

COMPUTER SCIENCE (BCIS, COSC, GAME, IMED, ITNW, ITSC, ITSE, ITSW, ITSY)

BCIS-1305. Business Computer Applications. (3 Credits)

(3-2-4) CORE AREA 090 This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Students will study computer terminology, hardware, and software related to the business environment. The focus of this course is on business productivity software applications and professional behavior in computing, including word processing (as needed), spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet. Lab fee.

COSC-1336. Programming Fundamentals I. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduces the fundamental concepts of structured programming and provides a comprehensive introduction to programming for computer science and 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. (This course is included in the Field of Study Curriculum for Computer Science.) Lab fee.

COSC-1337. Programming Fundamentals II. (3 Credits)

(3-2-4) This course is taken for academic credit. (Prerequisite COSC 1336) Students will earn an A, B, C, D, F, or W. 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. (This course is included in the Field of Study Curriculum for Computer Science.) Lab fee.

GAME-1212. Game Theory. (2 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Game and simulation design. Application of design theories to production-based projects from the conceptual stage to a completed project.

GAME-1303. Introduction to Game Design and Development. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to electronic game development and game development careers. Includes examination of history and philosophy of games, the game production process, employee factors for success in the field, and current issues and practices in the game development industry.

IMED-1316. Web Design I. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Instruction in the fundamentals of HTML, Web page design and development. Lab fee.

ITMT-1305. Configuring Advanced Windows Server Oper. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Advanced configuration tasks required to deploy, manage, and maintain a Window Server operating system infrastructure. Additional topics include fault tolerance, certificate services, and identity federation. Lab fee.

ITMT-1357. Administering a Windows Server Operating System. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A study of administrative tasks needed to maintain a Windows Server operating system including user and group management, network access and data security. Topics include how to implement, configure and manage Group Policy infrastructure, Group Policy objects (GPOs) using links, security groups, WMI filters, loopback processing, preference targeting and troubleshooting policy application. Lab fee.

ITNW-1308. Implementing and Supporting Client Opera. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. The fundamentals of managing and configuring network clients. Lab fee.

ITNW-1309. Fundamentals of Cloud Computing. (3 Credits)

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.

ITNW-1325. Fundamentals of Networking Technologies. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. Identify and use network transmission media; explain the OSI model; recognize the primary network topologies/protocols, identify their characteristics, and determine which would be most appropriate for a proposed network; identify the functions of a network operating system and distinguish between centralized, client/server, and peer-to-peer systems; and distinguish between local area networks (LANs) and wide area networks (WANs) and identify the components used to expand a LAN into a WAN. Lab fee.

ITNW-1336. Cloud Development and Infrastructure Mgt. (3 Credits)

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.

ITNW-1358. Network+. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Assists individuals in preparing for the Computing Technology Industry Association (CompTIA) Network+ certification exam and careers as a network professional. Lab fee.

ITNW-1425. Fundamentals of Networking Technologies. (4 Credits)

Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

ITNW-1458. Network+. (4 Credits)

Assists individuals in preparing for the Computing Technology Industry Association (CompTIA) Network+ certification exam and career as a network professional.

ITNW-2327. Advanced Cloud Concepts. (3 Credits)

Focus on enterprise Cloud architecture, with advanced topics including multi-Cloud platforms inclusive of computing, networking, storage, monitoring and database.

ITNW-2329. Application Development for the Cloud. (3 Credits)

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.

ITNW-2356. Designing a Network Directory Infrastructure. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Design, implement, and support a network directory infrastructure in a multi-domain environment. Lab fee.

ITSC-1001. Introduction to Computers. (0 Credits)

Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources.

ITSC-1009. Integrated Software Applications. (0 Credits)

Introduction to business productivity software suites using word processing, spreadsheets, databases and/or presentation software. Lab fee.

ITSC-1011. As400 Operations. (0 Credits)

A study of the AS/400 operating system including multi-user concepts, terminal emulation, use of system editor, basic AS/400 menus, commands, and help screens. Topics include introductory system management concepts and file management.

ITSC-1191. Special Topics. (1 Credit)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W.

ITSC-1291. Special Topics. (2 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W.

ITSC-1301. Introduction to Computers. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources.

ITSC-1305. Introduction to PC Operating Systems. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to personal computer operating systems including installation, configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Lab fee.

