

INFORMATION TECHNOLOGY (ITEC)

Courses

ITEC 201 METROPOLITAN INFORMATION TECHNOLOGY INFRASTRUCTURE (3)

Technological aspects that drive the Greater Baltimore area and its surroundings by placing them in a social and economic context. Students will be able to evaluate how these technologies affect our metropolitan area's status and development by comparing our systems to the ones of other cities. Core: Metropolitan Perspectives.

ITEC 217 COMPUTING HARDWARE AND INFRASTRUCTURE (3)

Provides the foundational principles of computer hardware and IT infrastructure. Topics include electricity and circuits, PC components and organization, system performance and tuning, cloud services and virtualization. Prerequisite: CIS 211.

ITEC 231 FUNDAMENTALS OF WEB TECHNOLOGIES (3)

Introduction to web systems and technologies, including the fundamentals of design, implementation, and evaluation of web-based applications including related software, databases, interfaces, and digital media. Social, ethical, and security issues related to web-based systems are also explored. Prerequisites: CIS 211 and (COSC 236 or ITEC 236).

ITEC 250 FUNDAMENTALS OF COMPUTER NETWORKS (3)

Based upon the Open Systems Interconnection Reference Model developed by the International Standards Organization. Topics include networking basics, network types and topologies, network protocols, reference models, network hardware, network applications and services, network operating systems and basic network security. Virtual lab, network management, and network simulation tools will be used. Prerequisites: COSC 236 or ITEC 236.

ITEC 270 SELECTED TOPICS IN INFORMATION TECHNOLOGY (3)

Studies in selected foundational areas of Information Technology. May be repeated for a maximum of 6 units. Prerequisites: 6 units of ITEC, CIS and /or COSC.

ITEC 274 FUNDAMENTALS OF SYSTEM MANAGEMENT (3)

Provides foundational principles of system management along with hands-on experience with operating systems. Topics covered include file and directory management, graphical and command line user interfaces, process and thread mechanics and user management. In addition, students will install, manage and safely remove applications. Prerequisite: COSC 236 or ITEC 236.

ITEC 315 DATA AND INFORMATION MANAGEMENT (3)

Introduction to data and information management, including the collection, organization, modeling, transformation, presentation, safety, and security of data and information. Prerequisites: CIS 211, MATH 263 and [COSC 236 or ITEC 236] (MATH 263 may be taken concurrently).

ITEC 325 SYSTEM ADMINISTRATION AND MAINTENANCE (3)

Essentials for effective administration and maintenance of applications, operating systems and networks, including IT system documentation, policies and procedures, and the education and support of the users of these systems. Prerequisites: ITEC 274 and MATH 263 (MATH 263 may be taken concurrently).

ITEC 336 LEGAL AND POLICY ISSUES IN INFORMATION TECHNOLOGY (3)

An in-depth exploration of the civil and common law issues that apply to information technology. In addition, the course explores statutes, jurisdictional, and constitutional issues related to computer crime and privacy in the digital age. Course content includes addressing the legal system, rules of evidence, evidence seizure and handling, court presentation, individual rights, and free speech. Prerequisite: CIS 211. Corequisite: COSC 236 or ITEC 236.

ITEC 345 SCRIPTING LANGUAGES (3)

Provides students with a solid foundation in the concepts which underlie many scripting languages and environments without focusing exclusively on any one language. The emphasis will be on the underlying concepts behind the development of small programs in various scripting languages commonly found in industry. Student will develop, test, and execute programs in a hands-on environment. Prerequisites: MATH 263 and (COSC 236 or ITEC 236).

ITEC 357 NETWORKING AND SECURITY PRACTICUM (3)

Applies principles of computer networking and security including the OSI model, topologies, network devices, routing protocols, virtualization and wireless networking, auditing, firewalls, malware, cryptography, encryption, wireless security, social engineering and disaster recovery. Tools such as network simulation, virtualization, public key infrastructure and anti-malware programs are used. This course prepares students to take the CompTIA Network + and Security + global certification exams. This course has been offered as a special topic; students who have earned credit for this course as a special topic will not receive additional credit for ITEC 357. Prerequisites: ITEC 250 and CIS 377.

ITEC 397 INFORMATION TECHNOLOGY INTERNSHIP (3)

Opportunity to develop knowledge and skills in information technology by working in a local computing facility with on-site and faculty supervision. May be repeated for a maximum of 6 units. Minimum 2.75 GPA. S/U Grading. Prerequisites: ITEC 315 or ITEC 325 or ITEC 345, and consent of the internship coordinator.

