



Computer Information Technology Credential: Associate in Applied Science Degree in Computer Information Technology A25260

The Computer Information Technology curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. Several pathways (tracks) are provided to allow students to specialize in a specific area of information systems that meets their needs and interests.

Course work will develop a student's ability to communicate complex technical issues related to computer hardware, software, and networks in a manner that computer users can understand. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

Graduates should qualify for employment in entry-level positions with 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: 4 semesters

Program Sites: Lee Campus – Day

Evening Flex– (A career-centered blend of evening, online, and classes that mix evening and online to create what the college refers to as a hybrid format.)

Course Requirements for Computer Programming

A. General Education Courses

1. Required Courses

ENG 111	Expository Writing	3-0-3
ENG 111A	Expository Writing Lab	0-2-1
ENG 114	Prof Research & Reporting	3-0-3

2. Required Subject Area

Humanities Elective (Select 3.0 hours from the following)

ART 111	Art Appreciation	3-0-3
DRA 111	Theatre Appreciation	3-0-3
ENG 231	American Literature I	3-0-3
ENG 232	American Literature II	3-0-3
ENG 233	Major American Writers	3-0-3
ENG 241	British Literature I	3-0-3
ENG 242	British Literature II	3-0-3
ENG 243	Major British Writers	3-0-3
HUM 110	Technology and Society	3-0-3
HUM 115	Critical Thinking	3-0-3
HUM 150	American Womens Studies	3-0-3
HUM 220	Human Values and Meaning	3-0-3
MUS 110	Music Appreciation	3-0-3
PHI 210	History of Philosophy	3-0-3
PHI 230	Introduction to Logic	3-0-3
PHI 240	Introduction to Ethics	3-0-3
REL 110	World Religions	3-0-3
REL 211	Intro to Old Testament	3-0-3

REL 212	Intro to New Testament	3-0-3
MUS 112	Introduction to Jazz	3-0-3
HUM 120	Cultural Studies	3-0-3
HUM 122	Southern Culture	3-0-3
ENG 273	African-American Literature	3-0-3
ENG 262	World Literature II	3-0-3
ENG 261	World Literature I	3-0-3

Mathematics (Select 3.0 hours)

MAT 115	Mathematical Models	2-2-3
MAT 140	Survey of Mathematics	3-0-3

Social/Behavioral Science Elective (Select 3.0 hours)

ANT 210	General Anthropology	3-0-3
ANT 220	Cultural Anthropology	3-0-3
ECO 151	Survey of Economics	3-0-3
ECO 251	Prin of Microeconomics	3-0-3
ECO 252	Prin of Macroeconomics	3-0-3
GEO 111	World Regional Geography	3-0-3
HIS 111	World Civilizations I	3-0-3
HIS 112	World Civilizations II	3-0-3
HIS 121	Western Civilization I	3-0-3
HIS 122	Western Civilization II	3-0-3
HIS 131	American History I	3-0-3
HIS 132	American History II	3-0-3
POL 120	American Government	3-0-3
POL 130	State & Local Government	3-0-3
POL 210	Comparative Government	3-0-3
POL 220	International Relations	3-0-3
PSY 110	Life Span Development	3-0-3
PSY 115	Stress Management	2-0-2
PSY 118	Interpersonal Psychology	3-0-3
PSY 150	General Psychology	3-0-3
PSY 237	Social Psychology	3-0-3
PSY 241	Developmental Psych	3-0-3
PSY 246	Adolescent Psychology	3-0-3
PSY 281	Abnormal Psychology	3-0-3
SOC 210	Introduction to Sociology	3-0-3
SOC 213	Sociology of the Family	3-0-3
SOC 220	Social Problems	3-0-3
SOC 225	Social Diversity	3-0-3
SOC 232	Social Context of Aging	3-0-3
SOC 240	Social Psychology	3-0-3

B. Major Courses

1. Core Required Courses

CIS 115	Intro to Prog & Logic	2-3-3
CTS 120	Hardware/Software Support	2-3-3
CTS 285	Systems Analysis & Design	3-0-3
DBA 110	Database Concepts	2-3-3
NOS 110	Operating System Concepts	2-3-3
NOS 130	Windows Single User	2-3-3
NOS 230	Windows Admin I	2-3-3
SEC 110	Security Concepts	3-0-3
CTS 289	System Support Project	1-4-3