ITSC-1309. Integrated Software Applications I. (3 Credits)

Introduction to business productivity software suites using word processing, spreadsheets, databases and/or presentation software. Lab fee.

ITSC-1316. Linux Installation and Configuration. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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. Lab fee.

ITSC-1325. Personal Computer Hardware. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Topics address recently identified current events, skills knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

ITSC-1405. Introduction to PC Operating Systems. (4 Credits)

Introduction to personal computer operating systems including installation, configuration, file management, memory and storage management, control of peripheral devices, and use of utilities.

ITSC-1425. Personal Computer Hardware. (4 Credits)

Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting.

ITSC-1491. Special Topics. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W.

ITSC-2021. Integrated Software Appl II. (0 Credits)

Intermediate study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.

ITSC-2335. Application Software Problem Solving. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Utilization of appropriate software to solve advanced problems and generate customized solutions. Lab fee.

ITSE-1011. Beginning Web Programming. (0 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Skill development in web programming including mark-up and scripting languages. Lab fee.

ITSE-1301. Web Design Tools. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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.

ITSE-1307. Introduction to C++ Programming. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to computer programming using C++. Emphasis on the fundamentals of structured design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE-1311. Beginning Web Programming. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Skill development in web programming including mark-up and scripting languages. Lab fee.

ITSE-1331. Introduction to Visual Basic Programming. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to computer programming using Visual BASIC. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE-1332. Introduction to Visual Basic.Net Programming. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to Visual Basic.NET (VB.NET) including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships and exception handling. Lab fee.

ITSE-1346. Database Theory and Design. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to the analysis and utilization of data requirements and organization into normalized tables using the four normal forms of database design. Lab fee.

ITSE-1401. Web Design Tools. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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. Lab Fee.

ITSE-1431. Visual Basic Prog. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction to computer programming using Visual Basic. Emphasizes the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE-2313. Web Authoring. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Instruction in Web page design and related graphic design issues. Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies, and authoring tools. Lab Fee.

ITSW-1304. Introduction to Spreadsheets. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Instruction in the concepts, procedures, and application of electronic spreadsheets. Lab fee.

ITSW-1307. Introduction to Database. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Introduction of database theory and practical application. Includes techniques for planning, defining, and designing a database and procedures pertaining to queries, reports, control and security of the database. Hands on experience will be provided using appropriate application software. Lab fee.

ITSW-1310. Intro to Presentation Graphics Software. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. Includes presentation media terminology and concepts; creation of presentations using text, visual and/or sound elements; use of effective compositions and style; preparation of presentations for distribution on computers or other media; and modify sequence and slide master. Lab fee.

ITSW-1381. Coop Education, Data Processing Technology/Technician. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Career related activities in the student's area of specialization are offered through a cooperative agreement between the college, the employer and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Lab fee.

ITSY-1300. Fundamentals of Information Security. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. An introduction to information securing including vocabulary and terminology, ethics, the legal environment and risk management. Identification of exposures and vulnerabilities and appropriate countermeasures are addresses. The importance of appropriate planning, policies and controls are also discussed. Lab fee.

ITSY-1342. Information Technology Security. (3 Credits)

(3-2-4) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools, encryption; and protection from viruses. Lab fee.

ITSY-1400. Fundamentals of Information Security. (4 Credits)

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.

ITSY-1442. Information Technology Security. (4 Credits)

Instruction in security for network computer hardware, software, virtualization, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses. Topics may adapt to changes in industry practices.

ITSY-2301. Firewalls and Network Security. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Identify elements of firewall design, types of security threats and responses to security attacks. Use Best Practices to design, implement, and monitor network security plan. Examine security incident postmortem reporting and ongoing network security activities. Lab fee.

ITSY-2330. Intrusion Detection. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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. Lab fee.

ITSY-2342. Incident Response and Handling. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. In-depth coverage of incident response and incident handling, including identifying sources of attacks and security breaches; analyzing security logs; recovering the system to normal; performing postmortem analysis; and implementing and modifying security measures. Lab fee.

ITSY-2359. Security Assessment and Auditing. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Comprehensive experience for the security curriculum. Synthesizes technical material covered in prior courses to monitor, audit, analyze, and revise computer and network security systems that ensure appropriate levels of protection are in place to assure regulatory compliance. Lab fee.