INTEGRATED INFO TECH (ITEC)

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.

ITEC 702 - Technology and Training Applications I (3 Credits)
Computer application skills and concepts used in training support and business education.

ITEC 720 - Technology and Training Applications II (3 Credits)
Spreadsheet and database application skills and concepts used in training support and business education.
Prerequisites: degree candidacy and 15 hours completed or departmental approval

ITEC 742 - Enterprise Network Management (3 Credits)
Management of enterprise networks, including switched Local Area Networks (LANs), Wide Area Networks (WANs), data centers and cloud systems; monitoring and optimization of networks; emerging network technologies.
Prerequisites: C or better in ITEC 749 and ITEC 772.

ITEC 743 - Health Information Privacy and Security (3 Credits)
Healthcare privacy and security threats and solutions. Compliance with patient information privacy and information security regulations.

ITEC 745 - Telecommunications for Health Information Technology (3 Credits)
Overview of telecommunication technologies as they apply to healthcare delivery, healthcare administration, and health information exchange.

ITEC 747 - Management of Health Information Systems (3 Credits)
Overview of health information technology, electronic health records (EHR) , and health information exchange (HIE), current practices, trends, and issues in health information systems management, and privacy and security of health information.

ITEC 748 - Internship in Information Technology (1-6 Credits)
Professional internship in information technology. Positions assigned on an individual basis with emphasis on management decision making, oral and written communication skills, planning, and problem solving.

ITEC 749 - Principles of Informatics (3 Credits)
Integration of information technology across the business spectrum. Underlying technological developments and important business drivers of performance. Digital technology's role in relation to three major components of business performance improvement: people, processes and technology.
Prerequisites: C or better in ITEC 447.

ITEC 752 - Systems Analysis & Design for Health Applications (3 Credits)
This course applies the principles of information systems analysis and dsign to health processes and applications. It looks at the analysis and logical design of business processes and management information systems focusing on the systems development life cycle; and techniques for logical system design.

ITEC 754 - Analysis and Design of Information Systems and Technology (3 Credits)
Application of the principles of information systems analysis and design to organizational processes and applications. Analysis and logical design of business processes and management information systems focusing on the systems development life cycle. Techniques for logical system design.
Prerequisites: B or better in ITEC 447.

ITEC 756 - Programing Concepts for Data Analysis (3 Credits)
Overview of programming logic and design with a focus on essential programming concepts and skills needed for data analysis.

ITEC 760 - Cyberinfrastructure and Information Assurance (3 Credits)
Information Technology (IT) elements of the cyberinfrastructure; information assurance and security in the modern cyberinfrastructure; design and secure advanced systems that use, process, transmit, and store of information.
Prerequisites: ITEC 742.

ITEC 761 - Management of Cyberinfrastructure (3 Credits)
Techniques, technologies, and management tools used in modern cyberinfrastructures, including software-defined data centers, next-generation software-defined networking (NG-SDN), and cloud systems.
Prerequisites: ITEC 760.

ITEC 762 - Health Information Technology Usability and Interface Design (3 Credits)
Overview of the analysis, design, and usability of health information systems. Includes consideration of computer interfaces, Web portals, and patient portals.

ITEC 764 - Project Management for Health Information (3 Credits)
Application of project management software, technologies and practices to the design and implementation of real-world health information technology projects. Integrates IT knowledge and skills learned in earlier graduate courses and challenges graduate students to learn new technologies and to solve real business problems.

ITEC 765 - Human Computer Interaction, Usability and Interface Design (3 Credits)
Overview of the analysis, design, and usability of information systems. Includes consideration of computer interfaces, web portals, and human-computer interaction.
Prerequisites: C or better in ITEC 749 and ITEC 772.

ITEC 766 - IT Project Management (3 Credits)
Application of project management tools to document key components of the implementation of a real-world information technology projects.
Prerequisites: B or better in ITEC 749 and ITEC 772.

