

# INTEGRATED INFORMATION TECHNOLOGY

Department Website ([https://sc.edu/study/colleges\\_schools/engineering\\_and\\_computing/study/integrated\\_information\\_technology/](https://sc.edu/study/colleges_schools/engineering_and_computing/study/integrated_information_technology/))

Elizabeth A. Regan, Chair

The Molinaroli College of Engineering and Computing offers a bachelor of science degree with a major in integrated information technology.

## Programs

- Cybersecurity Operations Minor (<https://academicbulletins.sc.edu/undergraduate/engineering-computing/integrated-information-technology/cybersecurity-operations-minor/>)
- Integrated Information Technology Minor (<https://academicbulletins.sc.edu/undergraduate/engineering-computing/integrated-information-technology/integrated-information-technology-minor/>)
- Integrated Information Technology, B.S. (<https://academicbulletins.sc.edu/undergraduate/engineering-computing/integrated-information-technology/integrated-information-technology-bs/>)

## Courses

### ITEC 101 - Thriving in the Tech Age (3 Credits)

Pervasive impact of computers on today's global society; skills and strategies for using technology. How information technologies impact daily life and drive change.

**Carolina Core:** VSR

### ITEC 104 - Program Design and Development (3 Credits)

Fundamental algorithms and processes used in business information systems. Development and representation of programming logic. Introduction to implementation using a high-level programming language.

**Cross-listed course:** CSCE 104, MGSC 298

### ITEC 143 - Advanced Business Document Preparation (3 Credits)

Emphasis on production and versatility in preparing business documents. Not for TSTM majors. For business teacher certification.

**Graduation with Leadership Distinction:** GLD: Professional and Civic Engagement Leadership Experiences

### ITEC 233 - Introduction to Computer Hardware and Software (3 Credits)

Understanding of current computer hardware and software through computer building, repairing, and troubleshooting.

### ITEC 242 - Business Communications (3 Credits)

Theory and processes in written business communications; composing effective business letters and reports.

**Prerequisites:** C or better in both ENGL 101 and ENGL 102.

**Graduation with Leadership Distinction:** GLD: Professional and Civic Engagement Leadership Experiences

### ITEC 243 - Word Processing Concepts and Technology (3 Credits)

Introduction to word processing concepts and applications.

**Prerequisites:** keyboarding.

### ITEC 245 - Introduction to Networking (3 Credits)

Understanding the essential concepts of computer networks, including standards, topologies, security, media, switching, routing, and more.

### ITEC 264 - Computer Applications in Business I (3 Credits)

Survey of core skills and techniques for spreadsheet design and analysis of business problems.

### ITEC 265 - Introduction to Databases (3 Credits)

Fundamentals of modern database design and applications.

### ITEC 270 - Records Control (3 Credits)

Analysis and control of office records including creation, processing, maintenance, protection, and disposition.

**Prerequisites:** ITEC 264.

### ITEC 293 - Cybersecurity Operations (3 Credits)

Operations in Security Operations Centers (SOC). Securing information systems by monitoring, analyzing, detecting, and responding to security events.

### ITEC 301 - Professional Internship Seminar (3 Credits)

Preparation for professional internship.

**Prerequisites:** C or better in ITEC 242, ENGL 462, ENGL 463, or MGMT 250; C or better in ITEC 370.

**Graduation with Leadership Distinction:** GLD: Professional and Civic Engagement Internships

### ITEC 352 - Software Design (3 Credits)

Survey of core software development principles, application development from pseudocode and flow charting through coding process.

**Prerequisites:** C or better in CSCE 104 or ITEC 104.

### ITEC 362 - Introduction to Web Systems (3 Credits)

Introduction to web based systems, including HTML, CSS, and JavaScript; working with Content Management systems (Wordpress, Joomla); Accessibility, SEO, and web development best practices.

**Prerequisites:** C or better in either ITEC 101, CSCE 101, or CSCE 102.

### ITEC 370 - Database Systems in Information Technology (3 Credits)

Survey of techniques for working with enterprise-level database systems.

**Prerequisites:** C or better in ITEC 265.

### ITEC 390 - Special Topics in Information Technology (1-3 Credits)

Advanced concepts, issues, and trends in information technology. Course content varies and will be announced in the schedule of classes by title. May be taken twice for credit.

### ITEC 399 - Independent Study (1-6 Credits)

Contract approved by instructor, advisor, and department head for undergraduate students.

**Graduation with Leadership Distinction:** GLD: Research

### ITEC 444 - Introduction to Human Computer Interaction (3 Credits)

Human computer interaction: human factors of interactive software, methods to develop and assess interfaces, interaction styles, and design considerations.

