### BS in Medical Laboratory Science (285220) MAP Sheet

**Life Sciences, Microbiology and Molecular Biology**  
For students entering the degree program during the 2018-2019 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.

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**FOR UNIVERSITY CORE QUESTIONS CONTACT THE ADVISEMENT CENTER — FOR PROGRAM QUESTIONS SEE YOUR FACULTY ADVISOR**  
* THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (7 hours overlap)  

| Graduation Requirements:                      | **FRESHMAN YEAR**                                                          |
| Minimum residence hours required             | 1st Semester                                                               |
| Minimum hours needed to graduate            | First-year Writing or American Heritage                                   |
|                                            | CHEM 105                                                                  |
|                                            | MMBIO 121                                                                 |
|                                            | MMBIO 102                                                                 |
|                                            | Languages of Learning (recommended STAT 121)                              |
|                                            | Religion Cornerstone course                                               |
|                                            | **Total Hours**                                                           |
|                                            | 16.0                                                                      |

**2nd Semester**  
First-year Writing or American Heritage  
PDBIO 220  
CHEM 106  
CHEM 107  
Civilization 1 elective  
Religion Cornerstone course  
**Total Hours**  
15.0

**Sophomore Year**  
3rd Semester  
MMBIO 245  
MMBIO 241  
CHEM 285  
Civilization 2 elective  
Religion Cornerstone course  
General Electives  
**Total Hours**  
16.0

**4th Semester**  
Global & Cultural Awareness elective  
Arts or Letters Elective  
MMBIO 221  
MMBIO 222  
Physical Science elective (Recommend PHSCS 105)  
Religion Cornerstone course  
**Total Hours**  
15.0

**Junior Year**  
5th Semester  
Arts or Letters elective  
PWS 340  
MMBIO 261  
Social Sciences elective  
Religion elective  
**Total Hours**  
16.0

**6th Semester**  
MMBIO 405**  
MMBIO 407  
MMBIO 409  
MMBIO 412  
**Total Hours**  
15.0

**Senior Year**  
7th Semester  
MMBIO 406  
MMBIO 411  
MMBIO 418  
MMBIO 419**  
**Religion elective**  
**Total Hours**  
13.0

**8th Semester**  
MMBIO 491***  
**Total Hours**  
12.0

**Spring/Summer**  
MMBIO 496R***  
**Total Hours**  
6.0

**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.

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### Suggested Sequence of Courses

**1st Semester**  
First-year Writing or American Heritage  
CHEM 105  
MMBIO 121  
MMBIO 102  
Languages of Learning (recommended STAT 121)  
Religion Cornerstone course  
**Total Hours**  
16.0

**2nd Semester**  
First-year Writing or American Heritage  
PDBIO 220  
CHEM 106  
CHEM 107  
Civilization 1 elective  
Religion Cornerstone course  
**Total Hours**  
15.0

**3rd Semester**  
MMBIO 245  
MMBIO 241  
CHEM 285  
Civilization 2 elective  
Religion Cornerstone course  
General Electives  
**Total Hours**  
16.0

**4th Semester**  
Global & Cultural Awareness elective  
Arts or Letters Elective  
MMBIO 221  
MMBIO 222  
Physical Science elective (Recommend PHSCS 105)  
Religion Cornerstone course  
**Total Hours**  
15.0

**5th Semester**  
Arts or Letters elective  
PWS 340  
MMBIO 261  
Social Sciences elective  
Religion elective  
**Total Hours**  
16.0

**6th Semester**  
MMBIO 405**  
MMBIO 407  
MMBIO 409  
MMBIO 412  
**Total Hours**  
15.0

**Spring/Summer**  
Adv. Written & Oral Communication (Recommended ENGL 316)  
General Elective  
**Total Hours**  
6.0

**Note:** 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.

**7th Semester**  
MMBIO 406  
MMBIO 411  
MMBIO 418  
MMBIO 419**  
**Religion elective**  
**Total Hours**  
13.0

**8th Semester**  
MMBIO 491***  
**Total Hours**  
12.0

**Spring/Summer**  
MMBIO 496R***  
**Total Hours**  
6.0

**Note:** MMBIO 496R must be taken during one semester and one term (minimum of 1 credit/semester and term). If you need to have more credits to keep a scholarship, up to 12 credits of MMBIO 496R can be taken during the semester and up to 6 credits for the term.
BS in Medical Laboratory Science (285220)
2018-2019 Program Requirements (61 Credit Hours)

RECOMMENDED
Pass the BYU comprehensive exam offered during the clinical experience.

REQUIREMENT 4
Complete an exit interview.

REQUIREMENT 5
Pass the BYU comprehensive exam offered during the clinical experience.

RECOMMENDED
Complete 2 courses

ALTHOUGH NOT REQUIRED, THESE COURSES ARE RECOMMENDED.

ENGL 316 - Technical Communication

PROGRAM PREREQUISITES:
*CHEM 105 - General College Chemistry 1 with Lab (Integrated) 4.0
CHEM 106 - General College Chemistry 2 3.0
CHEM 107 - General College Chemistry Laboratory 1.0
CHEM 285 - Introductory Bio-organic Chemistry 4.0
*MMBIO 121 - General Biology; Health and Disease 3.0
MMBIO 221 - General Microbiology 3.0
MMBIO 222 - General Microbiology Laboratory 1.0
MMBIO 240 - Molecular Biology 3.0
MMBIO 241 - Molecular and Cellular Biology Laboratory 1.0
MMBIO 261 - Infection and Immunity 3.0
PDBIO 220 - (Not currently offered)
PWS 340 - Genetics 3.0

REQUIREMENT 1 Complete 13 courses

PROGRAM COURSES:
MMBIO 405 - Basic Laboratory Operations in Medical Laboratory Science 2.0
MMBIO 406 - Clinical Chemistry 4.0
MMBIO 407 - Clinical Microbiology 4.0
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 Laboratory 1.0
MMBIO 491 - Concept Applications in Laboratory Medicine 1.0

REQUIREMENT 2 Complete 10 courses

REQUIREMENT 3 Complete 2.0 hours from the following course(s)

TERM, COMPLETE AT LEAST 2 HOURS FROM THE FOLLOWING:

MMBIO 496R - Clinical Experience 12.0v

You may take up to 2 credit hours.

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
tecnologist 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;
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.

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).

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

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.

HONORARY SOCIETIES AND CLUBS:
The student chapter of the Utah Society for Clinical Laboratory
Science provides opportunity for fellowship and professional
association.

DEPARTMENT INFORMATION
Microbiology and Molecular Biology
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