



**KENTUCKY STATE  
UNIVERSITY**

# APPLIED INFORMATION TECHNOLOGY (CIT)

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## **CIT 100: Intro to Information Tech**

This course introduces concepts, issues, techniques and processes needed for completing and managing information technology projects. Topics include history, trends and the human impact of information technology. Project management tools, techniques and concepts are also introduced. Teamwork, team building methods, and oral and written communication are emphasized.

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 110: Web Development & Design**

This course is an introduction to XHTML and JavaScript. The course assumes no previous programming experience but does assume knowledge of the Internet. Topics will include: Using XHTML and JavaScript. Data Types: Integer, Float, and Strings Using Hyperlinks, Images, Lists, Tables, Frames, Forms, Cascading Style Sheets, Similarities and differences between XHTML and JavaScript Debugging Techniques Using Lists Object/Oriented Programming Control Structures: Selection and Repetition (Looping) DHTML, CSS, & Animation Arrays.

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 111: Network Fundamentals**

An introductory study of networking, covering the basics of networking media, devices, protocols, layered communications models and network addressing.

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 112: Router Theory and Config**

Course content includes safety, networking, networking terminology and protocols, network standards, LANS, WANS, OSI model, cabling, routers, router programming, Ether-net, and IP addressing. Emphasis is given to the use of decision making and problem solving techniques.

**Prerequisite:** CIT 230 or Consent of Instructor

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 120: Web Programming Concepts**

This course introduces students to basic programming concepts using a business/oriented language such as Visual Basic.NET. Topics include basic file processing, control mechanisms and constructs, functions and data types. Using design tools such as pseudo code and structured flowcharts, students focus on developing programming logic in a top/down modular fashion.

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 121: Programming Concepts**

This course introduces students to basic programming concepts using a business/oriented language such as Visual Basic.Net. Topics include basic file processing, control mechanisms and constructs, functions and data types.

**Prerequisite:** COS 107

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 136: Comp Hardware: Mgmt/Maint**

The focus of this course involves emphasis on computer hardware that consumers of microcomputer systems might encounter. This course will guide students through the actual construction of a microcomputer system with in/depth discussions of each component and the various upgrade options. The use of peripheral devices such as fax, modem, printers, and scanners is also covered. The instructional methods employed in this class include lecture, class discussion, demonstration, and hands/on laboratory experience.

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 137: Comp OS Sys: Manage & Maint**

This course is designed as a survey of operating system software. Students will study the basic concepts and procedures for installing and troubleshooting operating system software. An emphasis on extensive laboratory experience will ensure students practical expertise in addition to operating systems theory with DOS, Windows 9x; Windows NT, 2000, and XP; UNIX; Linux; OS/2; and Mac OS. The objectives of this course coincide with those needed in prepa

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 200: Network Operating Systems**

An introduction to installing Windows Server 2003, Standard Edition, Configuring the Windows Server 2003 Environment, Introduction to Active Directory and Account Management, Configuring, Managing, and Troubleshooting Resource Access, Configuring Windows Server Printing, Configuring and Managing Data Storage, Managing Windows Server 2003 Network Services, Configuring Remote Access Services, Securing Windows Server 2003, Server and Network Monitoring, Managing System Reliability and Availability.

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 208: Computer Aided Draft I**

Familiarization with contemporary CAD systems, covering basic theory and applications, including industry's conversion to CAD. Prior computer experience is beneficial but not required.

**Prerequisite:** CIT 101 or consent of instructor

**Credit Hours: 3**

**Contact Hours: 3**

## **CIT 210: Computer Aided Draft II**

Advanced training in CAD systems, covering the use of attributes, databases, Data Exchange Files, and the customizing of menus for increased efficiency of application.

**Prerequisite:** CIT 208 or consent of instructor

**Credit Hours: 3**

**Contact Hours: 3**

**CIT 211: LAN Switching and Wireless**

This course introduces LAN switching and wireless networking. Material covered includes LAN and VLAN design and configuration, trunking, VTP, STP, inter-VLAN routing and WLAN configuration and security.

**Prerequisite:** CIT 112

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 212: Intro to WAN Technology**

An intermediate course encompassing the design and configuration of secure, scalable WANS for the enterprise. Topics include WAN architecture, PPP, Frame Relay, ACLs, NAT, and WAN Security.

**Prerequisite:** CIT 211

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 220: Intermediate Web Programming**

This course builds on the foundation provided by CIT 120. Students are introduced to advanced programming concepts such as file handling, report generation, screen processing and interface design as implemented in a business-oriented language such as Visual Basic. NET or C.

**Prerequisite:** CIT 120 with a C or better

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 222: Advanced Programming**

File handling, report generation, screen processing and interface design as implemented in a business-oriented language such as Visual Basic or C. The advanced programming languages, XML and ASP.net, will be introduced. The course will cover the way applications are developed.

**Prerequisite:** CIT 121

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 226: Microprocessor Architecture**

A study of the architecture and interconnecting functional units of the CPU, ALU, and control units with memory, input/output devices and communications between subsystems. (Lecture two hours, laboratory two hours)

**Prerequisite:** CIT 129

**Credit Hours:** 3

**Contact Hours:** 4

**CIT 230: Data Communications Tech**

A study of data communications hardware including synchronous and asynchronous communications.

