

BS in Medical Laboratory Science (285220) MAP Sheet

Life Sciences, Microbiology and Molecular Biology

For students entering the degree program during the 2023-2024 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	Classes				
Religion Cornerstones				FRESHMAN YEAR			
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275	<u>1st Semester</u>		JUNIOR YEAR	
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250	First-year Writing or American Heritage	3.0	Arts or Letters elective	3.0
Foundations of the Restoration	1	2.0	REL C 225	CHEM 105	4.0	PWS 340	3.0
The Eternal Family	1	2.0	REL C 200	MMBIO 121	3.0	MMBIO 261	3.0
The Individual and Society				MMBIO 102	1.0	Social Sciences elective	3.0
American Heritage	1-2	3-6.0	from approved list	Languages of Learning (recommended STAT 121)	3.0	Religion elective	2.0
Global and Cultural Awareness	1	3.0	from approved list	Religion Cornerstone course	2.0	Religion elective	2.0
Skills				Total Hours	16.0	Total Hours	16.0
First Year Writing	1	3.0	from approved list	<u>2nd Semester</u>			
Advanced Written and Oral Communications	1	3.0	WR TG 316 recommended	First-year Writing or American Heritage	3.0	<u>6th Semester</u>	
Quantitative Reasoning	1	3.0	STAT 121 recommended	CELL 220	4.0	MMBIO 405*	2.0
Languages of Learning (Math or Language)	1	3.0	STAT 121 recommended	CHEM 106	3.0	MMBIO 411	3.0
Arts, Letters, and Sciences				CHEM 107	1.0	MMBIO 409	3.0
Civilization 1	1	3.0	from approved list	Civilization 1 elective	3.0	MMBIO 410	2.0
Civilization 2	1	3.0	from approved list	Religion Cornerstone course	2.0	MMBIO 412	4.0
Arts	1	3.0	from approved list	Total Hours	16.0	Total Hours	14.0
Letters	1	3.0	from approved list	SOPHOMORE YEAR			
Biological Science	1	3.0	MMBIO 121	<u>3rd Semester</u>		SENIOR YEAR	
Physical Science	1-2	3.0-7.0	CHEM 105*, PHSCS 105 recomm.	MMBIO 240	3.0	<u>7th Semester</u>	
Social Science	1	3.0	from approved list	MMBIO 241	1.0	MMBIO 406	4.0
Core Enrichment: Electives				CHEM 285	4.0	MMBIO 407	4.0
Religion Electives	3-4	6.0	from approved list	Civilization 2 elective	3.0	MMBIO 418	2.0
Open Electives	Variable	Variable	personal choice	Religion Cornerstone course	2.0	MMBIO 419	1.0
				General Electives	3.0	MMBIO 491**	1.0
				Total Hours	16.0	Religion elective	2.0
				<u>4th Semester</u>		Total Hours	14.0
				Global & Cultural Awareness elective	3.0	** 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 Winter, if you start in the winter take MMBIO 491 in the Fall.	
				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		
				Note: This degree program requires a minimum of 120.0 hours for 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.			
				<u>8th Semester</u>			
				MMBIO 496R***		12.0V	
				Total Hours		12.0V	
Graduation Requirements:							
Minimum residence hours required		30.0					
Minimum hours needed to graduate		120.0					

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 Medicn 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
Recommended Courses are not required to complete the program
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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ADVISEMENT CENTER INFORMATION

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