

# COMPUTER ENGINEERING

## 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, software Engineering, 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 350 BS students; approximately 65 BS/MS students; approximately 20 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:	\$18.61	\$7.50 - \$40.00
BS:	\$62,400	\$52,500 - \$86,500

### 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 ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, Telephone (410) 347-7700. The program is evaluated using the Computer Engineering program criteria.

### Student Skills & Capabilities

Computer Engineering students acquire a very thorough understanding of computer hardware and software components and their applications. Their competencies include:

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, Assembly, VHDL, Matlab

Operating Systems:

UNIX, Linux, Windows

# 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  
Intro to Digital Systems  
Hardware Description Languages  
Circuit Analysis I and Lab  
Software Engineering  
Foundations of Discrete Math  
Differential Equations  
Linear Algebra I  
Science Elective  
Liberal Arts

### Third, Fourth and Fifth Years:

(Alternating courses/co-op)  
Computer Organization  
Digital Systems Design  
Circuit Analysis II  
Electronics I  
Applied Programming  
Operating Systems  
Digital Signal Processing  
Interface and Digital Electronics  
Intro to VLSI Design  
Probability and Statistics for Engineers  
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  
Electronic Design Automation  
Graduate Electives (4)

In addition, BS/MS students complete a Master's level thesis.

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

AAI Corporation, Apple, athenahealth Inc., C Speed LLC, Carestream Health, Cisco Systems, CUBRC, Inc., Dawning Technologies, Digital Receiver Technology Inc., Eastman Kodak Co., EMA Design Automation, Harris Corp., IBM Corp., Intel Corp., ISEERIX, ITT Industries, Lockheed Martin, Lutron Electronics, Microsoft Corp., Mitre Corp., MOOG Inc., Mortgage Industry Advisory Corp., National Security Agency, Railcomm Inc., Rockwell Automation, Sandia National Laboratories, Sensis Corp., Simbex LLC, SMSC, Spectracom Corp., Syracuse Research Corp., University of Rochester Medical Center, Webster Financial, Welch Allyn Inc., Westinghouse.

### 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 Kimberly DeLardge, the program coordinator who works with the Computer Engineering program. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit>.

### Kimberly DeLardge, Program Coordinator

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