### University Core Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion Cornerstones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td></td>
<td></td>
<td>REL A 275</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
<td></td>
<td></td>
<td>REL A 250</td>
</tr>
<tr>
<td>Foundations of the Restoration</td>
<td></td>
<td></td>
<td>REL C 225</td>
</tr>
<tr>
<td>The Eternal Family</td>
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<td>REL C 200</td>
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<tr>
<td>The Individual and Society</td>
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<td></td>
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</tr>
<tr>
<td>American Heritage</td>
<td>2-3</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year Writing</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Advanced Written and Oral Communications</td>
<td></td>
<td>3.0</td>
<td>WRTG 316 recommended</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>1</td>
<td>3.0</td>
<td>STAT 121 recommended</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
<td>3.0</td>
<td>STAT 121 recommended</td>
</tr>
<tr>
<td>Arts, Letters, and Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civilization 1</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Civilization 2</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Letters</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Biological Science</td>
<td>1</td>
<td>3.0</td>
<td>MMBIO 121</td>
</tr>
<tr>
<td>Physical Science</td>
<td>1-2</td>
<td>3.0-7.0</td>
<td>CHEM 105*, PHSCS 105 recommended</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Core Enrichment: Electives</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Religion Electives</td>
<td>3-4</td>
<td>6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variable</td>
<td>Variable</td>
<td>personal choice</td>
</tr>
</tbody>
</table>

For University Core Questions contact the Advisement Center — For Program Questions see your Faculty Advisor.

*TThese classes fill both University Core and Program Requirements (7 hours overlap)

### Graduation Requirements:

Minimum residence hours required: **30.0**

Minimum hours needed to graduate: **120.0**

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### Suggested Sequence of Courses

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>2nd Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year Writing or American Heritage</td>
<td>First-year Writing or American Heritage</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>CHEM 106</td>
</tr>
<tr>
<td>MMBIO 121</td>
<td>MMBIO 102</td>
</tr>
<tr>
<td>MMBIO 102</td>
<td>Languages of Learning (recommended STAT 121)</td>
</tr>
<tr>
<td>Languages of Learning (recommended STAT 121)</td>
<td>Religion Cornerstone course</td>
</tr>
<tr>
<td>Total Hours</td>
<td>Total Hours</td>
</tr>
<tr>
<td>16.0</td>
<td>16.0</td>
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**Sophomore Year**

<table>
<thead>
<tr>
<th>3rd Semester</th>
<th>4th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMBIO 240</td>
<td>MMBIO 419</td>
</tr>
<tr>
<td>MMBIO 241</td>
<td>MMBIO 412</td>
</tr>
<tr>
<td>CHEM 285</td>
<td>Social Sciences elective</td>
</tr>
<tr>
<td>Civilization 2 elective</td>
<td>Religion Cornerstone course</td>
</tr>
<tr>
<td>Total Hours</td>
<td>Total Hours</td>
</tr>
<tr>
<td>16.0</td>
<td>16.0</td>
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</table>

**Junior Year**

<table>
<thead>
<tr>
<th>5th Semester</th>
<th>6th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts or Letters elective</td>
<td>Arts or Letters elective</td>
</tr>
<tr>
<td>PWS 340</td>
<td>PWS 340</td>
</tr>
<tr>
<td>MMBIO 261</td>
<td>MMBIO 409</td>
</tr>
<tr>
<td>Social Sciences elective</td>
<td>Religion elective</td>
</tr>
<tr>
<td>Religion elective</td>
<td>Religion elective</td>
</tr>
<tr>
<td>Total Hours</td>
<td>Total Hours</td>
</tr>
<tr>
<td>14.0</td>
<td>14.0</td>
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**Senior Year**

<table>
<thead>
<tr>
<th>7th Semester</th>
<th>8th Semester</th>
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<tbody>
<tr>
<td>MMBIO 406</td>
<td>MMBIO 491**</td>
</tr>
<tr>
<td>MMBIO 407</td>
<td>MMBIO 491**</td>
</tr>
<tr>
<td>MMBIO 418</td>
<td>Religion elective</td>
</tr>
<tr>
<td>MMBIO 419</td>
<td>Total Hours</td>
</tr>
<tr>
<td>MMBIO 493**</td>
<td>14.0</td>
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<tr>
<td>Religious elective</td>
<td>Total Hours</td>
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<tr>
<td>Total Hours</td>
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</table>

