SOFTWARE ENGINEERING LIBERAL PROGRAM - CORE SCIENCE COMPONENT (B.SC.) (49 CREDITS)

Offered by: Computer Science (Faculty of Science)
Degree: Bachelor of Science
Program credit weight: 49

Program Description

This program covers a core of programming and software engineering courses and allows students to select courses that aim at practical aspects of software development.

Degree Requirements — B.Sc.

This program is offered as part of a Bachelor of Science (B.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 (36 credits)

Expand allContract all

Course	Title	Credits
COMP 202	Foundations of Programming.[1]	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 310	Operating Systems.	3
COMP 361D1	Software Engineering Project.	3
COMP 361D2	Software Engineering Project.	3
MATH 223	Linear Algebra.	3
MATH 240	Discrete Structures.	3

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

Complementary Courses (13 credits)

3 credits selected from:

Expand allContract all

Course	Title	Credits
COMP 330	Theory of Computation.	3
COMP 360	Algorithm Design.	3

10 credits from:

Expand allContract all

Course	Title	Credits
COMP 322	Introduction to C++.	1
COMP 409	Concurrent Programming.	3
COMP 421	Database Systems.	3
COMP 520	Compiler Design.	4
COMP 525	Formal Verification.	3
COMP 529	Software Architecture.	4
COMP 533	Model-Driven Software Development.	3
COMP 535	Computer Networks 1.	4
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 Computer Tools for Life Sciences. and COMP 396 Undergraduate Research Project..)