

Central Carolina Community College
Program Planning Guide – Computer Information Tech/Healthcare Business Informatics

Computer Information Technology/Healthcare Business Informatics (A25260HBI)
Credential: Associate in Applied Science

The Computer Information Technology (CIT) curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible curriculum that can be customized to meet community information system needs.

Coursework will develop a student’s ability to implement and support complex technical systems related to computer hardware, software, and networks. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

The Healthcare Business Informatics emphasis prepares individuals for employment as specialists in installation, data management, data archiving/retrieval, system design and support, and computer training for medical information systems. Students study terminology relating to informatics, systems analysis, networking technology, computer/network security, data warehousing, archiving and retrieval of information, and healthcare computer infrastructure support.

Graduates should qualify for employment in entry-level positions with the healthcare industry, businesses, educational systems, and governmental agencies which rely on computer systems to manage information. Graduates should be prepared to sit for industry-recognized certification exams.

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Computer Information Technology

Program Site: Lee Campus - Day Program

Suggested Course Schedule:		HOURS			Grade	Semester	Notes
		Class	Lab	Credit			
1st Semester (Fall)							
ENG 111	Expository Writing	3	0	3			
ENG 111A	Expository Writing Lab	0	2	1			
CTS 115	Information Sys. Business Concepts	3	0	3			
CIS 110	Introduction to Computers	2	2	3			
HBI 110	Issues and Trends in HBI	3	0	3			
NOS 110	Operating System Concepts	2	3	3			
		12	9	16			
2nd Semester (Spring)							
MAT 140	Survey of Mathematics	3	0	3			
DBA 110	Database Concepts	2	3	3			
CIS 115	Intro to Programming & Logic	2	3	3			
NOS 130	Windows Single User	2	2	3			
NET 110	Networking Concepts	2	2	3			
CTS 120	Hardware/Software Support	2	3	3			
		13	13	18			
3rd Semester (Summer)							
ENG 114	Professional Research & Reporting	3	0	3			
AND/OR	-Humanities/Fine Arts Elective	3	0	3			
	-Social/Behavioral Science Elective						
		6	0	6			
4th Semester (Fall)							
CTS 285	Systems Analysis and Design	3	0	3			
NOS 230	Windows Administration I	2	2	3			
OST 141	Medical Terminology I	3	0	3			
OST 149	Medical Legal Issues	3	0	3			

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HBI 250	Data Management & Utilization	2	2	3			
		13	4	15			

5th Semester (Spring)

CTS 289	System Support Project	1	4	3			
SEC 110	Security Concepts	3	0	3			
OST 142	Medical Terminology II	3	0	3			
HBI 113	Survey of Medical Insurance	3	0	3			
	Humanities/Fine Arts Elective OR Social/Behavioral Science elective	3	0	3			
		13	4	15			

Total Semester Hours Credit: 69/70

**Computer Information Technology/
Healthcare Business Informatics Course Descriptions:**

CIS 110 Introduction to Computers 2-2-3

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CIS 115 Introduction to Programming and Logic 2-3-3

Prerequisite: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CTS 115 Information Systems Business Concept 3-0-3

The course introduces the role of IT in managing business processes and the need for business process and IT alignment. Emphasis is placed on industry need for understanding business challenges and developing/managing information systems to contribute to the decision making process based on these challenges. Upon completion, students should be able to demonstrate knowledge of the 'hybrid business manager' and the potential offered by new technology and systems. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CTS 120 Hardware/Software Support 2-3-3

Prerequisite: CIS 110 or CIS 111

This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.

CTS 285 Systems Analysis and Design 3-0-3

Prerequisite: CIS 115

This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

CTS 289 System Support Project 1-4-3

Prerequisite: CTS 285

This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation.

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DBA 110 Database Concepts 2-3-3

This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms.

ENG 111 Expository Writing 3-0-3

Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, or appropriate placement test scores.

Corequisites: ENG 111A

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved for transfer under the CAA and ICAA as a general education course in English Composition.

ENG 111A Expository Writing Laboratory 0-2-1

Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, or appropriate placement test scores.

Corequisites: ENG 111

This writing laboratory is designed to apply the skills introduced in ENG 111. Emphasis is placed on the editing and revision components of the writing process. Upon completion, students should be able to apply those skills in the production of final drafts in ENG 111. The computer is used as a writing and design tool for this course.

ENG 114 Professional Research and Reporting 3-0-3

Prerequisite: ENG 111

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations. The computer is used as a writing and design tool for this course. This course has been approved for transfer under the CAA and ICAA as a general education course in English Composition.

HBI 110 Issues and Trends in HBI 3-0-3

This course is a survey of current and emerging technology applications and data standards in the healthcare industry. Topics include the history, implementation, use, management, and impact of information technology in healthcare settings. Upon completion, students should have an understanding of the current trends and issues in healthcare informatics.

HBI 113 Survey of Med Insurance 3-0-3

This course is a survey of the healthcare insurance system. Emphasis is placed on the foundation necessary for understanding the healthcare delivery system, terminology and practices of healthcare insurance, and provider reimbursement. Upon completion, students should have an understanding of healthcare insurance and how outcomes are addressed through healthcare informatics.

HBI 250 Data Mgmt and Utilization 2-2-3

This course covers the management and usage of data in healthcare settings according to current practices in healthcare informatics. Topics include data warehousing, data integrity, data security, data mining, and report generating in healthcare settings. Upon completion, students should be able to demonstrate an understanding of using healthcare data to support reporting and decision making in healthcare settings.

MAT 140 Survey of Mathematics 3-0-3

Prerequisite: Take one set: MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175, or appropriate placement test scores.

This course provides an introduction in a non-technical setting to selected topics in mathematics. Topics may include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. Under the CAA and ICAA, this course satisfies the general education Mathematics requirement for the AA and AFA degrees. It does not satisfy the general education Mathematics requirement for the AS degree.

NET 110 Networking Concepts 2-2-3

This course introduces students to the networking field. Topics include network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.

NOS 110 Operating System Concepts 2-3-3

This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is placed on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems.

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NOS 130 Windows Single User 2-2-3

Prerequisite: NOS 110 or CET 211

This course introduces operating system concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a single-user environment.

NOS 230 Windows Administration I 2-2-3

Prerequisite: NOS 130

This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and managing/implementing disaster recovery. Upon completion, students should be able to manage and maintain a Windows Server environment.

OST 141 Med Terms I-Med Office 3-0-3

This course uses a language-structure approach to present the terminology and vocabulary that will be encountered in medical office settings. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in approximately one-half of the systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

OST 142 Medical Terms II-Med Office 3-0-3

Prerequisite: OST 141

This course is a continuation of OST 141 and continues the study, using a language-structure approach, of medical office terminology and vocabulary. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in the remaining systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

OST 149 Med Legal Issues 3-0-3

This course introduces the complex legal, moral, and ethical issues involved in providing health care services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

SEC 210 Intrusion Detection 2-2-3

Prerequisite: SEC 160

This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solution for networks and host based systems.