ITEC 770 - Health IT Database Systems (3 Credits)
This course is an introduction to design, implementation, and management of database systems that form the foundation for health information systems.

ITEC 772 - Database Systems (3 Credits)
Fundamentals, design, implementation and management of database systems that form the foundation for information systems and data analytics.
Prerequisites: B or better in ITEC 747.

ITEC 775 - Large-Scale Health and Information Systems (3 Credits)
Design, implementation and operation of large-scale information systems for healthcare institutions. Includes EMRs, CPOE, e-prescribing, medication administration, CRM, and supply chain management.

ITEC 776 - Health Information Technology and Clinical Transformation (3 Credits)
Implementation of electronic health records (EHR) and health information exchange with focus on clinical transformation, which is the most difficult and critical component of achieving improved clinical outcomes and efficiencies from EHRs.

ITEC 777B - Tch. Intrn. M/HS-Bus. Educ (9 Credits)
Application of effective teaching techniques and organization of instructional settings for middle or high school students.

ITEC 781 - Artificial Intelligence and Informatics I (3 Credits)
Fundamental concepts in artificial intelligence, including intelligent agents, problem solving by searching, logic-based knowledge representation and inference, planning, and probabilistic reasoning. Basic techniques for building intelligent computer systems and applications to problems.
Prerequisites: B or better in STAT 700, STAT 701, BIOS 700, or BIOS 757; B or better in ITEC 749; B or better in CSCE 145, CSCE 204, or ITEC 352.

ITEC 782 - Artificial Intelligence and Informatics II (3 Credits)
Artificial Intelligence concepts including algorithmic decision making. Machine learning techniques such as learning from examples, learning probabilistic models, and reinforcement learning. Applications of AI technologies, e.g. natural language processing, robotics, and perception.
Prerequisites: B or better in ITEC 781.

ITEC 785 - Enterprise Data Analytics (3 Credits)
Mathematical and software tools and quantitative reasoning to the analysis of enterprise data. Fundamental concepts and essential skills in data analytics. Critical and creative thinking about quantitative and qualitative problems involving enterprise data.
Prerequisites: B or better in MATH 174; B or better in STAT 700 or STAT 701; B or better in ITEC 749; C or better in ITEC 264.

ITEC 786 - Advanced Enterprise Data Analytics (3 Credits)
Advanced concepts, issues, and trends in data analytics. Critical thinking and quantitative and qualitative analytical skills essential for Healthcare, Engineering, and Business among many others.
Prerequisites: B or better in ITEC 785.

ITEC 787 - Advanced Data Analytics Tools (3 Credits)
Software tools in data analytics. Advanced analytics techniques. Case studies and problem sets from multiple enterprise domains.
Prerequisites: B or better in MATH 174 and STAT 700; C or better in ITEC 264.

ITEC 790 - Special Topics in Informatics (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 repeated twice for credit.

ITEC 791 - Introduction to Management of Information Security (3 Credits)
Overview of information security exploring basic concepts and developing knowledge and skills of protecting valuable information assets and systems.

ITEC 792 - Management of Cyber Operations (3 Credits)
Technical and managerial aspects of IT security operations. Securing the cyberinfrastructure, detecting and mitigating intrusion, monitoring and managing computing systems.

ITEC 793 - Cybersecurity Risk Management (3 Credits)
Risk assessments, risk mitigation strategies, security risks, controls and services, development and implementation of security policies, threat and vulnerability, risk management program.

ITEC 795 - Independent Study in Health Information Technology (1-3 Credits)
Independent study in association with a directing instructor on a topic not covered in standard classes. Contract approved by instructor, advisor, and graduate program director.

ITEC 799 - Thesis Preparation (1-6 Credits)
Thesis Preparation as part of an ITEC masters degree. Students will work under the direction of a major advisor who is a member of the Graduate Faculty.

ITEC 899 - Dissertation Preparation (1-12 Credits)
Dissertation preparation.