MBS 330	Molecular Biology of Animal Viruses	3
MBS 344	Molecular Biology	3
MBS 361L	Clinical Bacteriology Laboratory	3
INB 365S	Human Systems Physiology	3
<u>Visual and Performing Arts (050)</u>		3
Hours		15
Year 4		
Semester 1		
Hours chosen from: Clinical Education coursework		9
MLS 155M	Topics in Medical Laboratory Science	
MLS 255M	Topics in Medical Laboratory Science	
MLS 355M	Topics in Medical Laboratory Science	
MLS 455M	Topics in Medical Laboratory Science	
MLS 555M	Topics in Medical Laboratory Science	
MLS 655M	Topics in Medical Laboratory Science	
MLS 755M	Topics in Medical Laboratory Science	
MLS 855M	Topics in Medical Laboratory Science	
MLS 955M	Topics in Medical Laboratory Science	
MLS 156M	Medical Laboratory Science Clinical Education Practicum	
MLS 256M	Medical Laboratory Science Clinical Education Practicum	
MLS 356M	Medical Laboratory Science Clinical Education Practicum	
MLS 456M	Medical Laboratory Science Clinical Education Practicum	
MLS 556M	Medical Laboratory Science Clinical Education Practicum	
MLS 656M	Medical Laboratory Science Clinical Education Practicum	
MLS 756M	Medical Laboratory Science Clinical Education Practicum	
MLS 856M	Medical Laboratory Science Clinical Education Practicum	
MLS 956M	Medical Laboratory Science Clinical Education Practicum	
Hours		9
Semester 2		
Hours chosen from: Clinical Education coursework		9
MLS 155M	Topics in Medical Laboratory Science	
MLS 255M	Topics in Medical Laboratory Science	
MLS 355M	Topics in Medical Laboratory Science	
MLS 455M	Topics in Medical Laboratory Science	
MLS 555M	Topics in Medical Laboratory Science	

MLS 655M	Topics in Medical Laboratory Science
MLS 755M	Topics in Medical Laboratory Science
MLS 855M	Topics in Medical Laboratory Science
MLS 955M	Topics in Medical Laboratory Science (any topic)
MLS 156M	Medical Laboratory Science Clinical Education Practicum
MLS 256M	Medical Laboratory Science Clinical Education Practicum
MLS 356M	Medical Laboratory Science Clinical Education Practicum
MLS 456M	Medical Laboratory Science Clinical Education Practicum
MLS 556M	Medical Laboratory Science Clinical Education Practicum
MLS 656M	Medical Laboratory Science Clinical Education Practicum
MLS 756M	Medical Laboratory Science Clinical Education Practicum
MLS 856M	Medical Laboratory Science Clinical Education Practicum
MLS 956M	Medical Laboratory Science Clinical Education Practicum

Hours	9
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Semester 3

Hours chosen from: Clinical Education coursework	6
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MLS 155M	Topics in Medical Laboratory Science
MLS 255M	Topics in Medical Laboratory Science
MLS 355M	Topics in Medical Laboratory Science
MLS 455M	Topics in Medical Laboratory Science
MLS 555M	Topics in Medical Laboratory Science
MLS 655M	Topics in Medical Laboratory Science
MLS 755M	Topics in Medical Laboratory Science
MLS 855M	Topics in Medical Laboratory Science
MLS 955M	Topics in Medical Laboratory Science
MLS 156M	Medical Laboratory Science Clinical Education Practicum
MLS 256M	Medical Laboratory Science Clinical Education Practicum
MLS 356M	Medical Laboratory Science Clinical Education Practicum
MLS 456M	Medical Laboratory Science Clinical Education Practicum
MLS 556M	Medical Laboratory Science Clinical Education Practicum
MLS 656M	Medical Laboratory Science Clinical Education Practicum
MLS 756M	Medical Laboratory Science Clinical Education Practicum
MLS 856M	Medical Laboratory Science Clinical Education Practicum
MLS 956M	Medical Laboratory Science Clinical Education Practicum

Hours	6
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Total Hours	120
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Requirements

All requirements are listed below, starting with the most specialized moving to the most general. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy General Education requirements, including Core Curriculum.

Code	Title	Hours
Major		
Hours chosen from one of the following foreign language/culture choices:		6

Beginning level proficiency coursework, or the equivalent, in a foreign language.

First course in a foreign language and a three-semester-hour course in the culture of the same language area.

Two three-semester-hour courses in one foreign culture area; the courses must be chosen from an approved list available in the dean's office and the college advising centers.

