COURSE DESCRIPTIONS

COMPUTER SCIENCE

BCIS 1305 BUSINESS COMPUTER APPLICATIONS

Format: 3 lecture / 1 lab (3 credit hours)
Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications, including word processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the internet.
Credits: 3
Distribution: BCIS
Course Fee: Internet course fee (if applicable) = $43

COSC 1301 INTRODUCTION TO COMPUTING

Format: 3 lecture / 1 lab (3 credit hours)
Overview of computer systems-hardware, operating systems, and microcomputer application software, including the internet, word processing, spreadsheets, presentation graphics, and databases. Current issues such as the effect of computers on society, and the history and use of computers in business, educational, and other modern settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science.
Credits: 3
Distribution: COSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

COSC 1436 PROGRAMMING FUNDAMENTALS I

Format: 3 lecture / 3 lab (4 credit hours)
Introduces the fundamental concepts of structured programming and provides a comprehensive introduction to programming for computer science an technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This Course assumes computer literacy
Credits: 4
Distribution: COSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

COSC 1437 PROGRAMMING FUNDAMENTALS II

Format: 3 lecture / 3 lab (4 credit hours)
This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software.
Prerequisite: COSC 1436 - Programming Fundamentals I
Credits: 4
Distribution: COSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

COSC 2325 COMPUTER ORGANIZATION

Format: 2 lecture / 4 lab (3 credit hours)
The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced.
Prerequisite: COSC 1436 - Programming Fundamentals I
Credits: 3
Distribution: COSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

COSC 2436 PROGRAMMING FUNDAMENTALS III

Format: 3 lecture / 3 lab (4 credit hours)
Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include data structures (including stacks, queues, linked lists, hash table, trees and graphs), searching, sorting, recursion and algorithmic analysis. Programs will be implemented in an appropriate object oriented language.
Prerequisite: COSC 1437 - Programming Fundamentals II
Credits: 4
Distribution: COSC
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

IMED 1345 INTERACTIVE DIGITAL MEDIA I

Format: 2 lecture / 4 lab (3 credit hours)
Exploration of the use of graphics and sound to create interactive digital media applications and/or animations using industry standard authoring software.
Credits: 3
Distribution: IMED
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

IMED 2359 INTERACTIVE WEB ELEMENTS

Format: 2 lecture / 4 lab (3 credit hours)
Production of projects using current web development tools that may incorporate dynamic data, web graphics, animation, video and audio streaming.
Credits: 3
Distribution: IMED
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

INEW 1340 ASP.NET

Format: 2 lecture / 4 lab (3 credit hours)
Server side web programming concepts to implement solutions for common web programming tasks. Includes Basic ASP.NET web controls, user management and authentication, state management, and development of database-driven web applications.
Prerequisite: ITSE 2313 - Web Authoring
Credits: 3
Distribution: INEW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

INEW 2334 ADVANCED WEB PROGRAMMING

Format: 2 lecture / 4 lab (3 credit hours)
Web programming using industry-standard languages and data stores.
Prerequisite: ITSE 2313 - Web Authoring
Credits: 3
Distribution: INEW
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1309 FUNDAMENTALS OF CLOUD COMPUTING

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to Cloud computing from a business and technical perspective, including Cloud concepts, services, architecture, system integration, connectivity, data center migration, administration, security, compliance and technical support. Coverage includes preparation for industry certifications. Topics may adapt to changes in industry practices.
Prerequisite: ITNW 1325 - Fundamentals of Networking
Credits: 3
Distribution: ITNW
Offered: Spring Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1313 COMPUTER VIRTUALIZATION

Format: 2 lecture / 4 lab (3 credit hours)
Implement and support virtualization of client servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers.
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1325 FUNDAMENTALS OF NETWORKING TECHNOLOGIES

Format: 2 lecture / 4 lab (3 credit hours)
Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1335 INFORMATION STORAGE & MANAGEMENT

Format: 2 lecture / 4 lab (3 credit hours)

An introduction to date storage-related technologies. Topics include data storage for cloud, Big Data, mobile, social media, and software-defined data centers. Provides a strong understanding of storage technologies and prepares students for advanced concepts, technologies, and processes.
Prerequisite: ITNW 1325 - Fundamentals of Networking
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1336 CLOUD DEPLOYMENT AND INFRASTRUCTURE

Format: 2 lecture / 4 lab (3 credit hours)
Focus on Cloud infrastructure,deployment, security models, and key considerations in migrating to Cloud computing. Includes the technologies and processes required to build on premise and Cloud environments, including computation, storage, networking, virtualization, business continuity, security, and management.
Prerequisite: ITNW 1309 - Fundamentals of Cloud Computing
Credits: 3
Distribution: ITNW
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1354 IMPLEMENTING AND SUPPORTING SERVERS

