

BS in Medical Laboratory Science (285220) MAP Sheet

Life Sciences, Microbiology and Molecular Biology

For students entering the degree program during the 2024-2025 curricular year.

This is a limited enrollment program requiring departmental admissions approval. Please see the department office for information regarding requirements for admission to this major.



University Core and Graduation Requirements	Suggested Sequence of Courses	
University Core Requirements:		
Requirements	#Classes	Hours
Religion Cornerstones		
Teachings and Doctrine of The Book of Mormon	1	2.0 REL A 275
Jesus Christ and the Everlasting Gospel	1	2.0 REL A 250
Foundations of the Restoration	1	2.0 REL C 225
The Eternal Family	1	2.0 REL C 200
BYU Foundations for Student Success		
BYU Foundations (complete during the first semester)	1	2.0 UNIV 101
The Individual and Society		
American Heritage	1-2	3-6.0 from approved list
Global and Cultural Awareness	1	3.0 from approved list
Skills		
First Year Writing	1	3.0 from approved list
Advanced Written and Oral Communications	1	3.0 M COM 320*
Quantitative Reasoning	1	3.0 ACC 200*
Languages of Learning (Math or Language)	1	3.0 STAT 121 (recommended)
Arts, Letters, and Sciences (complete 6 of 7)		
Civilization 1	1	3.0 from approved list
Civilization 2	1	3.0 from approved list
Arts	1	3.0 from approved list
Letters	1	3.0 from approved list
Biological Science	1	3-4.0 from approved list
Physical Science	1-2	3-6.0 from approved list
Social Science	1	3.0 ECON 110*
Core Enrichment: Electives		
Religion Electives	3	6.0 from approved list
Open Electives	Variable	Variable personal choice
FOR UNIVERSITY CORE AND PROGRAM QUESTIONS CONTACT THE ADVISEMENT CENTER IN 460 TNRB		
*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (9 hours overlap)		
Graduation Requirements:		
Minimum residence hours required		30.0
Minimum hours needed to graduate		120.0
FRESHMAN YEAR		
<u>1st Semester</u>		
First-year Writing or American Heritage		3.0
CHEM 105		4.0
MMBIO 121		3.0
MMBIO 102		1.0
UNIV 101		2.0
Religion Cornerstone course		2.0
Total Hours		15.0
<u>2nd Semester</u>		
First-year Writing or American Heritage		3.0
CELL 220		4.0
CHEM 106		3.0
CHEM 107		1.0
Civilization 1 elective		3.0
Religion Cornerstone course		2.0
Total Hours		16.0
SOPHOMORE YEAR		
<u>3rd Semester</u>		
MMBIO 240		3.0
MMBIO 241		1.0
CHEM 285		4.0
Civilization 2 elective		3.0
Religion Cornerstone course		2.0
Languages of Learning (recommended STAT 121)		3.0
Total Hours		16.0
<u>4th Semester</u>		
Global & Cultural Awareness elective		3.0
Arts or Letters Elective		3.0
MMBIO 221		3.0
MMBIO 222		1.0
Physical Science elective (Recommend PHSCS 105)		3.0
Religion cornerstone course		2.0
Total Hours		15.0
into Note: This degree program requires a minimum of 120.0 hours for Winter, if you graduation. Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.		
Note: Quantitative Reasoning can be fulfilled by ACT Math subscore of 22 or higher.		
JUNIOR YEAR		
<u>5th Semester</u>		
Arts or Letters elective		3.0
PWS 340		3.0
MMBIO 261		3.0
Social Sciences elective		3.0
Religion elective		2.0
Religion elective		2.0
Total Hours		16.0
<u>6th Semester</u>		
MMBIO 405*		2.0
MMBIO 411		3.0
MMBIO 409		3.0
MMBIO 410		2.0
MMBIO 412		4.0
Total Hours		14.0
<u>Spring/Summer</u>		
Adv. Written & Oral Communication (Recommended WRTG 316)		3.0
General Elective		3.0
Total Hours		6.0
* MMBIO 405 should be taken the 1st semester you are accepted into the program. If you start in the Fall, take MMBIO 405 in the Fall rather than the winter.		
SENIOR YEAR		
<u>7th Semester</u>		
MMBIO 406		4.0
MMBIO 407		4.0
MMBIO 418		2.0
MMBIO 419		1.0
MMBIO 491**		1.0
Religion elective		2.0
Total Hours		14.0
** MMBIO 491 should be taken the 2nd semester you are accepted into the program. If you start in the Fall, take MMBIO 491 in the start in the winter take MMBIO 491 in the Fall.		
<u>8th Semester</u>		
MMBIO 496R***		12.0V
Total Hours		12.0V

Program Requirements

Licensure: This program meets the educational requirements designed to lead to an occupationally required professional license or certificate in the state of Utah. Students pursuing occupations requiring a license or certificate in a state other than Utah should contact the appropriate BYU academic advisement center as well as the licensing agency in the state where they intend to work to seek information and guidance regarding licensure and certification requirements.

