BS in Computer Science: Software Engineering (693225) MAP Sheet
Physical and Mathematical Sciences, Computer Science
For students entering the degree program during the 2022-2023 curricular year.

University Core and Graduation Requirements
University Core Requirements:
Requirements#ClassesHoursClasses
Religion Cornerstones
Teachings and Doctrine of The Book of Mormon12.0REL A 275
Jesus Christ and the Everlasting Gospel12.0REL A 250
Foundations of the Restoration12.0REL C 225
The Eternal Family12.0REL C 200
The Individual and Society
American Heritage1-23-6.0from approved list
Global and Cultural Awareness13.0from approved list
Skills
First Year Writing13.0from approved list
Advanced Written and Oral Communications13.0WRTG 316
Quantitative Reasoning14.0MATH 112* or 113*
Languages of Learning (Math or Language)14.0MATH 112* or 113*
Arts, Letters, and Sciences
Civilization 1113.0from approved list
Civilization 213.0from approved list
Arts13.0from approved list
Letters13.0from approved list
Biological Science13.0from approved list
Physical Science13.0from approved list
Social Science13.0from approved list
Core Enrichment: Electives
Religion Electives3-46.0from approved list
Open ElectivesVariableVariablepersonal choice
Graduation Requirements:
Minimum residence hours required30.0
Minimum hours needed to graduate120.0
Suggested Sequence of Courses
Freshman Year
1st Semester
C S 1113.0
First-year Writing or American Heritage3.0
MATH 1124.0
Religion Cornerstone course2.0
General education, university requirements, and/or general electives3.0
Total Hours15.0
2nd Semester
C S 2021.0
C S 2353.0
PHSCS 1213.0
First-year Writing or American Heritage3.0
MATH 1134.0
Religion Cornerstone course 2.0
Total Hours 16.0
Sophomore Year
3rd Semester
C S 2031.0
C S 2243.0
C S 2363.0
Biological Science 3.0
Civilization 13.0
Religion Cornerstone course 2.0
Total Hours 15.0
4th Semester
C S 2404.0
C S 260 or other C S elective 3.0
MATH 2132.0
MATH 2151.0
Civilization 23.0
Religion Cornerstone course 2.0
Total Hours 15.0
Junior Year
5th Semester
C S 2041.0
C S 3123.0
C S 3243.0
Social Science 3.0
STAT 121, STAT 201, or MATH 4313.0
Religion Elective 2.0
Total Hours 15.0
6th Semester
C S 3293.0
C S 3403.0
C S 4523.0
Letters 3.0
Religion Elective 2.0
Total Hours 14.0
Senior Year
7th Semester
C S 4803.0
C S Elective 3.0
WRTG 3163.0
Arts 3.0
Religion Elective 2.0
General education, university requirements, and/or general electives 2.0
Total Hours 16.0
8th Semester
C S 4813.0
C S Elective 3.0
C S Elective 3.0
C S 4042.0
Global and Cultural Awareness 3.0
Total Hours 14.0
BS in Computer Science: Software Engineering (693225) 2022-2023 Program Requirements (74 - 76 Credit Hours)
Grades below C- are not allowed in major courses.
requirement 1 Complete 16 courses
Core courses:
- C S 111 - Introduction to Computer Science 3.0
- C S 202 - Software Engineering Lab 1 1.0
- C S 203 - Software Engineering Lab 2 1.0
- C S 204 - Software Engineering Lab 3 1.0
- C S 224 - Introduction to Computer Systems 3.0
- C S 235 - Data Structures and Algorithms 3.0
- C S 236 - Discrete Structures 3.0
- C S 240 - Advanced Programming Concepts 4.0
- C S 312 - Algorithm Design and Analysis 3.0
- C S 324 - Systems Programming 3.0
- C S 329 - Testing, Analysis, and Verification 3.0
- C S 340 - Software Design 3.0
- C S 404 - Ethics and Computers in Society 2.0
- C S 452 - Database Modeling Concepts 3.0
- C S 480 - Software Engineering Capstone 1 3.0
- C S 481 - Software Engineering Capstone 2 3.0
requirement 2 Complete 4 courses
Supporting courses:
- MATH 112 - Calculus 1 4.0
- MATH 113 - Calculus 2 4.0
- PHSCS 121 - Introduction to Newtonian Mechanics 3.0
- *WRTG 316 - Technical Communication 3.0
requirement 3 Complete 1 option
option 3.1 Complete 1 course
- MATH 313 - (Not currently offered)
option 3.2 Complete 2 courses
- MATH 213 - Elementary Linear Algebra 2.0
- MATH 215 - Computational Linear Algebra 1.0
requirement 4 Complete 1 course
- STAT 121 - Principles of Statistics 3.0
- STAT 201 - Statistics for Engineers and Scientists 3.0
requirement 5 Complete 6.0 hours from the following course(s)
- C S 260 - Web Programming 3.0
- C S 330 - Concepts of Programming Languages 3.0
- C S 345 - Operating Systems Design 3.0
- C S 356 - Designing the User Experience 3.0
- C S 453 - Fundamentals of Information Retrieval 3.0
- C S 456 - Introduction to User Interface Software 3.0
- C S 460 - Computer Communications and Networking 3.0
- C S 462 - Large-Scale Distributed System Design 3.0
- C S 465 - Computer Security 3.0
- C S 486 - Verification and Validation 3.0
requirement 6 Complete 6.0 hours from the following course(s)
Courses will not double count between Requirement 5 and Requirement 6.

