

Medical Laboratory Science, BS

Program Description

Utah Tech University offers a course of study leading to a Bachelor of Science in Medical Laboratory Science degree. During the first two years or *pre-professional phase of study* a student completes a minimum of 58 semester hours of coursework. The coursework includes but is not limited to: a) general education courses, including a statistic course; b) biology requisites that must include a course in microbiology and courses in human anatomy and physiology; and c) cognates in chemistry. After completion of the pre-professional phase of study and, through a competitive application process, a student may be selected to enter the final two years of study or the *MLS professional program* to which one cohort of 12-15 students is admitted per year. Admitted students spend three semesters completing MLS-specific courses on the Utah Tech campus. Upon successful completion of these courses, students are then assigned to one or more program-affiliated medical laboratories to complete a semester-long clinical internship. Program graduates are eligible to take the Medical Laboratory Scientist (MLS) national board certification examination offered by the American Society for Clinical Pathology (ASCP).

Certification

Graduates are eligible to take the Medical Laboratory Scientist (MLS) national certification examination offered by the American Society for Clinical Pathology (ASCP).

Professional Licensure/Certification (PLC) Requirements

The curriculum for programs at Utah Tech University leading to professional licensure are designed to prepare students for Utah licensure and certification requirements. Admission into programs for professions requiring licensure and certification does not guarantee that students will obtain a license or certificate. Licensure and certification requirements are set by agencies that are not controlled by or affiliated with the University, and licensure and certification requirements can change at any time.

Licensure boards in each state establish requirements for licensure and certification for their respective state. States vary by which professions are required to be licensed and how licensure functions, and such requirements may change at any time. The terms related to licensure and certification, among others, also vary by state as well.

Students and prospective students are strongly encouraged to contact the state licensure entity in the state where they intend to work to review all licensure and certification requirements imposed by the student's state(s) of choice. The University cannot provide verification of a student's ability to meet licensure or certification requirements unrelated to its educational programming. Some states require individuals to complete additional requirements that are unrelated to educational prerequisites. For more information, visit the State Authorization and Professional Licensure (<https://academics.utahtech.edu/state-authorization/>) web page and select the program, or speak to the director of the program.

Utah Tech University shall not be held liable if a student is unable to qualify for licensure or certification in any jurisdiction.

This disclosure is made pursuant to 34 CFR §668.43(a)(5)(v)(C).

Accreditation

The Medical Laboratory Science program is accredited by the National Accrediting Agency for Clinical Laboratory Science (NAACLS). NAACLS can be contacted at:

NAACLS
5600 North River Road, Suite 720
Rosemont, IL 60018
Phone: 773-714-8880
www.naacls.org (<http://www.naacls.org/>)

Admission Requirements

For admission requirements into the Medical Laboratory Science program, visit the website (<https://health.utahtech.edu/mls/program-admissions/>) (following this link will take you out of the University Catalog).

Program Curriculum

120-122 credits

Utah Tech General Education Requirements

All Utah Tech General Education requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to Utah Tech's minimum General Education standards in American Institutions, English, and Mathematics.

Code	Title	Hours
General Education Core Requirements (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)		
English		3-7
Mathematics		3-5
American Institutions		3-6
Life Sciences		3-10
Physical Sciences		3-5
Fine Arts		3
Literature/Humanities		3
Social & Behavioral Sciences		3
Exploration		3-5

Code	Title	Hours
MLS Prerequisite Courses		
BIOL 1610 & BIOL 1615	Principles of Biology I (LS) and Principles of Biology I Lab (LAB)	5
BIOL 2060 & BIOL 2065	Principles of Microbiology and Principles of Microbiology Lab	4
BIOL 2320 & BIOL 2325	Human Anatomy and Human Anatomy Lab	5
BIOL 2420 & BIOL 2425	Human Physiology and Human Physiology Lab	4
Chemistry Requirement:		10-15
10 Credits of Chemistry: 5 credits in Elementary General Chemistry with lab and 5 credits in Elementary Organic/Biochemistry with lab		

OR		
CHEM 1110 & CHEM 1115 & CHEM 1120 & CHEM 1125	Elementary General/Organic Chemistry (PS) and Elem General/Organic Chemistry Lab (LAB) and Elem Organic / Bio Chemistry and Elem Organic/Bio Chemistry Lab	
OR		
CHEM 1210 & CHEM 1215 & CHEM 1220 & CHEM 1225 & CHEM 2310 & CHEM 2315	Principles of Chemistry I (PS) and Principles of Chemistry I Lab (LAB) and Principles of Chemistry II and Principles of Chemistry II Lab and Organic Chemistry I and Organic Chemistry I Lab	
COMM 1020 or COMM 2110	Public Speaking Interpersonal Communication (SS, GC)	3
MATH 1040 or STAT 2040	Introduction to Statistics (MA) Business Statistics	3
MATH 1050	College Algebra / Pre-Calculus (MA)	4
Highly Recommended:		
BIOL 3470	Introduction to Immunology (Not Required, Prerequisites: BIOL 3010 and BIOL 3040 and CHEM 3510)	

Please see the department website (<https://health.utahtech.edu/mls/program-admissions/>) for information on admission to the Medical Laboratory Science program.

