### University Core and Graduation Requirements

#### 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>1</td>
<td>2.0</td>
<td>REL A 275</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
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<td>2.0</td>
<td>REL A 250</td>
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<tr>
<td>Foundations of the Restoration</td>
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<td>REL C 225</td>
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<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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</tr>
<tr>
<td>American Heritage</td>
<td>1-2</td>
<td>3-6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
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<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Skills</td>
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</tr>
<tr>
<td>First Year Writing</td>
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<tr>
<td>Advanced Written and Oral Communications</td>
<td>1</td>
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<td>WRTG 316</td>
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<tr>
<td>Quantitative Reasoning</td>
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<td>4.0</td>
<td>MATH 112* or 113*</td>
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<tr>
<td>Languages of Learning (Math or Language)</td>
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<td>4.0</td>
<td>MATH 112* or 113*</td>
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<tr>
<td>Arts, Letters, and Sciences</td>
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<tr>
<td>Civilization 1</td>
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<tr>
<td>Civilization 2</td>
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<td>Social Science</td>
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<td>from approved list</td>
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<tr>
<td>Core Enrichment: Electives</td>
<td>Religion Electives</td>
<td>3-4</td>
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<tr>
<td>Open Electives</td>
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<td>personal choice</td>
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**Total Hours**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Total Hours</th>
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<tbody>
<tr>
<td>Freshman Year 1st Semester</td>
<td>15.0</td>
</tr>
<tr>
<td>Freshman Year 2nd Semester</td>
<td>16.0</td>
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<tr>
<td>Sophomore Year 3rd Semester</td>
<td>15.0</td>
</tr>
<tr>
<td>Sophomore Year 4th Semester</td>
<td>15.0</td>
</tr>
<tr>
<td>Junior Year 5th Semester</td>
<td>15.0</td>
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<tr>
<td>Junior Year 6th Semester</td>
<td>15.0</td>
</tr>
<tr>
<td>Senior Year 7th Semester</td>
<td>16.0</td>
</tr>
<tr>
<td>Senior Year 8th Semester</td>
<td>14.0</td>
</tr>
</tbody>
</table>

**Graduation Requirements:**

- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

### Suggested Sequence of Courses

#### Freshman Year

- **1st Semester**
  - CS 142: 3.0
  - First-year Writing or American Heritage: 3.0
  - MATH 112: 4.0
  - Religion Cornerstone course: 2.0
  - General education, university requirements, and/or general electives: 3.0
  - **Total Hours**: 15.0

- **2nd Semester**
  - CS 202: 1.0
  - CS 236: 3.0
  - PHSCS 121: 3.0
  - First-year Writing or American Heritage: 3.0
  - MATH 111: 4.0
  - Religion Cornerstone course: 2.0
  - **Total Hours**: 16.0

#### Sophomore Year

- **3rd Semester**
  - CS 203: 1.0
  - CS 224: 3.0
  - CS 236: 3.0
  - Biological Science: 3.0
  - Civilization 1: 3.0
  - Religion Cornerstone course: 2.0
  - **Total Hours**: 15.0

- **4th Semester**
  - CS 340: 4.0
  - CS 260 or other CS elective: 3.0
  - MATH 213: 2.0
  - MATH 215: 1.0
  - Civilization 2: 3.0
  - Religion Cornerstone course: 2.0
  - **Total Hours**: 15.0

#### Junior Year

- **5th Semester**
  - CS 204: 1.0
  - CS 312: 3.0
  - CS 324: 3.0
  - Social Science: 3.0
  - STAT 121, STAT 201, or MATH 431: 3.0
  - Religion Elective: 2.0
  - **Total Hours**: 15.0

- **6th Semester**
  - CS 329: 3.0
  - CS 340: 3.0
  - CS 452: 3.0
  - Letters: 3.0
  - Religion Elective: 2.0
  - **Total Hours**: 14.0

#### Senior Year

- **7th Semester**
  - CS 480: 3.0
  - CS Elective: 3.0
  - WRTG 316: 3.0
  - Arts: 3.0
  - Religion Elective: 2.0
  - General education, university requirements, and/or general electives: 2.0
  - **Total Hours**: 16.0

- **8th Semester**
  - CS 481: 3.0
  - CS Elective: 3.0
  - CS Elective: 3.0
  - CS Elective: 3.0
  - C S 404: 2.0
  - Global and Cultural Awareness: 3.0
  - **Total Hours**: 14.0
**BS in Computer Science: Software Engineering (693225)**

**2021-2022 Program Requirements (74 - 76 Credit Hours)**

**Grades below C- are not allowed in major courses.**

### REQUIREMENT 1
Complete 16 courses

**CORE COURSES:**
- C S 453 - Introduction to User Interface Software
- C S 460 - Computer Communications and Networking
- C S 462 - Large-Scale Distributed System Design
- C S 465 - Computer Security
- C S 486 - Verification and Validation

### REQUIREMENT 2
Complete 4 courses

**SUPPORTING COURSES:**
- MATH 112 - Calculus 1
- MATH 113 - Calculus 2
- PHYSICS 121 - Introduction to Newtonian Mechanics
- WRTG 316 - Technical Communication

### REQUIREMENT 3
Complete 1 course

**OPTION 1.1 Complete 1 course**
- MATH 313 - Not currently offered

**OPTION 1.2 Complete 2 courses**
- MATH 213 - Elementary Linear Algebra
- MATH 215 - Computational Linear Algebra

### REQUIREMENT 4
Complete 4 courses

**STAT 121 - Principles of Statistics**
- STAT 201 - Statistics for Engineers and Scientists

### REQUIREMENT 5
Complete 2 courses

- C S 260 - Web Programming
- C S 330 - Concepts of Programming Languages
- C S 345 - Operating Systems Design
- C S 356 - Designing the User Experience

### REQUIREMENT 6
Complete 2 courses

**COURSES WILL NOT DOUBLE COUNT BETWEEN REQUIREMENT 5 AND REQUIREMENT 6.**
- C S 252 - Introduction to Computational Theory
- C S 260 - Web Programming
- C S 330 - Concepts of Programming Languages
- C S 345 - Operating Systems Design
- C S 355 - Interactive Graphics and Image Processing
- C S 356 - Designing the User Experience
- C S 393 - Advanced Algorithms and Problem Solving
- C S 401R - Topics in Computer Science
- C S 405 - Computer Vision
- C S 456 - Introduction to Artificial Intelligence
- C S 459 - Voice User Interfaces
- C S 472 - Introduction to Machine Learning
- C S 474 - Introduction to Deep Learning
- C S 486 - Verification and Validation
- C S 493R - Computing Competitions
- C S 497R - Undergraduate Research
- C S 498R - Undergraduate Special Projects
- C S 501R - Advanced Topics in Computer Science
- C S 513 - Robust Control

### REQUIREMENT 7
Complete Senior Exit interview with the C S department during last semester or term.

Note: If C S 493R, C S 498R, or C S 501R is chosen, it must be taken for 3 credit hours.

### 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
Computer Science Department
Brigham Young University
3361 Talmage Building
Provo, UT 84602
Telephone: (801) 422-3027

### ADVISEMENT CENTER INFORMATION
Physical and Mathematical Sciences College Advisement Center
Brigham Young University
N-181 ESC
Provo, UT 84602
Telephone: (801) 422-2674