**Prerequisite:** CIT 226

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 231: Peripheral Control Structures**

An analysis of the digital logic structures of peripheral control devices and how they interface with microprocessor based systems. Use of the Intel Series Development System to develop, edit, assemble, debug and test system routines.

**Prerequisite:** CIT 226

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 232: Intro to Network Operating Sys**

This course involves the installation, configuration, management, and trouble-shooting of network operating systems, accounts, data storage, remote access, and security.

**Prerequisite:** CIT 230

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 251: UNIX Network Programming**

To introduce the first step in UNIX networking programming, the course will cover practical experience, historical perspective, and a depth of understanding. The course will qualify the students to build today's highly distributed, networked applications and services.

**Prerequisite:** CIT 222

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 255: Multimedia Production**

Concepts, tools and techniques of multimedia production are among a few of comprehensive sets of topics included. Students will become familiar with how a major production develops and become capable of producing professional quality multimedia productions.

**Prerequisite:** Course addresses the educational needs of anyone wishing to work in the multimedia environment

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 265: Intro to Digital Video**

Students will capture and edit digital video using industry-standard desktop video software and export to DVD, VHS, and the Internet for us in entertainment, documentary films, commercials, and newscasts. Students will learn to storyboard, plan, and produce a digital video project from conception to final packaging and explore topics such as compositing, alpha channels, and special effects.

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 300: Network Operating Systems**

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 310: Web Server Administration**

To introduce Internet client application, development Web page with Microsoft , CGI, ISAPI and Developing ODBC Database Front/Ends. The use of VBScript and data structure are major subject to communicate with data base.

**Prerequisite:** CIT 200

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 311: Advanced Routing**

An advanced routing course encompassing the design and configuration of secure, scalable internetworks for the enterprise. Topics covered include load balancing and route summarization with EIGRP, multi-area OSPF, multi-area integrated IS-IS, BGP, and multi-protocol routing.

**Prerequisite:** CIT 212

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 312: Advanced LAN Switching**

Topics covered include advanced VLAN design and configuration, VTP, STP, Etherchannel, advanced inter-VLAN routing, HSRP, and VOIP and WLAN switching.

**Prerequisite:** CIT 212. an advanced course encompassing the design and configuration of secure multi-layer switching for the enterprise

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 331: Introduction to Robotics**

Introduction to robotics including the design, building, and programming simple robots. Included will be the basic science, engineering, and mathematics needed to design and build a simple robot. Students will also be introduced to the topic of project management. The course is a combination lecture/laboratory course that will meet five hours per week for three credit hours.

**Credit Hours:** 3

**Contact Hours:** 5

**CIT 345: Net. Analysis/Troubleshooting**

Introduces the latest protocol information and troubleshooting, features for network analysis techniques and experience-based strategies for isolating and solving network problems, and bottom/up troubleshooting methodology that examines each network layer in detail.

**Prerequisite:** CIT 353

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 350: Advanced Server Programming**

To introduce the advanced techniques of PHP Script programming, extract all URLs from a convert URL strings into valid HTML links string, shorten string to desired length and add e/mail address verification, how to sort multidimensional array, and.

**Prerequisite:** CIT 221

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 351: Advan.UNIX Net. Programming**

Introduces the students to the internal structures of Posix interprocess communication (IPC) and System V (SysV) IPC; pipes and first in/first out (FIFOs); message queues; how to lock/unlock files and records; semaphores; shared memory; and remote procedure calls (RPCs).

**Prerequisite:** CIT 251

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 352: Network Comm Technology**

Explains the fundamentals of data communications, including basic LAN and WAN engineering, modems and other forms of data communications equipment; broadband infrastructure and network services, and the protocols and equipment that make the global Internet a reality.

**Prerequisite:** CIT 230 or Consent of Instructor

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 355: Interactive Multimed Res/Desgn**

CIT 256 is a project intensive course, which builds on the principles and concepts covered in CIT 255 / Multimedia Production. Topics for this course include media optimization, advanced multimedia techniques, color correction, advanced raster images, image manipulation, sound and video file formats, marquee and animation. Students will also study the theoretical foundations of multimedia including human computer interaction theory.

**Prerequisite:** CIT 255 with a grade of C or better

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 360: Web Server Application Dev**

This course will cover the way Web applications are developed with XML and ASP.NET. Built on Microsoft's .NET framework the course guides the student from beginning Web applications, to object/oriented programming, to using advanced Web form server controls. Students will effectively design interactive and dynamic Web applications within a server/ based scripting environment and learn to successfully convert databases from Access to SQL Server and work with arrays, collections, and control structures.

**Prerequisite:** CIT 220

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 362: Wind Desktop/Server OS Admin**

This course introduces the intermediate to advanced topics; demonstrating how to install, configure, and maintain Windows Server 2003; includes setting up users, computers, and printers; managing networked file and print servers; creating an e/mail server; and how to keep all data protected and secure.

