

COMPUTER ENGINEERING

<http://www.ce.rit.edu>

PROGRAM OVERVIEW FOR EMPLOYERS

The Computer Engineering program offered through RIT's College of Engineering is a five-year program blending computer science and electrical engineering studies into core computer engineering competencies. The focus is on design and development of computer systems and computer integrated circuits and systems. Graduates are prepared for the design of computer hardware and software and for the design of engineering products that incorporate or communicate with computers. The Computer Engineering program requires courses in VLSI design, embedded systems, digital design, computer architecture, networks and signal processing. Many graduates also successfully work in the development of sophisticated software systems. Visit the Computer Engineering Senior Design web page to see the ingenuity and hard work of some of our brightest students! Click on the Senior Projects link on the department's web site <http://www.ce.rit.edu>

Degree(s) Awarded

Bachelor of Science
 Bachelor of Science/Master of Science Dual Degree
 Master of Science

Enrollment

Approximately 450 BS students; approximately 100 BS/MS students; approximately 30 MS students

Cooperative Education Component

Undergraduate students are required to complete five co-op work assignments. BS/MS students complete four co-op work assignments.

Salary Information (Avg/Range)

Co-op:	\$17.36	\$9.50 - \$35.00
BS:	\$57,000	\$52,000 - \$75,500

Equipment & Facilities

New labs and projects facilities in 2007 Gleason building extension
 Center for Computer Engineering and Microelectronics Engineering
 Linux workstations running Mentor Graphics and Synopsys CAD Tools
 Microcomputers & Multimedia PC's
 VLSI design tools
 Linux Systems for cluster computing
 Electronic test equipment
 System-on-a-chip design tools
 Synopsys Synthesis tool suite:
 (Design compiler, Test Synthesis, Behavioral Compiler, Prime Time)
 FPGA Synthesis Tools
 IC Modeling Tools
 Analog and Digital Simulation Tools
 ASIC Design & Development Tools

Accreditation

The computer engineering program is fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The program and its option are evaluated using the program criteria for Computer and similarly named engineering programs.

Student Skills & Capabilities

Computer Engineering students acquire a very thorough understanding of computer hardware and software components and their applications. They are trained in:

Hardware-software interfaces
 VLSI design
 Digital Systems Design
 Design automation
 Computer networks
 Robotics
 Development of software for a wide variety of applications

Students are required to build computer-controlled devices such as a heart beat monitor and small robots.

Computer languages:

JAVA, C++, C, M68K Assembly, VHDL, Matlab

Operating Systems:

UNIX, Linux, Windows

Hardware:

SUN, PC

Computer Engineering

Course Sequence BS degree

First and Second Years:

Calculus (4 quarters)
University Physics (3 quarters plus lab)
Computer Science (4 quarters)
Intro to Computer Engineering
Freshman Seminar
Assembly Language for Computer Engineering
Intro to Digital Systems
Hardware Description Languages
Circuit Analysis I and Lab
Software Engineering
Foundations of Discrete Math
Differential Equations
Matrix Algebra
Science Elective
Liberal Arts

Third, Fourth and Fifth Years:

(Alternating courses/co-op)
Computer Organization
Digital Systems Design
Circuit Analysis II
Electronics for Computer Engineering
Applied Programming
Operating Systems
Digital Signal Processing
Interface and Digital Electronics
Intro to VLSI Design
Engineering Statistics
Data and Computer Communications
Computer Architecture
Senior Design Projects (2 quarters)
Professional and Free Electives
Liberal Arts

BS/MS Degree Graduate Courses Third, Fourth and Fifth Years

In addition to above courses:

Multiple Processor Systems
Digital Control Systems
Analytical Topics for Computer Engineering
Electronic Design Automation
Graduate Electives (4)

In addition, BSMS students complete a Master's level thesis.

Selected Employers of Computer Engineering Co-op and Graduating Students:

Adobe Systems, Advanced Micro Devices, Agilent Technologies, Analog Devices, Anheuser-Busch, Atmel, Cisco Systems, Citibank, Citrix, Computer Associates, Eastman Kodak Co., Fairchild Semiconductor, Fisher-Price, FSI Sytems, Harris Corp., Hewlett Packard, IBM Corp., Intel, Lockheed Martin Lawrence Livermore Labs, Motorola, Paychex, SUN Microsystems, Sensis, Sky-Skan, Inc., Syracuse Research Corp., The Boeing Corp., UTC, Viewpoint Systems, Verizon Wireless, Xerox Corp.

Contact Us:

We appreciate your interest in hiring RIT co-op, graduating students or alumni. We will make every effort to make your recruiting endeavor a success. Call our office and ask to speak with either Louise Carrese or Kristine Stehler, the program coordinators who work with the Computer Engineering program. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit>.

Louise T. Carrese, Sr. Associate Director

Kristine Stehler, Program Coordinator

Office of Cooperative Education and Career Services

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