Department of Software Engineering

BS UNDERGRADUATE CURRICULUM

For students starting Fall 2024, i.e. 2241
v14.0, last updated Aug 7, 2024

Year One	Year Two	Year Three	Year Four	Year Five
Software Dev I GCIS-123 (4)	Software Dev II GCIS-124 (4)	Intro to SE SWEN-261 (3)	Engineering of Software Subsystems SWEN-262 (3)	HC Reqts & Design SWEN-444 (3)	SW Sys Reqts & Arch SWEN-440 (3)	SW Eng. Project I SWEN-561 (3)	SW Eng. Project II SWEN-562 (3)
Freshman Seminar SWEN-101 (1)	Personal SE SWEN-250 (3)	SW Web Engineering SWEN-344 (3)	SW Process & Project SWEN-256 (3)	SE Process Elective (3)	Engineering Secure Software SWEN-331 (3)	SE Design Elective (3)	Engineering Elective (3)
Calculus I MATH-181 (4)	Calculus II MATH-182 (4)	University Physics I PHYS-211 (4)	Applied Statistics STAT-205 (3)	SW Design for Comp. Sys. SWEN-340 (3)	Analysis of Algorithms CSCI-261 (3)	Math/Science Elective (3)	Professiona Elective (3)
Social Perspective (3)	Discrete Math for Computing MATH-190 (3)	Commun-ication COMM-253 (3)	Lab Science (4)	Linear Algebra MATH-241 (3)	Math/Science Elective (3)	Open Elective (3)	Open Elective (3)
						Open Elective (3)	Open Elective (3)
Global Perspective (3)	First-Year Writing UWRT-150 (3)	Artistic Perspective (3)	Ethical Perspective (3)	Gen Ed Immersion 1 (3)	Gen Ed Immersion 2 (3)	Gen Ed Immersion 3 (3)	
RIT 365 YOPS-010 (0)	SE Co-op Seminar SWEN-99 (0)						

Co-op Summer

Co-op Fall

Co-op Spring

This is a ***recommended*** course sequence, but individual schedules ***will vary***. ***Not all pre-requisites*** are shown here. Please verify pre-requisites in your planning. Please seek the guidance of your academic advisor as necessary.

Key

Course Name
Course Number (Credits)

- Software Engineering
- Computer Science Courses
- Engineering Electives
- Professional Elective
- Math and Science Courses
- General Education
- Open Electives

→ Prerequisite
⇢ Corequisite
→ Prerequisite C- or Better

BS/MS Course Sequence

Tracks for BS-SE undergrads are:

- MS in Software Engineering
- MS in Computer Science
- MS in Computing Security
- MBA

Two grad courses may double count toward your BS. Many CSCI and CSEC courses qualify as Engineering Electives, otherwise Open Electives are used. See companion flow charts for more.

Courses with "C- or Better"

- Calculus sequence
- GCIS-123
- SWEN-262

Co-op

Two semesters and **one summer**. You must fulfill this requirement before registering for Senior Project (SWEN-561). You are responsible for coordinating academic terms within your course schedule to complete co-ops. Prerequisites include:

- Engineering of Software Subsystems (SWEN-262 with C- or better)
- Communication (COMM-253)
- SE Co-op Seminar (SWEN-99)

The process for finding and registering co-op can be found at this QR code.

Software Design & Process Electives

Software Engineering elective courses are designated as either "design" or "process" electives. You are required to take one of each.

Engineering Elective Requirement

Generally, approved electives include:

- Software Engineering electives
- Many courses from KGCOE
- Many courses from Computer Science
- Some courses from Computing Security
- Some courses from School of Information

Professional Elective Requirement

This course must be either another Engineering Elective, or certain courses from Saunders College of Business.

Math/Science Electives

Generally, these are electives from other math and natural science majors.

Statistics

MATH-251 is also acceptable instead of STAT-205

Lab Science

Choices include BIOG-101/103, BIOG-102/104, BIOL-101/103, BIOL-102/104, CHMG-141/145, CHMG-131/145, or PHYS-212. Note that PHYS-212 requires a C- or better earned in PHYS-211 or 211A.

General Education Framework

Perspectives: Complete a course in each of the *Social*, *Artistic*, *Ethical*, and *Global* perspective categories. The other three perspectives are specified by required courses in the SE program.
Immersion: Select an Immersion approved in the General Education Framework. An immersion consists of three pre-defined upper level courses focusing on one topic area.

Wellness Requirement

Complete two wellness courses with different course numbers. Search for courses with an activity attribute. (Not shown in flow chart.)

Official Curriculum

This site has course descriptions, lists of approved electives, and pre-reqs from the registrar