ITEC 411 SYSTEM ARCHITECTURE AND INTEGRATION (3)

Architecture and integration of systems. Gathering requirements, sourcing, evaluating and integrating components into a single system. Also covers the fundamentals of project management and the interplay between IT applications and organizational processes. Corequisite: ITEC 325. Prerequisite: ITEC 315.

ITEC 423 EMERGING INTERNET TECHNOLOGIES (3)

Focuses on emerging technologies that are essential in current trends and techniques related to Internet-based applications and their role in the IT field. Surveys the framework and essential elements in emerging Internet technology. Innovative technologies and related topics will be introduced along with the basic foundations required for their implementation and use. Prerequisite: ITEC 231 or consent of instructor.

ITEC 425 IT ENTERPRISE ARCHITECTURE (3)

Various standards and methodologies in designing and analyzing enterprise architectures including frameworks, layered architectures, strategic alignment between IT and business, modeling processes, and various viewpoints. Prerequisite: ITEC 411.

ITEC 427 CLOUD COMPUTING FOR ENTERPRISES (3)

Focuses on cloud computing and its role in the IT field. Introduces the fundamental elements, frameworks and standards of cloud computing. Students will work on group and individual projects related to cloud computing. Prerequisite: ITEC 231 or consent of instructor.

ITEC 433 CYBER SECURITY RISK MANAGEMENT (3)

Cyber security decisions, from resource management to threat management, require the application of risk management principles to be successful. This course identifies critical risk management components and investigates how they are applied in cyber security decisions utilizing Federal guidelines and regulations. Prerequisites: ITEC 250 and CIS 377.

ITEC 437 DISASTER RECOVERY AND ENTERPRISE CONTINUITY (3)

Focuses on assessing vulnerabilities to the organization and taking appropriate countermeasures to avoid or mitigate disruption of IT services. Emphasis is on techniques for developing an enterprise continuity plan and building an IT infrastructure to sustain organizational operations. Prerequisite: ITEC 325.

ITEC 450 ADVANCED COMPUTER NETWORKING (3)

Provides thorough grounding in advanced topics in computer networking. Focus is on wired and wireless networking, including technologies in application, transport, and network layers, multimedia networking, and network management and security. Prerequisites: ITEC 250 and ITEC 325.

ITEC 451 ADVANCED DATA MANAGEMENT & ANALYSIS (3)

Data-centric approach of information management and analysis. Students will become familiar with data standards, manipulation, analysis, and management techniques. A survey of popular tools. Prerequisite: ITEC 315.

ITEC 457 APPLIED NETWORK SECURITY (3)

Covers network security principles and applications to understand the methods that detect, prevent, and mitigate network security attacks. Topics include cyber attacks, symmetric/asymmetric cryptography, TCP/IP, secure socket layer, malicious software, mitigation and prevention systems, denial of service, email security, IP security, web security, spam, and email viruses. Prerequisites: ITEC 250, CIS 377, major/minor standing.

ITEC 464 WEB DEVELOPMENT (3)

Focuses on client/server side processing, with emphasis on client-server applications. Students are introduced to design and implementation of client-side scripting and server-side database connectivity using a content management system, including dynamic HTML, CSS, scripting, and databases, as well as emerging technologies. Also integrates web security and accessibility as they pertain to advanced web development. Prerequisite: ITEC 231.

ITEC 470 SPECIAL TOPICS IN INFORMATION TECHNOLOGY (3)

Studies in selected areas of information technology. May be repeated for a maximum of 6 units provided a different topic is taken. Prerequisites: 12 units of ITEC, CIS, or COSC courses.

ITEC 485 INFORMATION TECHNOLOGY SENIOR PRACTICUM (3)

Design and implement an IT project with consideration for real-world issues including cost, safety, efficiency, and suitability for the intended user. Display ability to integrate and apply critical technical skills with a variety of management concepts, principles, techniques, and practices, while effectively managing people, information, information and communication technologies, and business processes for the organizational strategic goals. Prerequisites: ITEC 411, senior standing in Information Technology.

ITEC 495 INDEPENDENT STUDY IN INFORMATION TECHNOLOGY (3)

Directed study in selected areas of Information Technology for which there is no regular course offered. The use of a proposal with well-defined objectives and a formal paper or project is required. Prerequisites: Senior standing in Information Technology and consent of department.