2. Required Subject Area

Basic Computer Skills (Select a course from the following)

CIS 110	Introduction to Computers	2-2-3
CIS 111	Basic PC Literacy	1-2-2

Business (Select a course from the following)

BUS 110	Introduction to Business	3-0-3
CTS 115	Info Sys Business Concept	3-0-3

Networking (Select a course from the following)

NET 110	Networking Concepts	2-23
NET125	Networking Basics	1-4-4

C. Other Major Courses

CIT Degree Options (Select 15 hours from the following)

CSC 139	Visual BASIC Prog	2-2-3
CTS 135	Integrated Software Intro	2-4-4
WEB 140	Web Development Tools	2-2-3
DBA 115	Database Applications	2-2-3
NOS 120	Linux/UNIX Single User	2-2-3
CSC 151	JAVA Programming	2-2-3
DBA 120	Database Programming I	2-2-3
WEB 210	Web Design	2-2-3
WEB 285	Emerging Web Technologies	2-2-3
DME 115	Graphic Design Tools	2-2-3
CTS 220	Adv Hard/Software Support	2-3-3
CTS 286	Network Support	2-2-3
NET 111	Internetwk Arch & Design	2-2-3
NOS 231	Windows Admin II	2-2-3
NET 125	Networking Basics	1-4-3
NET 126	Routing Basics	1-4-3
NET 225	Routing & Switching I	1-4-3
NET 226	Routing & Switching II	1-4-3

Total Semester Credit Hours : 67/68

Students will select 5 courses from the other major hours category to satisfy the requirements for a selected track; Software Specialist, Database Programming, Web Development, Networking Technologist, or Networking.

Semester Core Sequence – Computer Information Technology

First Semester

ENG 111	Expository Writing	3
ENG 111A	Expository Writing Lab	1
CIS 110	Introduction to Computers	3
CTS 115	Info. Sys. Business Concepts	3
NOS 110	Operating System Concepts	3
Humanities or Social Science		<u>3</u>
		16

Second Semester

DBA 110	Database Concepts	3
ENG 114	Prof. Research & Reporting	3
CIS 115	Programming/Logic Concepts	3
NOS 130	Windows Single User	3
NET 110	Networking Concepts	3
CTS 120	Hardware/Software Support	<u>3</u>
		18

Third Semester

CTS 285	Systems Analysis & Design	3
MAT 140	Survey of Mathematics	3
or		
MAT 115	Mathematical Models	3
NOS 230	Windows Admin I	3
Select Track		<u>9/12</u>
		18/21

Fourth Semester

CTS 289	System Support Project	3
SEC110	Security Concepts	3
Humanities or Social Science Elective		3
Select Track		<u>4/6</u>
		13/15

Total Semester Hours: 67/68

TRACK 1 – Software Specialist

Third Semester

WEB 140	Web Development Tools	3
DBA115	Database Applications	3
CSC 139	Visual BASIC Prog.	3
NOS 120	Linux/UNIX Single User	3

Fourth Semester

CTS 135	Integrated Software Intro	<u>4</u>
	Track Total	16

TRACK 2 – Database Programming

Third Semester

DBA 115	Database Applications	3
CSC 139	Visual BASIC Prog.	3
NOS 120	Linux/UNIX Single User	3

Fourth Semester

DBA 120	Database Programming I	3
CSC 151	Java Programming	<u>3</u>
	Track Total	15

TRACK 3 – Web Development

Third Semester

WEB 140	Web Development Tools	3
WEB 210	Web Design	3
DME 115	Graphic Design Tools	3

Fourth Semester

WEB 285	Emerging Web Technologies	3
CSC 151	Java Programming	<u>3</u>
	Track Total	15

TRACK 4 – Networking Technologist

Third Semester

CTS 220	Adv. Hard/Software Support	3
NET 111	Internetwk Arch.& Design	3
NOS 120	Linux/UNIX Single User	3

Fourth Semester

NOS 231	Windows Admin II	3
CTS 286	Network Support	<u>3</u>
	Track Total	15

TRACK 5 – Networking (CISCO)

Third Semester

*NET 125	Networking Basics	3
NET 126	Routing Basics	3
NOS 120	Linux/UNIX Single User	3

Fourth Semester

*NET 225	Routing & Switching I	3
*NET 226	Routing & Switching II	<u>3</u>
	Track Total	15

** Eight (8) week courses*

BUS 110 Introduction to Business 3-0-3

This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects. This course has been approved to satisfy the comprehensive articulation agreement pre-major and/or elective course requirement.