Code	Title	Hours
MLS Core Requirements		
MLS 3310	Immunohematology I	5

MLS 3312	Clinical Immunology	4
MLS 3314	Diagnostic Microbiology I	5
MLS 3330	Clinical Chemistry	5
MLS 3555	Research Seminar	2
MLS 3850	Urinalysis and Body Fluids	2
MLS 4110	Laboratory Management/Edu	2
MLS 4200	Clinical Chemistry and Molecular Diagnostics	4
MLS 4300	Clinical Hematology	5
MLS 4320	Hemostasis	4
MLS 4330	Clinical Chemistry Practice (ALPP)	4
MLS 4400	Immunoematology II	4
MLS 4410	Blood Banking Practice (ALPP)	4
MLS 4414	Clinical Microbiology Practice (ALPP)	4
MLS 4423	Clinical Hematology Practice	4
MLS 4600	Diagnostic Microbiology II	4

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above)
2. Complete at least 40 upper-division credits (3000 and above)
3. Complete at least 30 upper-division credits at Utah Tech for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Complete MLS professional program requirements
 - a. Meet Essential Requirements (<https://health.utahtech.edu/mls/program-admissions/>)
 - b. 80% or higher for all MLS courses
 - c. Cumulative GPA 3.0 or higher in MLS core courses.
 - d. Complete clinical training

Graduation Plan

1st Year

Fall Semester	Hours Spring Semester	Hours
First Year Recommended Elective	2 BIOL 2320 & BIOL 2325	5
BIOL 1610 & BIOL 1615	5 ENGL 2010	3
ENGL 1010	3 COMM 2110 or 1020	3
MATH 1040	3 General Education (Literature/ Humanities) (catalog.utahtech.edu/ programs/generaleducation/ #gerequirementstext)	3
General Elective	2	
	15	14

2nd Year

Fall Semester	Hours Spring Semester	Hours
BIOL 2420 & BIOL 2425	4 BIOL 2060 & BIOL 2065	4
CHEM 1110 & CHEM 1115	5 CHEM 1120 & CHEM 1125	5
General Elective	1 MATH 1050	4
General Education (Fine Arts) (catalog.utahtech.edu/programs/ generaleducation/#gerequirementstext)	3 General Education (American Institutions) (catalog.utahtech.edu/ programs/generaleducation/ #gerequirementstext)	3
	13	16

3rd Year

Fall Semester	Hours Spring Semester	Hours
MLS 3312	4 MLS 3310	5
MLS 3314	5 MLS 3330	5
MLS 3850	2 MLS 3555	2
MLS 4320	4 MLS 4300	5
	15	17

4th Year

Fall Semester	Hours Spring Semester	Hours
MLS 4110	2 MLS 4330	4
MLS 4200	4 MLS 4410	4
MLS 4400	4 MLS 4414	4
MLS 4600	4 MLS 4423	4
	14	16

Total Hours 120**BS Medical Laboratory Science Program Learning Outcomes**

At the successful conclusion of this program, students will be able to:

1. Perform a full range of testing encompassing the pre-analytical, analytical, and post-analytical components of contemporary laboratory services in areas that include clinical chemistry, hematology/hemostasis, immunology, immunohematology/transfusion medicine, microbiology, urine and body fluid analysis, and emerging diagnostics.
2. Apply management concepts and leadership skills, taking responsibility for analysis and decision-making, and the effective communication of valid test information wherever laboratory testing is researched, developed or performed.
3. Participate in the development, implementation, and evaluation of test systems and interpretive algorithms.
4. Employ relevant experience in research design and practice.
5. Demonstrate ethical and moral attitudes, principles of lawful conduct, and commitment to continuing professional development necessary for gaining and maintaining the confidence of patients, professional associates, and the community.
6. Adhere to safety, governmental regulations and standards as applied to medical laboratory practice.
7. Project an image of professionalism, respect the feelings and needs of others, protect the confidence of patient information, and never allow personal concerns and biases to interfere with the welfare of patients nor the work of colleagues and members of the healthcare team caring for patients.