

TELECOMMUNICATIONS ENGINEERING TECHNOLOGY

PROGRAM OVERVIEW FOR EMPLOYERS

The Bachelor of Science program in Telecommunications Engineering Technology is accredited by ABET and includes a solid foundation in electrical engineering technology. BS graduates have classroom and hands-on experience with electrical and software design as well as specialized knowledge of telecommunication systems and networks. They are well prepared to work with voice and data communication over both circuit and packet switched networks. The program also emphasizes network planning and design and telecommunication policy and regulation. The co-op requirement enhances student knowledge acquired in the classroom and the laboratory.

The Master of Science program is available for those who are seeking graduate education to advance into managerial and leadership roles in the dynamic telecommunications environment. Applicants have a BS degree in a technical field or a bachelors degree plus technical work experience. The MS in telecommunications engineering technology is a 48-quarter credit hour program. It includes six core courses that introduce essential fundamental concepts and skills, four or five additional classes as electives and a capstone project or thesis.

Degree Awarded

Bachelor of Science (5 year program)
Master of Science

Enrollment

Approximately 30 students - undergrad
Approximately 40 students - graduate

Cooperative Education Component

BS students are required to complete 5 co-op work assignments for undergraduate degree.

Students are available for two 6-month assignments and one 3-month assignment.

Co-op is optional for masters candidates.

Salary Information (Avg/Range)

Co-op:	\$16.24	\$10.00 - \$24.00
BS:	\$49,700	\$40,000 - \$57,700
MS:	\$63,333	\$50,000 - \$78,000

Equipment & Facilities

Telecommunications Systems Laboratory

Nortel OC-3 SONET Gear, TELLABS 1/1 Digital Cross Connect System, Nortel and Cisco Routers, Switches, and VoIP equipment, Lucent Frame Switches & DSLAM, TTC T-BERD Equipment, Redcom MSP & PBX Equipment, Cisco ATM Switches, ISDN & P-com 38 GHz Microwave

Accreditation

The Telecommunications Engineering Technology program is accredited by the Technology Accreditation Commission of ABET, Inc., <http://www.abet.org>.

Student Skills & Capabilities

- All BS students complete ten telecommunications courses. Eight courses are dedicated to telecommunications systems and technology; one is focused on the regulatory policies specific to the telecommunications industry; and one is focused on ethics, engineering economics, and project management.
- All students complete laboratory-based coursework in circuit theory, electronics, transmission systems, voice communications, network engineering and technology, and C++ programming. Lab experience includes configuration and testing of networks that include digital PBX switches, central-office trunk interfaces, T1, optical and microwave links, hybrid fiber-coax, multi-protocol routed networks and VoIP networks carried over SONET.
- Able to configure telecommunications systems from the physical-layer to over-all network design and management principles of copper, fiber optic and wireless networks.
- Students are familiar with the proper application of general-purpose test equipment and industry-specific equipment such as cable tracers, telephone test sets, T-1 test sets and packet analyzers.

Students are required to develop and demonstrate proficiency in written and oral communications, project teamwork and individual competency in areas that include electrical circuit theory, programming, and telecommunications system design and analysis.

Telecommunications Engineering Technology

Course Sequence

BACHELORS

BS: First and Second Years

Circuit Theory I, II, III
Telecommunications Fundamentals
Telecom Voice Communications
Math
Electronics I-II
Digital Fundamentals
College Physics I, II & Laboratory
Differential Equations for Engineering Technology
Technical Programming I & II
Liberal Arts
Writing and Art of Expression

*BS Partial List of Available Technical Electives

Power Systems
Robust Design
Advanced Circuit Theory
Control Systems
Digital Signal Processing
Electro Optic Devices
Auto Data Acquisition
Communications Systems II
Systems Administration
Embedded Systems Design
Fiber Optic Telecommunication Technology

BS: Third, Fourth, and Fifth Years

Concepts in Signals and Systems
Communication Systems I
Ethics, Economics, & Planning for Engineers
Data Analysis
Transmission Systems and Lab
Network Technologies
Network Management
Telecom Network Engineering and Lab
Telecommunications Policy
Network Planning & Design
Switching Technologies
Electronics III, IV
Technical Electives*
Physics III
Liberal Arts

MASTERS

MS: Core Courses

Telecommunications Concepts
Principles of Telecommunications Networks
Wireless RF Telecommunication Systems
Telecommunications Policy and Issues
Fiber Optic Telecommunications
WAN/LAN Planning and Design

MS Partial List of Electives

Next Generation Networks
Telecommunication Transmission Systems
Telecommunications Network Engineering
Fiber Optic Telecommunications Systems
Telecomm Systems

Employers of Telecommunications Engineering Technology Co-op & Graduating Students:

Alcatel, Cisco Systems, Earthlink, Fibertech Networks, Frontier Telephone, Harris Corporation, L-3 Communications, M5 Networks, PaeTec Communications, Paychex Inc., PICS Telecom, T-Force, Verizon Wireless.

Contact Us:

We appreciate your interest in hiring RIT co-op, graduating students or alumni. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit> or contact:

Maria Pagani Wiegand, Maureen P. Arquette

Program Coordinators

Office of Cooperative Education and Career Services
RIT . Bausch & Lomb Center . 57 Lomb Memorial Drive . Rochester NY 14623-5603
585.475.5458, mpwoce@rit.edu, mpaoce@rit.edu