Requirement 1 —Complete 13 Courses

Program Prerequisites:

CELL 220 - Human Anatomy (with lab) 4.0
CHEM 105 - Gen College Chem 1+Lab Integr 4.0
CHEM 106 - General College Chemistry 2 3.0
CHEM 107 - Gen Coll Chem Lab 1.0
CHEM 285 - Intro Bio-organic Chemistry 4.0
MMBIO 102 - Intro Clin Lab Tec 1.0
MMBIO 121 - Gen Biology: Health & Disease 3.0
MMBIO 221 - General Microbiology 3.0
MMBIO 222 - Gen Micro Lab 1.0
MMBIO 240 - Molecular Biology 3.0
MMBIO 241 - Molecular & Cellular Bio Lab 1.0
MMBIO 261 - Infection & Immunity 3.0
PWS 340 - Genetics 3.0

Requirement 2 —Complete 10 Courses

Program courses:

MMBIO 405 - MLS Laboratory Operations 1.0
MMBIO 406 - Clinical Chemistry 4.0
MMBIO 407 - Clinical Microbiol 5.0
MMBIO 409 - Hematology 3.0
MMBIO 410 - Hematology Laboratory 2.0
MMBIO 411 - Molecular Diagnostics 3.0
MMBIO 412 - Immunohematology 4.0
MMBIO 418 - Medical Parasitology 2.0
MMBIO 419 - Clinical Parasitology Lab 1.0
MMBIO 491 - Apps in Lab Medicin 1.0

Requirement 3 —Complete 2 hours

Complete an internship experience. Complete at least 2 hours from the following:

MMBIO 496R - Clinical Experience - You may take once 1.0v

Note: Although not required, these courses are recommended.

STAT 121 - Principles of Statistics 3.0
WRTG 316 - Technical Communication 3.0

THE DISCIPLINE:

This degree program is for students who desire to practice clinical laboratory science/medical technology in diagnostic laboratories or related options. The program in clinical laboratory science is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (8410 West Bryn Mawr Avenue, Suite 670, Chicago, IL 60631, 773-714-8880). Program graduates are eligible for National Certification examinations (i.e., ASCP, NCA).

OBJECTIVE:

At career entry, the clinical laboratory scientist/medical technologist will be proficient in performing the full range of clinical laboratory tests in areas such as hematology, clinical chemistry, immunohematology, microbiology, serology/immunology, coagulation, molecular, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms. The clinical laboratory scientist / medical technologist will have diverse responsibilities in areas of analysis and clinical decision-making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement

wherever laboratory testing is researched, developed, or performed. The clinical laboratory scientist/medical technologist will also possess basic knowledge, skills, and relevant experiences in:

- a. Communication to enable consultative interactions with members of the healthcare team, external relations, customer service, and patient education;
- b. Financial, operations, marketing, and human resource management of the clinical laboratory to enable cost-effective, high-quality, value-added laboratory services;
(continued in next column)
- c. Information management to enable effective, timely, accurate, and cost-effective reporting of laboratory-generated information, and;
- d. Research design/practice sufficient to evaluate published studies as an informed consumer.

CAREERS:

Medical Laboratory Scientist in a Hospital laboratory, Outpatient lab or a Reference Lab; Quality Control/Assurance officer in clinical laboratory; MLS in a Clinical Diagnostic Molecular Laboratory; Clinical Laboratory Information System analyst; Physician Office Laboratory; Management in a Clinical Laboratory; MLS Specialty in Clinical Hematology, Chemistry, Immunohematology or Microbiology; Graduate Studies; Veterinary Medicine Laboratory Scientist; Medical Laboratory Industry – instrumentation sales and service; MLS Educator; Research Scientist; Pathology Assistant Studies
See faculty advisor for additional career choices.

HONORARY SOCIETIES AND CLUBS:

The student chapter of the Utah Society for Clinical Laboratory Science provides opportunity for fellowship and professional association.

FINANCING:

An endowed scholarship is available to students in clinical laboratory science. Recipient is selected by CLS faculty after program admission. No application is necessary.

MAP DISCLAIMER

While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

DEPARTMENT INFORMATION

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