C S 252 - Introduction to Computational Theory 3.0
C S 260 - Web Programming 3.0
C S 330 - Concepts of Programming Languages 3.0
C S 345 - Operating Systems Design 3.0
C S 355 - Interactive Graphics and Image Processing 3.0
C S 356 - Designing the User Experience 3.0
C S 393 - Advanced Algorithms and Problem Solving 3.0
C S 401R - Topics in Computer Science 3.0v
You may take up to 3 credit hours.
C S 405 - Creating and Managing a Software Business 3.0
C S 412 - Linear Programming and Convex Optimization 3.0
C S 450 - Computer Vision 3.0
C S 453 - Fundamentals of Information Retrieval 3.0
C S 455 - Computer Graphics 3.0
C S 456 - Introduction to User Interface Software 3.0
C S 460 - Computer Communications and Networking 3.0
C S 462 - Large-Scale Distributed System Design 3.0
C S 465 - Computer Security 3.0
C S 470 - Introduction to Artificial Intelligence 3.0
C S 471 - Voice User Interfaces 3.0
C S 472 - Introduction to Machine Learning 3.0
C S 474 - Introduction to Deep Learning 3.0
C S 486 - Verification and Validation 3.0
C S 493R - Computing Competitions 3.0
You may take up to 3 credit hours.
C S 497R - Undergraduate Research 3.0
You may take up to 6 credit hours.
C S 498R - Undergraduate Special Projects 3.0v
You may take up to 3 credit hours.
C S 501R - Advanced Topics in Computer Science 3.0v
You may take up to 3 credit hours.
C S 513 - Robust Control 3.0
C S 580 - Theory of Predictive Modeling 3.0
EC EN 424 - Computer Systems 4.0
EC EN 425 - Real-Time Operating Systems 4.0
IT&C 567 - Cybersecurity and Penetration Testing 3.0
MATH 411 - Numerical Methods 3.0
MATH 431 - Probability Theory 3.0
MATH 485 - Mathematical Cryptography 3.0
Note: If C S 493R, C S 498R, or C S 501R is chosen, it must be taken for 3 credit hours.

requirement 7
Complete Senior Exit interview with the C S department during last semester or term.
Note: Math 112, Math 113, Phscs 121, WRTG 316, and C S 312 can be used to fill both General Education and program requirements. Advanced Writing and Oral Communication: WRTG 316. Quantitative Reasoning: Math 112 or 113. Languages of Learning: Math 112 or 113. Physical Science: C S 312 or Phscs 121.

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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