# University Core and Graduation Requirements

## University Core Requirements:

### Religion Cornerstones
- Teachings and Doctrine of The Book of Mormon
- Jesus Christ and the Everlasting Gospel
- Foundations of the Restoration
- The Eternal Family

### American Heritage
- 1-2 credits from approved list

### Global and Cultural Awareness
- 1 credit

### Skills
- First Year Writing
- Advanced Written and Oral Communications
- Quantitative Reasoning
- Languages of Learning (Math or Language)

### Arts, Letters, and Sciences
- Civilization 1
- Civilization 2
- Arts
- Letters
- Biological Science
- Physical Science
- Social Science

### Core Enrichment: Electives
- Religion Electives
- Open Electives

### Core Enrichment: Electives
- 3-4 credits from approved list

### Core Enrichment: Electives
- 6 credits from approved list

### Core Enrichment: Electives
- Variable

### Core Enrichment: Electives
- Variable

### Core Enrichment: Electives
- personal choice

### Core Enrichment: Electives
- 4 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

**1st Semester**
- First-year Writing: 3.0
- MATH 112: 4.0
- MATH 290: 3.0
- Biological Science: 3.0
- Religion Cornerstone course: 2.0

**Total Hours: 15.0**

**2nd Semester**
- American Heritage: 3.0
- C S 142: 3.0
- MATH 113: 4.0
- MATH 213: 2.0
- MATH 215: 1.0
- Religion Cornerstone course: 2.0

**Total Hours: 15.0**

### SOPHOMORE YEAR

**3rd Semester**
- MATH 314: 3.0
- MATH 341: 3.0
- Social Science: 3.0
- Religion Cornerstone course: 2.0

**Total Hours: 14.0**

**4th Semester**
- MATH 334: 3.0
- A.C.M.E. Concentration requirement: 3.0

**Total Hours: 14.0**

### JUNIOR YEAR

**5th Semester**
- MATH 320: 3.0
- MATH 321: 1.0
- MATH 345: 1.0
- Advanced Written & Oral Communication: 3.0
- A.C.M.E. Concentration requirement: 3.0
- Religion elective: 2.0

**Total Hours: 16.0**

**6th Semester**
- MATH 322: 3.0
- MATH 323: 1.0
- MATH 346: 3.0
- MATH 347: 1.0
- Civilization 2: 3.0
- Religion Elective: 2.0
- A.C.M.E. Concentration requirement: 3.0

**Total Hours: 16.0**

### SENIOR YEAR

**7th Semester**
- MATH 402: 3.0
- MATH 403: 1.0
- MATH 436: 3.0
- Letters: 3.0
- A.C.M.E. Concentration requirement: 3.0

**Total Hours: 14.0**

**8th Semester**
- MATH 404: 3.0
- MATH 405: 1.0
- MATH 438: 3.0
- MATH 439: 1.0
- Religion Elective: 2.0
- Global & Cultural Awareness: 3.0
- Arts: 3.0

**Total Hours: 16.0**

Note: 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.
### BS in Mathematics: Applied and Computational Mathematics (694432)

#### 2020-2021 Program Requirements (70 - 75 Credit Hours)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>REQUIREMENT 1</strong></td>
<td>Complete 7 courses</td>
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<tr>
<td><strong>REQUIREMENT 2</strong></td>
<td>Complete 1 option</td>
</tr>
<tr>
<td><strong>REQUIREMENT 3</strong></td>
<td>Complete 4 courses</td>
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<tr>
<td><strong>REQUIREMENT 4</strong></td>
<td>Complete 4 courses</td>
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</tbody>
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| **REQUIREMENT 5** | Complete the following pre-core requirements before junior year |
| **REQUIREMENT 6** | Complete the following core requirements during winter semester, junior year |
| **REQUIREMENT 7** | Students are required to complete a concentration in an area to which the mathematical and computational tools that they are learning can be applied. The list of the Approved Concentrations is found at www.acme.byu.edu/?page_id=85. |
| **REQUIREMENT 8** | Complete the following core requirements during winter semester, senior year |

**THE DISCIPLINE:**

Mathematics is a means of dealing with order, pattern, and number as seen in the world around us. The abilities to compute, to think logically, and to take a reasoned approach to solving problems are highly valued in society and are characteristics of any educated person. Mathematics is not just a body of knowledge, but a process of analysis, reasoning, comparison, deduction, generalization, and problem solving. A mathematician's stock in trade is the ability to solve problems and explain the solutions to others. Having once determined what the right questions are, solving problems involves analyzing both concrete and abstract situations, relating them to mathematical ideas and using mathematical techniques to work toward solutions. Explaining the solution involves pointing out what has been solved and why the solution is valid.

The Applied and Computational Mathematics Emphasis gives students a solid education in mathematics and, in addition, prepares them to apply mathematical theory to problems that arise in other contexts. They will gain experience in problem formulation, data analysis, computation, and interpreting their results in the context in which the problems arose. The concentration requirement provides them with contextual knowledge which will enable them to identify interesting problems and to implement their results.

**CAREER OPPORTUNITIES:**

Majors in mathematics (BS) prepare for a wide variety of careers. Some enter graduate school or professional schools and prepare for careers in such fields as college teaching, consulting, research and development, law, medicine, and business administration. Others take positions in government agencies, industrial laboratories, information management firms, or business organizations. All of them spend much time communicating with colleagues about the problems they are solving as they continue to learn more mathematics and share mathematical ideas with others.

**INTERNSHIP COORDINATOR:**

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**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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BS in Mathematics: Applied and Computational Mathematics (694432)
2020-2021