M 408R	Differential and Integral Calculus for the Sciences	4
SDS 320E	Elements of Statistics	3
Hours chosen from a single sequence below:		6

Sequence 1

BIO 911C	Introductory Biology I
BIO 311D	Introductory Biology II
BIO 325	Genetics

Sequence 2

BIO 615H	Advanced Introduction to Genetics: Honors
BIO 325H	Genetics: Honors

MBS 226L	General Microbiology Laboratory	2
MBS 326M	Introductory Medical Microbiology and Immunology	3

MBS 330	Molecular Biology of Animal Viruses	3
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INB 446L	Human Microscopic and Gross Anatomy
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MBS 344	Molecular Biology	3
or MBS 366R	Molecular Genetics and Medicine	

MBS 360K	Immunology	3
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MBS 260L	Immunology Laboratory	2
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MBS 361	Human Infectious Diseases	3
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MBS 361L	Clinical Bacteriology Laboratory	3
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INB 365S	Human Systems Physiology	3
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CH 301	Principles of Chemistry I	3
or CH 301C	Foundations of Chemistry I	

CH 302	Principles of Chemistry II	3
or CH 302C	Foundations of Chemistry II	

CH 204	Introduction to Chemical Practice	2
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CH 320M	Organic Chemistry I	3
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Hours chosen from:	4
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CH X20N & CH X20C	Organic Chemistry II and Organic Chemistry Laboratory
CH 455	Fundamentals of Analytical Chemistry

BCH 369	Fundamentals of Biochemistry	3
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C S 303E	Elements of Computers and Programming	3
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MIS 302F	Foundations of Information Technology Management	3
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Clinical Education Practicum

Completion of the clinical education practicum, which requires a minimum of 24 semester hours of clinical education coursework selected from the following: (Students must consult with their advisor before enrolling in clinical education coursework requirements)	24
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MLS 155M	Topics in Medical Laboratory Science
MLS 255M	Topics in Medical Laboratory Science
MLS 355M	Topics in Medical Laboratory Science
MLS 455M	Topics in Medical Laboratory Science
MLS 555M	Topics in Medical Laboratory Science
MLS 655M	Topics in Medical Laboratory Science
MLS 755M	Topics in Medical Laboratory Science
MLS 855M	Topics in Medical Laboratory Science

MLS 955M	Topics in Medical Laboratory Science (any topic)	
MLS 156M	Medical Laboratory Science Clinical Education Practicum	
MLS 256M	Medical Laboratory Science Clinical Education Practicum	
MLS 356M	Medical Laboratory Science Clinical Education Practicum	
MLS 456M	Medical Laboratory Science Clinical Education Practicum	
MLS 556M	Medical Laboratory Science Clinical Education Practicum	
MLS 656M	Medical Laboratory Science Clinical Education Practicum	
MLS 756M	Medical Laboratory Science Clinical Education Practicum	
MLS 856M	Medical Laboratory Science Clinical Education Practicum	
MLS 956M	Medical Laboratory Science Clinical Education Practicum	
Subtotal		92
Degree		
Free electives: Additional coursework to reach total hours required.		
Subtotal		0
General Education		
<u>Remaining Core Curriculum (42 hours total)</u>		28
<u>Foreign Language other than English, Beginning Proficiency</u>		
Subtotal		28
<u>College Requirements - Natural Sciences</u>		
<u>General University Requirements</u>		
Total Hours		120

Additional Requirements and Policy

Clinical Education Practicum Requirement

To advance to the clinical education practicum, medical laboratory science (MLS), students must:

1. complete a minimum of 96 semester hours of coursework,
2. have the approval to advance to the clinical education practicum by the university program director, and
3. apply to and be accepted into a MLS clinical education program, which requires 12 to 16 months of clinical education in a program of medical laboratory science (or clinical laboratory science) accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

During the clinical education practicum, the MLS clinical education program director works closely with the University and each student to ensure their success in the program. The University verifies completion of coursework and grades upon completion of the MLS clinical education program. MLS clinical education coursework must be approved by the University to be counted toward the degree. Coursework completed in the MLS clinical education program may be used to fulfill clinical education practicum requirements only and applies solely to the Bachelor of Science in Medical Laboratory Science degree.

Affiliated University Program

Students completing the MLS clinical education program offered by an affiliated university register for and complete clinical education coursework at the affiliated university. During the practicum, students remain enrolled at UT Austin, which remains the home institution. Upon

completion of the practicum, MLS clinical education coursework credit completed at the affiliated university program is transferred to the University to count toward the Bachelor of Science in Medical Laboratory Science degree at UT Austin.

Non-University Affiliated Program (Hospital-Based)

Students completing the MLS clinical education program offered by a program that is not university-based, such as a hospital, enroll each semester in clinical education coursework at UT Austin and complete coursework off-campus at their specific MLS clinical education program's location.

Special Requirements

The student must take elective coursework, if necessary, to complete a minimum of 96 semester hours of academic work required for advancement to the clinical education practicum requirement for the Bachelor of Science in Medical Laboratory Science.

Students must fulfill both the University's [General Requirements](#) for graduation and the [college requirements](#). They must also earn a grade of at least C- in each mathematics and science course required for the degree, and a grade point average in these courses of at least 2.00. Students must also earn a grade of at least C- or receive a passing grade for each pass/fail course taken in the 12 to 16-month clinical education program of medical laboratory science (or clinical laboratory science) accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). More information about grades and the grade point average is given in the [General Information Catalog](#).

Order and Choice of Work

The student should consult with their academic and faculty advisors each semester regarding order and choice of work and balancing the laboratory load. To complete the program within four years, it may be necessary for the student to take some courses during the summer.