# 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

### The Individual and Society
- American Heritage
- Global and Cultural Awareness

### Skills
- First Year Writing
- American Heritage
- 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

## Graduation Requirements:
- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

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## Core Enrichment: Electives

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<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>

*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (13–23 hours overlap)*

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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>C S 142</td>
<td>First-Year Writing or American Heritage</td>
</tr>
<tr>
<td>STAT 121 or 201</td>
<td>MATH 112</td>
</tr>
<tr>
<td>Religion Cornerstone course</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>15.0</td>
</tr>
</tbody>
</table>

### Sophomore Year

<table>
<thead>
<tr>
<th>3rd Semester</th>
<th>4th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>C S 236</td>
<td>C S 240</td>
</tr>
<tr>
<td>CSANM 150</td>
<td>C S 252</td>
</tr>
<tr>
<td>C S 224</td>
<td>MATH 213</td>
</tr>
<tr>
<td>Physics 121</td>
<td>MATH 215</td>
</tr>
<tr>
<td>MATH 113</td>
<td>Social Science</td>
</tr>
<tr>
<td>Religion Cornerstone course</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Hours</td>
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</tr>
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</table>

### Junior Year

<table>
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<tr>
<th>5th Semester</th>
<th>6th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRTG 316</td>
<td>First-Year Writing or American Heritage</td>
</tr>
<tr>
<td>C S 324</td>
<td>MATH 112</td>
</tr>
<tr>
<td>CS 355</td>
<td>Religion Cornerstone course</td>
</tr>
<tr>
<td>Religion elective</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>15.0</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>7th Semester</th>
<th>8th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>C S 404</td>
<td>Computer Science Elective</td>
</tr>
<tr>
<td>CSANM 450 or CSANM 459R</td>
<td>CSANM Elective</td>
</tr>
<tr>
<td>Letters</td>
<td>Biological Science</td>
</tr>
<tr>
<td>Religion Elective</td>
<td>CSANM Elective</td>
</tr>
<tr>
<td>Total Hours</td>
<td>15.0</td>
</tr>
</tbody>
</table>

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Note 1: The sequence of courses may not fit the circumstances of every student. Students should contact their college advisement center for help in outlining an efficient schedule.

Note 2: 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.

FOR UNIVERSITY CORE OR PROGRAM QUESTIONS, CONTACT THE ADVICEMENT CENTER.
### REQUIREMENT 1 Complete 3 courses

**NOTE:** If C S 401R is chosen, it must be taken for three hours.

- C S 260 - Web Programming
- C S 329 - Testing, Analysis, and Verification
- C S 330 - Concepts of Programming Languages
- C S 345 - Operating Systems Design
- C S 356 - Designing the User Experience
- C S 393 - Advanced Algorithms and Problem Solving
- C S 401R - Topics in Computer Science
  - You may take up to 3 credit hours.
- C S 412 - Linear Programming and Convex Optimization
- C S 418 - (Not currently offered)
- C S 428 - Software Engineering
- C S 431 - Algorithmic Languages and Compilers
- C S 450 - Computer Vision
- C S 452 - Database Modeling Concepts
- C S 453 - Fundamentals of Information Retrieval
- C S 456 - 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 470 - Introduction to Artificial Intelligence
- C S 471 - Voice User Interfaces
- C S 472 - Introduction to Machine Learning
- C S 474 - Introduction to Deep Learning
- C S 479 - (Not currently offered)
- C S 486 - Verification and Validation
- CS 491 - Undergraduate Special Projects
  - You may take up to 3 credit hours.
- C S 500 - Business Career Essentials in Science and Math
- C S 501R - Advanced Topics in Computer Science
  - You may take up to 3 credit hours.
- C S 513 - Robust Control
- C S 557 - (Not currently offered)
- CSANN 340 - Introduction to Game Design
- CSANN 342 - Real-time Techniques
- CSANN 351R - Lighting for Three-Dimensional Graphics
- CSANN 355 - Photography for Animation
- CSANN 452R - Advanced Senior Film Production 2
- CSANN 454 - Advanced Shading
- CSANN 458 - Three-Dimensional Visual Effects
- CSANN 460R - Video Game Production 2
- EC EN 425 - Real-Time Operating Systems

### REQUIREMENT 2 Complete 20 courses

**Complete Senior Exit interview with the CS department during your last semester or term.**

- CSANM 354 - Shader Programming
- MATH 112 - Calculus 1
- MATH 113 - Calculus 2
- PHSCS 121 - Introduction to Newtonian Mechanics
- *WRTG 116 - Technical Communication

### REQUIREMENT 3 Complete 5 courses

**Supporting Courses:***

- CSANN 340 - Advanced Senior Film Production 1
- CSANN 458 - Video Game Production 1

### REQUIREMENT 4 Complete 1 option

**Option 4.1 Complete 1 course**

**Math 113 - (Not currently offered)**

**Option 4.2 Complete 2 courses**

- MATH 213 - Elementary Linear Algebra
- MATH 215 - Computational Linear Algebra

### REQUIREMENT 5 Complete 1 course

- CSANN 450R - Advanced Senior Film Production 1
  - You may take this course up to 2 times.
- CSANN 459R - Video Game Production 1
  - You may take this course up to 2 times.

### REQUIREMENT 6 Complete 1 course

- STAT 121 - Principles of Statistics
- STAT 201 - Statistics for Engineers and Scientists
THE DISCIPLINE
Computer science touches virtually every area of human endeavor. Software is responsible for everything from the control of kitchen appliances to sophisticated climate models used in predicting future environmental change. Students in computer science learn to approach complex problems in business, science, and entertainment using their strong background in mathematics, algorithms, and data structures.

The degree programs in the Computer Science Department prepare students to be confident software developers and technical problem solvers. The curriculum also trains students for research into new avenues where computers will have a significant impact. The BS curriculum is accredited by the Computing Accreditation Commission of ABET.

CAREER OPPORTUNITIES
Graduates pursue exciting opportunities in graphics, artificial intelligence, software engineering, database design, scientific programming, systems administration, and research at universities and national laboratories.

Students completing the animation emphasis will be prepared for technical positions at animation and game programming studios. Students will learn both the technical and artistic side of creating and implementing digital animations and games.

The bioinformatics emphasis is designed for students who are interested in building software to assist in analyzing biological systems. Students will graduate with a significant background in biology coupled with the software development and analysis skills necessary to implement large bioinformatics applications.

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.