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 to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option). This course is also available through the Virtual Learning Community (VLC).*

CIS 111 Basic PC Literacy 1-2-2

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. *This course is also available through the Virtual Learning Community (VLC).*

CIS 115 Intro to Prog & Logic 2 3 3

Prerequisites: 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option). This course is also available through the Virtual Learning Community (VLC).*

CSC 139 Visual BASIC Prog 2-3-3

This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. *This course is also available through the Virtual Learning Community (VLC).*

CSC 151 JAVA Programming 2-3-3

This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement*

CTS 115 Info Sys 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.

CTS 120 Hardware/Software Support 2-3-3

Prerequisites: 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 135 Integrated Software Intro 2-4-4

Prerequisites: CIS 110 or CIS 111

This course instructs students in the Windows or Linux based program suites for word processing, spreadsheet, database, personal information manager, and presentation software. This course prepares students for introductory level skills in database, spreadsheet, personal information manager, word processing, and presentation applications to utilize data sharing. Upon completion, students should be able to design and integrate data at an introductory level to produce documents using multiple technologies.

CTS 220 Adv Hard/Software Support 2-3-3

Prerequisites: CTS 120

This course provides advanced knowledge and competencies in hardware and operating system technologies for computer technicians to support personal computers. Emphasis is placed on: configuring and upgrading; diagnosis and troubleshooting; as well as preventive maintenance of hardware and system software. Upon completion, students should be able to install, configure, diagnose, perform preventive maintenance, and maintain basic networking on personal computers.

CTS 285 Systems Analysis & Design 3-0-3

Prerequisites: 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 286 Network Support 2-2-3

Prerequisites: NOS 230 or NOS 231

This course provides experience using CD ROM and on-line research tools and hands-on experience for advanced hardware support and troubleshooting. Emphasis is placed on troubleshooting network adapter cards and cabling, network storage devices, the DOS workstation, and network printing. Upon completion, students should be able to analyze, diagnose, research, and fix network hardware problems.

CTS 289 System Support Project 1-4-3

Prerequisites: 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.

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.

DBA 115 Database Applications 2-2-3

Prerequisites: DBA 110

This course applies concepts learned in DBA 110 to a specific DBMS. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements.

DBA 120 Database Programming I 2-2-3

This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data control statements as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports.

ENG 111 Expository Writing 3-0-3

Prerequisites: 80 CPT reading score and 86 CPT writing score, or 18 ACT score, or 450 verbal SAT score, or satisfactory completion of developmental requirements.

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 to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.*

DME 115 Graphic Design Tools 2-2-3

This course provides students with an introduction to creative expression and art/design techniques in a digital environment. Emphasis is placed on designing, creating, editing and integrating visual components consisting of bit-mapped and vector-based images, drawings, banners, text, simple animations, and multiple layers. Upon completion, students should be able to design and produce a range of visual products using digital processing techniques.

ENG 111A Expository Writing Lab 0-2-1

Prerequisites: 80 CPT reading and 86 CPT writing score, or 18 ACT score, or 450 verbal SAT score, or satisfactory completion of developmental requirements.

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 Prof. Research & Reporting 3-0-3

Prerequisites: 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 to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.*

MAT 115 Mathematical Models 2-2-3

Prerequisites: CPT arithmetic score of 57 and algebra score of 38, or ACT score of 18, or SAT mathematics score of 450, or successful completion of developmental requirements

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics-intensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

MAT 140 Survey of Mathematics 3-0-3

Prerequisites: CPT arithmetic score of 57 and algebra score of 38, or ACT score of 18, or SAT mathematics score of 450, or successful completion of developmental requirements

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. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

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. *This course is also available through the Virtual Learning Community (VLC).*

NET 111 Internetwork Arch & Design 2-2-3

Prerequisites: CIS 282 or NET 110

This course introduces the physical and logical design of local area networks, wide area networks, and networking devices used in the design implementation and integration. Topics include LAN segmentation, VLANs, IP addressing, router, switch, and server placement with an emphasis on design. Upon completion, students should be able to understand fundamental LAN and WAN design and the physical and logical aspects needed to achieve the design goal.