**Prerequisite:** CIT 222 or Consent of Instructor

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 370: Information Tech Project Mgt**

In this course students will learn the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Various project management philosophies will be covered. Students will be prepared to engage in leadership roles in project management activities.

**Prerequisite:** CIT 120

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 411: Advance WAN Technologies**

An advanced course encompassing the design and configuration of secure, converged wide-area networks. Topics include site-to-site VPNs, MPLS, AAA, RADIUS, CBACs, and securing WAN devices

**Prerequisite:** CIT 212

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 412: Optimizing Converged Networks**

A capstone course encompassing the optimization of converged networks. Topics include queuing, traffic shaping, and Quality of Service for wired and wireless, voice, and video networks.

**Prerequisite:** CIT 311, 312, and 411

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 420: Advan. Database & Data Mining**

To introduce the advanced database techniques and the use of SQL, interface, data preparation for data mining addresses an issue unfortunately ignored by most authorities on data mining. Data preparation has traditionally taken a backseat to the more alluring question of how best to extract meaningful knowledge. But without adequate preparation of your data, the return on the resources invested in mining is certain to be disappointing.

**Prerequisite:** COS 410 with a grade of C or better

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 430: Storage Area Networks**

To present the benefits of storage area networks (SANs) to corporate users and enables them to deploy SAN technology effectively. Designed as an introduction to SANs, Storage Area Network Fundamentals develops an understanding of SAN basics and shows how to plan, implement, and manage a SAN. This course covers the topologies, protocols, and products required to implement and manage efficient SANs.

**Prerequisite:** CIT 420, COS 311 with grades of C or better

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 440: Intro to Client/Server**

Students explore basic concepts underlying client/server computing, emphasizing the event/driven programming paradigm and graphical user environment. They also become familiar with a client/server application development tool such as Power Builder or Visual Basic.

**Prerequisite:** CIT 255, CIT 350, CIT 420

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 450: Web Engineering**

To introduce and provide perspectives on Web/based system development. Emphasis is placed on processes and methodologies of managing information on the Web. Students will utilize development tools, skills, and case studies to evaluate Web/based systems by focusing on performance testing and Web matrices. Students will learn how to maintain and reuse Web/based systems and the components that comprise those systems.

**Prerequisite:** COS 311, CIT 350, CIT 355, CIT 420 with grades of C or better

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 451: VoIP Architecture**

Introduces new techniques in which bypassing of the old circuit/switched hardware, soft switches streamline message traffic providing a much more efficient service development environment.

**Prerequisite:** CIT 211

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 452: Mobile & Wireless Design**

Introduces the mobile and wireless design techniques from the developer's perspective; offering in/depth analysis of the complete range of network technologies, details development options for building Smart Client, Thin Client, and messaging applications, as well as PIM.

**Prerequisite:** CIT 211

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 453: Network Management**

Introduces the theoretical backgrounds and practical aspects of networking in three parts: Part I deals with background material on netures and protocols to lay the foundation for SNMP to manage networks. This course enables students to move on to the networking industry or to pursue or continue research in the field. It is useful for bother computer science and electrical/computer engineering courses in networking and net-working technologies (Ethernet, bridges, and switches). Part II addresses network management architecmanagement, broadband management, and TNM. Part III focuses on network management applications, tools to monitor network parameters, and network managements systems

**Prerequisite:** CIT 251 or CIT 361

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 460: Advanced Client/Server**

In this course students apply skills and knowledge to develop a client/server application using object/oriented analysis and design. Using a graphical user interface (GUI) client and database server, students design and implement a business application.

**Prerequisite:** CIT 440

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 470: Information Architecture**

This course shows information architects, designers, and web site developers how to build large-scale and maintainable web sites that are easy to navigate and appealing to users.

**Prerequisite:** CIT 220

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 480: Web Analytics**

This course covers best practices for gathering web data to drive analytical business decisions. Students will learn how to measure Key Performance indicators (KPIs) consistently then, utilizing a common language, communicate standards to achieve common goals. Students will engage in best practices for developing consistent KPIs and integrated metrics so they can get an accurate picture of which efforts are performing well and which are not.

**Prerequisite:** CIT 220

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 481: IT Independent Study**

In this course students apply skills and knowledge to pursue a deeper knowledge of various aspects of the field of Information Technology. Students may also choose to prepare for a variety certification exams.

**Prerequisite:** Senior status or consent of instructor

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 497: Topics in Info. Technology**

This course requires intensive examination of current topics in informational technology. This course will involve concentrated reading and discussion, as well as writing and presentation of findings.

**Prerequisite:** Senior status or consent of instructor

**Credit Hours:** 3

**Contact Hours:** 3

**CIT 499: Information Technology Intern**

Designed to provide students a means to integrate academic theories and principles to practical job experience, thereby reinforcing and expanding classroom learning while preparing them for postgraduate employment. Students engage in industrial sponsored educational activities related to their major.

**Prerequisite:** Students to be enrolled in their last semester of course work or instructor's consent

**Credit Hours:** 3

**Contact Hours:** 3