**Spring/Summer**

<table>
<thead>
<tr>
<th>6th Semester</th>
<th>7th Semester</th>
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<tbody>
<tr>
<td>MMBIO 496***</td>
<td>MMBIO 491**</td>
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<tr>
<td>Arts or Letters elective</td>
<td>Arts or Letters elective</td>
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<tr>
<td>Total Hours</td>
<td>Total Hours</td>
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<tr>
<td>12.0</td>
<td>12.0</td>
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</table>

**Spring/Summer**

<table>
<thead>
<tr>
<th>5th Semester</th>
<th>6th Semester</th>
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</thead>
<tbody>
<tr>
<td>MMBIO 496***</td>
<td>MMBIO 491**</td>
</tr>
<tr>
<td>Arts or Letters elective</td>
<td>Arts or Letters elective</td>
</tr>
<tr>
<td>Total Hours</td>
<td>Total Hours</td>
</tr>
<tr>
<td>6.0</td>
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</tbody>
</table>

**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/summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate. Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/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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**FOR UNIVERSITY CORE QUESTIONS CONTACT THE ADVISEMENT CENTER — FOR PROGRAM QUESTIONS SEE YOUR FACULTY ADVISOR**

**TNote**: These classes fill both University Core and Program Requirements (7 hours overlap).
## 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.**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQUIREMENT 1</td>
<td>Complete 13 courses</td>
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</tr>
<tr>
<td><strong>PROGRAM PREREQUISITES:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*CHEM 105 - General College Chemistry 1 with Lab (Integrated)</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>CHEM 106 - General College Chemistry 2</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>CHEM 107 - General College Chemistry Laboratory</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>CHEM 285 - Introductory Bio-organic Chemistry</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 102 - Introduction to Clinical Laboratory Techniques</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>*MMBIO 121 - General Biology: Health and Disease</td>
<td>3.0</td>
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</tr>
<tr>
<td>MMBIO 221 - General Microbiology</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 222 - General Microbiology Laboratory</td>
<td>1.0</td>
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</tr>
<tr>
<td>MMBIO 240 - Molecular Biology</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 241 - Molecular and Cellular Biology Laboratory</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 261 - Infection and Immunity</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>PDBIO 220 - Human Anatomy (with lab)</td>
<td>4.0</td>
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</tr>
<tr>
<td>PWS 340 - Genetics</td>
<td>3.0</td>
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</tr>
<tr>
<td>REQUIREMENT 2</td>
<td>Complete 10 courses</td>
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</tr>
<tr>
<td><strong>PROGRAM COURSES:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMBIO 409 - Basic Laboratory Operations in Medical Laboratory Science</td>
<td>1.0</td>
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</tr>
<tr>
<td>MMBIO 406 - Clinical Chemistry</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 407 - Clinical Microbiology</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 409 - Hematology</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 410 - Hematology Laboratory</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 411 - Molecular Diagnostics</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 412 - Immunohematology</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 418 - Medical Parasitology</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 419 - Clinical Parasitology Laboratory</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>MMBIO 491 - Concept Applications in Laboratory Medicine</td>
<td>1.0</td>
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</tr>
<tr>
<td>REQUIREMENT 3</td>
<td>Complete 2.0 hours from the following course(s)</td>
<td></td>
</tr>
<tr>
<td><strong>COMPLETE AN INTERNSHIP EXPERIENCE. DURING ONE SEMESTER AND ONE TERM, COMPLETE AT LEAST 2 HOURS FROM THE FOLLOWING:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMBIO 496R - Clinical Experience</td>
<td>12.0v</td>
<td></td>
</tr>
</tbody>
</table>

**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.**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 121 - Principles of Statistics</td>
<td>3.0</td>
<td></td>
</tr>
</tbody>
</table>

### 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
**Microbiology and Molecular Biology**
Brigham Young University
4007 Life Sciences Building
Provo, UT 84602
Telephone: (801) 422-2889