SOFTWARE ENGINEERING MAJOR CONCENTRATION (B.A. & SC.) (37 CREDITS)

Offered by: Computer Science (Faculty of Science)
Degree: Bachelor of Arts and Science
Program credit weight: 37

Program Description

The Major Concentration Software Engineering focuses on the techniques and methodology required to design and develop complex software systems and covers the subject commonly known as "Software Engineering."

MATH 133, MATH 140, and MATH 141 (or their equivalents) must be completed prior to taking courses in this program.

Note: This program does not lead to certification as a Professional Engineer.

Degree Requirements — B.A. & Sc. students

This program is offered as part of a Bachelor of Arts & Science (B.A. & Sc.) degree.

To graduate, students must satisfy both their program requirements and their degree requirements.

- The program requirements (i.e., the specific courses that make up this program) are listed under the Course Tab (above).
- The degree requirements—including the mandatory Foundation program, appropriate degree structure, and any additional components—are outlined on the Degree Requirements page.

Students are responsible for ensuring that this program fits within the overall structure of their degree and that all degree requirements are met. Consult the Degree Planning Guide on the SOUSA website for additional guidance.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Required Courses (30 credits)

*Students who have sufficient knowledge in a programming language do not need to take COMP 202 and can replace it with additional computer science complementary course credits.

Expand allContract all

Course	Title	Credits
COMP 202	Foundations of Programming.	3
COMP 206	Introduction to Software Systems.	3
COMP 250	Introduction to Computer Science.	3
COMP 251	Algorithms and Data Structures.	3
COMP 273	Introduction to Computer Systems.	3
COMP 302	Programming Languages and Paradigms.	3
COMP 303	Software Design.	3
COMP 421	Database Systems.	3
MATH 223	Linear Algebra.	3
MATH 240	Discrete Structures.	3

Complementary Courses (7 credits)

At least 7 credits from:

Expand allContract all

Course	Title	Credits
COMP 322	Introduction to C++.	1
COMP 361D1	Software Engineering Project.	3
COMP 361D2	Software Engineering Project.	3
COMP 529	Software Architecture.	4
COMP 533	Model-Driven Software Development.	3
ECSE 326	Software Requirements Engineering.	3
ECSE 437	Software Delivery.	3
ECSE 539	Advanced Software Language Engineering.	4

or any COMP courses at the 300 level or above, excluding COMP 364 and COMP 396.