

SOFTWARE ENGINEERING

www.rit.edu/programs/software-engineering

PROGRAM OVERVIEW FOR EMPLOYERS

Our coursework focuses on a team-based approach to developing, maintaining and enhancing complex, critical software systems. The program is designed to respond to the need for graduates whose professional focus is on software development. Our students are prepared for technical and management careers in a variety of computer and software-intensive industries. Students majoring in Software Engineering take a core of software engineering courses along with computer science, engineering, mathematics, arts and humanities courses.

Degree(s) Awarded

Bachelor of Science

Enrollment

Approximately 450 students

Cooperative Education Component

Students are required to complete at least 2 semesters and 1 summer of co-op work assignments, and are available to work 3 or 7 months at a time. Co-op positions must incorporate various phases of the Software Development Life Cycle (for example, requirements gathering and analysis, design, development, documentation, and/or testing), and include duties beyond just programming.

Salary Information (Avg/Range)

Co-op:	\$20.86	\$8.00 – \$48.00
BS:	\$70,000	\$40,000 – \$100,000

Equipment & Facilities

The department provides a variety of facilities where students collaborate on projects, polish their skills, and consult with faculty. Outfitted with the latest hardware and software technology, our facilities reflect our commitment to teamwork, interactive learning, and professional education. From the team rooms to the Collaboration Lab, our facilities are designed to support students and mimic a real-world environment.

Accreditation

The Bachelor of Science degree program in Software Engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Student Skills & Capabilities

Students learn principles, methods and techniques for the construction of complex and evolving software systems. The software engineering program encompasses both technical issues affecting software architecture, designs and implementation, as well as process issues that address project management, planning, quality assurance and product maintenance. The software engineering coursework maintains a balance between engineering design and software process in both required and elective courses. As with other engineering fields, mathematics and natural science fundamentals are taken in the early years. Students also must satisfy the program's ethics and economics requirements. A three-course sequence in a domain outside the program's core requirements allows students to apply their software engineering skills to a variety of fields including science, computing, engineering, and business. Finally, students complete a full year senior project as the final demonstration of their abilities and preparation for immediate employment and long-term professional growth in software development organizations.

Software Engineering

Curriculum BS degree

First and Second Years:

Computer Science I-II
Introduction to Computer Science Theory
Applied Statistics
Software Engineering Freshman Seminar
Introduction to Software Engineering
Personal Software Engineering
Engineering of Software Subsystems
Engineering Fundamentals of Computer Systems
Calculus I-II
University Physics I-II
Discrete Mathematics
Communications
General Education

Third, Fourth and Fifth Years:

Software System Requirements & Architecture
Mathematical Models of Software
Engineering Secure Software
Software Process and Project Management
Software Engineering Senior Project I-II
Software Engineering Electives (2 courses)*
Human-Centered Requirements and Design
Application Domain Electives (3 courses)**
Engineering Electives (3 courses)
Free Electives (3 courses)
Liberal Arts

*Software Engineering Electives

Engineering of Concurrent & Distributed Software Systems
Engineering of Enterprise Software Systems
Real-Time and Embedded Systems
Modeling of Real-Time Systems
Performance Engineering of Real-Time and Embedded Systems

Process

Software Testing
Trends in Software Development Processes
Software Process and Product Quality

Students take at least 3 software engineering electives; 1 must be a design elective and 1 a process elective.

** Application Domain Electives

Students select an application domain that consists of 3 courses in one of the following areas:

Artificial Intelligence	Computer Security	Public Policy
Bioinformatics	Economics	Scientific & Engineering Computing
Business Applications	Entrepreneurship	Statistics
Computational Mathematics	Industrial & Systems Engineering	Usability
Computer Engineering	Interactive Entertainment	

Selected Employers of Software Engineering Co-op and Graduating Students

Amazon, Apple., Blackbaud, Boeing, Brand Networks, Central Intelligence Agency (CIA), Constant Contact, Cloudmine, Data Innovations, Datto, Inc., Dawning Technologies, EnerNOC Inc., Fidelity Investments, General Dynamics – AIS, Google, Harris Corporation, IBM Corp., Indeed.com, Intel, Intuit, JPMorgan Chase, Lenel Systems Int'l, Lockheed Martin, Microsoft Corporation, Mitre Corp., Mobiquity, MOOG Inc., NASA, Oracle, Parse 3, Paychex, Rochester Software Associates, SAP America, Thomson Reuters, UTC Aerospace, Webster Financial Corp., Welch Allyn, Windstream, Xerox Corporation, Zynga

Contact Us

We appreciate your interest in RIT co-op, graduating students or alumni. We will make every effort to make your recruiting endeavor a success. Feel free to contact Jill Jablonski, the career services coordinator who works with the Software Engineering program. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit>.

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