**Prerequisites:** C or better in CSCE 104, ITEC 104, or CSCE 145; C or better in ITEC 362.

**Graduation with Leadership Distinction:** GLD: Research

### ITEC 445 - Advanced Networking and Security (3 Credits)

Advanced administration of client/server networks with major emphasis on network operating system software.

**Prerequisites:** C or better in ITEC 245.

**ITEC 447 - Management of Information Technology (3 Credits)**

Overview of current practices and trends in end-user technology and information system management.

**Prerequisites:** C or better in ITEC 101 and ITEC 245.

**ITEC 475 - Mainframe Systems (3 Credits)**

Introduction to the large scale computer systems used by businesses to support thousands of simultaneous users and process millions of transactions.

**Prerequisites:** C or better in ITEC 352, or C or better in CSCE 146.

**Cross-listed course:** CSCE 415

**ITEC 476 - Job Control Language (3 Credits)**

Programming in job control language used to process batch jobs on mainframe computers. Use of standard system utility programs.

**Prerequisites:** C or better in ITEC 352, or C or better in CSCE 146.

**ITEC 490 - Special Topics in Information Technology (3 Credits)**

Advanced concepts, issues, and trends in information technology. Course content varies and will be announced in the schedule of classes by title. Satisfies IIT elective requirement. May be taken three times for credit.

**ITEC 493 - Information Technology Security for Managers (3 Credits)**

Information technology security from a managerial perspective, including security awareness, risk assessment, and security policy development.

**Prerequisites:** C or better in ITEC 445.

**ITEC 495 - Professional Internship (6 Credits)**

Internship coordinated by a faculty member and supervised by an approved business supervisor. Contract approved by instructor, advisor, and department head is required for undergraduate students.

**Prerequisites:** C or better in ITEC 301.

**Graduation with Leadership Distinction:** GLD: Professional and Civic Engagement Internships

**Experiential Learning:** Experiential Learning Opportunity

**ITEC 510 - Emerging Information Technology Trends (3 Credits)**

Survey of emerging information technology (IT) trends, featuring IT industry professionals presenting disruptive and emerging information technologies being developed and/or adopted by businesses within South Carolina.

**ITEC 520 - Exploring The Internet of Things (3 Credits)**

The Internet of Things (IoT) and its transformation of our lives, organizations, and communities. Uses simulations, virtualization, and various microcontrollers to reinforce key IoT concepts.

**ITEC 534 - Advanced Human Computer Interaction (3 Credits)**

Review of current trends & challenges of human-computer interaction, the design of emerging technologies including AI-driven technologies, such as chatbot design, Internet of Things design, and human-robot interaction design, biometric evaluation methods, and usability testing with AI-driven emerging technologies.

**Prerequisites:** B or better in ITEC 444 or ITEC 762.

**ITEC 540 - Cloud Computing and Virtualization (3 Credits)**

Comprehensive introduction to cloud computing. Key concepts such as cloud types, delivery models, leading service providers, networking, storage, virtualization, containerization, orchestration, and cloud security. Navigating modern IT environments and making informed decisions when implementing or utilizing cloud solutions.

**Prerequisites:** C or better in ITEC 104 or CSCE 104; C or better in ITEC 245.

**ITEC 544 - Training Systems (3 Credits)**

Theory, design, and implementation of technology-based training systems, including hardware and software solutions.

**Prerequisites:** C or better in ITEC 444.

**ITEC 545 - Telecommunications (3 Credits)**

Telecommunications systems, applications, and equipment allowing for the global dissemination of information.

**Prerequisites:** C or better in ITEC 245.

**ITEC 552 - Linux Programming and Administration (3 Credits)**

Shell scripting and administration in the Linux operating system.

**Prerequisites:** C or better in CSCE 104, ITEC 104, or CSCE 145.

**ITEC 560 - Project Management Methods (3 Credits)**

Project management principles and standard practices, including software applications for project management.

**Prerequisites:** C or better in ITEC 264 or MGSC 290.

**ITEC 562 - Advanced Web Support Systems (3 Credits)**

The development of advanced, dynamic, Web-based information systems, including the integration of back-end database-records management systems.

**Prerequisites:** C or better in ITEC 362.

**ITEC 564 - Capstone Project for Information Technology (3 Credits)**

Application of project management software, technologies, and practices to the design and implementation of real-world capstone projects.

**Prerequisites:** C or better in both ITEC 362 and ITEC 560.

**ITEC 570 - Database Management and Administration (3 Credits)**

Introduction to database administration and implementation using an enterprise-level Relational Database Management System (RDBMS).

**Prerequisites:** C or better in ITEC 370.

**ITEC 590 - Special Topics in Integrated Information Technology (3 Credits)**

Advanced concepts, issues, and trends in technology support and training management. Course content varies and will be announced in the schedule of classes by title. May be repeated twice for credit.