Format: 2 lecture / 4 lab (3 credit hours)
Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment.
Prerequisite: ITNW 1325 - Fundamentals of Networking
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1373 CLOUD COMPUTING SECURITY

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to Cloud Security including tools which monitor data moving to and from the cloud and between cloud platforms, identification of fraudulent use of data in the Cloud and its financial and performance impact. Third party cloud security solutions including cloud security gateways, centralized cloud management, and native IaaS/PaaS platform security will be presented.
Prerequisite: ITNW 1309 - Fundamentals of Cloud Computing
Credits: 3
Distribution: ITNW
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 1425 FUNDAMENTALS OF NETWORKING TECHNOLOGIES

Format: 2 lecture / 4 lab (3 credit hours)
Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 2264 PRACTICUM IN COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS

Format: (2 credit hours)
Practicum in Computer Systems Networking and Telecommunications Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. (224 contact hours) Capstone course must be taken in final semester.
Credits: 3
Distribution: ITNW
Offered: Spring

ITNW 2305 NETWORK ADMINISTRATION

Format: 2 lecture / 4 lab (3 credit hours)
Topics include network components, user accounts and groups, network file systems, file system security, and network printing.
Credits: 3
Distribution: ITNW
Offered: Spring
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 2327 ADVANCED CLOUD COMPUTING

Format: 2 lecture / 4 lab (3 credit hours)
Focus on enterprise Cloud architecture, with advanced topics including multi Cloud platforms inclusive of computing, networking, storage, monitoring and database.
Prerequisite: ITNW 1336 - Cloud Deployment
Credits: 3
Distribution: ITNW
Offered: Spring
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 2329 APPLICATION DEVELOPMENT FOR THE CLOUD

Format: 2 lecture / 3 lab (3 credit hours)
A practical study of Cloud computing architecture and service. Includes designing and developing Cloud based applications, web services, micro services, and APIs; programming for the Cloud using API calls; and building and deploying server-side applications for the Cloud.
Prerequisite: ITSE 2302 - Intermediate Web Programming
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITNW 2355 SERVER VIRTUALIZATION

Format: 2 lecture / 4 lab (3 credit hours)
An in-depth study of the installation, configuration, management and troubleshooting of a virtualized server environment.
Prerequisite: ITNW 1313 - Computer Virtualization
Credits: 3
Distribution: ITNW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 1305 INTRO TO PC OPERATING SYSTEMS

Format: 2 lecture / 4 lab (3 credit hours)
A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and use of utilities.
Credits: 3
Distribution: ITSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 1315 IT PROJECT MANAGEMENT

Format: 2 lecture / 4 lab (3 credit hours)
Use of project management software for developing a project plan including timelines, milestones, scheduling, life cycle phases, management frameworks, skills, processes and tools.
Credits: 3
Distribution: ITSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 1316 LINUX INSTALLATION & CONFIGURATION

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux.
Credits: 3
Distribution: ITSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 1325 PERSONAL COMPUTER HARDWARE

Format: 2 lecture / 4 lab (3 credit hours)
 A study of current personal computer hardware including personal computer assembly and upgrading, setup and configuration, and troubleshooting
Credits: 3
Distribution: ITSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 1409 INTEGRATED SOFTWARE APPLICATIONS I

Format: 3 lecture / 3 lab (4 credit hours)

Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. Suggested prerequisite: keyboarding proficiency. Tech Prep articulated credit.
Credits: 4
Distribution: ITSC
Offered: Spring
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 2164 PRACTICUM-COMPUTER & INFORMATION SCIENCE

Format: (1 credit hour)
14 external learning experience. Practical general training and experiences in the workplace. The college and employer develop and document an individualized plan for the student. The plan relates workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.
Credits: 1
Distribution: ITSC
Offered: Spring
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSC 2339 PERSONAL COMPUTER HELP DESK

Format: 2 lecture / 4 lab (3 credit hours)
Diagnosis and solution of user hardware and software related problems includes on-the-job projects in either a help desk lab or in short-term assignments for local business.
Credits: 3
Distribution: ITSC
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1301 WEB DESIGN TOOLS

Format: 2 lecture / 4 lab (3 credit hours)
Designing and publishing Web documents according to World Wide Web Consortium (W3C) standards. Emphasis on optimization of graphics and images and exploration of tools available for creating and editing Web documents.
Credits: 3
Distribution: ITSE
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1302 COMPUTER PROGRAMMING

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to computer programming including design, development, testing, implementation, and documentation.
Credits: 3
Distribution: ITSE
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1306 PHP PROGRAMMING LANGUAGE

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to PHP including the design of web-based applications, arrays, string, regular expressions, file input/output, e-mail and database interfaces, stream and network programming, debugging, and security.
Prerequisite: ITSE 2313 - Web Authoring
Credits: 3
Distribution: ITSE
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1307 INTRO TO C++ PROGRAMING

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to computer programming using C++. Emphasis on the fundamentals of structured design with development, testing, implementation, and documentation. Includes language syntax, data file structures, input/output devices, and files.
Credits: 3
Distribution: ITSE
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1311 BEGINNING WEB PROGRAMMING

Format: 2 lecture / 4 lab (3 credit hours)
Skill development in web page programming, including mark-up and scripting languages.
Credits: 3
Distribution: ITSE
Offered: Fall Only

Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1330 INTRODUCTION TO C# PROGRAMMING
Format: 2 lecture / 4 lab (3 credit hours)
A study of C# syntax including data types, control structures, functions, syntax and semantics of the language, classes, class relationships, and exception handling.
Credits: 3
Distribution: ITSE
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1333 MOBILE APPLICATIONS DEVELOPMENT
Format: 2 lecture / 4 lab (3 credit hours)
An overview of different mobile platforms and their development environments. Outcomes: design, write and test small interactive programs for mobile platforms.
Prerequisite: ITSE 2313 - Web Authoring
Credits: 3
Distribution: ITSE
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 1359 INTRODUCTION TO SCRIPTING LANGUAGES
Format: 2 lecture / 4 lab (3 credit hours)
Introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis. Design programming solutions using scripting languages, write scripts; and test and debug scripts.
Prerequisite: ITSE 2313 - Web Authoring
Credits: 3
Distribution: ITSE
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 2302 INTERMEDIATE WEB PROGRAMMING
Format: 2 lecture / 4 lab (3 credit hours)
Techniques for web development. Includes server-side and client-side scripting.
Credits: 3
Distribution: ITSE
Offered: Spring Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 2313 WEB AUTHORING
Format: 2 lecture / 4 lab (3 credit hours)
Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools.
Credits: 3
Distribution: ITSE
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSE 2359 ADVANCED COMPUTER PROGRAMMING
Format: 2 lecture / 4 lab (3 credit hours)
Advanced programming techniques including file access methods, data structures, modular programming, program testing and documentation.
Prerequisite: INEW 2334 - Advanced Web Programming
Credits: 3
Distribution: ITSE
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSW 1304 INTRO TO SPREADSHEETS
Format: 2 lecture / 4 lab (3 credit hours)
Instruction in the concepts, procedures, and application of electronic spreadsheets.
Credits: 3
Distribution: ITSW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSW 1307 INTRO TO DATABASE

Format: 2 lecture / 4 lab (3 credit hours)
Introduction to database theory and the practical applications of a database.
Credits: 3
Distribution: ITSW
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 1300 FUNDAMENTALS OF INFORMATION SECURITY

Format: 3 lecture / 1 lab (3 credit hours)
An introduction to information security including vocabulary and terminology, ethics, the legal environment, and risk management. Identification of exposures and vulnerabilities and countermeasures are addressed. The importance of appropriate planning, policies and controls is also discussed.
Credits: 3
Distribution: ITSY
Offered: Fall Only
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 1342 INFORMATION TECHNOLOGY SECURITY

Format: 2 lecture / 4 lab (3 credit hours)
Instruction in security for network hardware, software, and data including physical security, backup procedures, relevant tools, encryption, and protection from viruses.
Credits: 3
Distribution: ITSY
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 2301 FIREWALLS & NETWORK SECURITY

Format: 2 lecture / 4 lab (3 credit hours)
Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.
Prerequisite: ITSY 1342 - Information Technology Security
Credits: 3
Distribution: ITSY
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 2330 INTRUSION DETECTION

Format: 2 lecture / 4 lab (3 credit hours)
Computer information systems security monitoring, intrusion detection, and crisis management. Includes alarm management, signature configuration, sensor configuration, and troubleshooting components. Emphasizes identifying, resolving, and documenting network crises and activating the response team
Prerequisite: ITSY 2301 - Firewalls and Network Security
Credits: 3
Distribution: ITSY
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 2341 SECURITY MANAGEMENT PRACTICES

Format: 2 lecture / 4 lab (3 credit hours)
In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan.
Prerequisite: ITSY 2301 - Firewalls and Network Security
Credits: 3
Distribution: ITSY
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 2342 INCIDENT RESPONSE AND HANDLING

Format: 2 lecture / 4 lab (3 credit hours)
In-depth study of system forensics including methodologies used for analysis of computer security breaches. Collect document and evaluate evidence to perform postmortem analysis of a security breach.
Prerequisite: ITSY 2301 - Firewalls and Network Security
Credits: 3
Distribution: ITSY
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

ITSY 2343 COMPUTER SYSTEMS FORENSICS

Format: 2 lecture / 4 lab (3 credit hours)
In-depth study of system forensics including methodologies used for analysis of computer security breaches. Collect document and evaluate evidence to perform postmortem analysis of a security breach.
Prerequisite: ITSY 2301 - Firewalls and Network Security
Credits: 3
Distribution: ITSY
Course Fee: Lab fee: $24, Internet course fee (if applicable) = $43

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