

Program Planning Guide
Information Technology- General, Associate in Applied Science Degree (A25590)

Program Length: 5 semesters

Career Pathway Options: Associate in Applied Science in Information Technology

Program Site/s: Lee Main Campus - Day Program (limited evening courses available)

Suggested Course Schedule:		Hours				Notes:
		Class	Lab	Clinical	Credit	
1st Semester (Fall)						
ACA 122	Student Success Course				1	
CTI 110	Web, Pgm, & DB Foundation	2	2	0	3	
CTS 115	Info Sys. Business Concepts	3	0	0	3	
CTS 120	Hardware/Software Support	2	3	0	3	
NOS 130	Windows Single User	2	2	0	3	
CTI 120	Network and SEC Foundation	2	2	0	3	
					16	
2nd Semester (Spring)						
CIS 115	Intro to Programming & Logic	2	3	0	3	
CTS 220	Advanced Hard/Software Support	2	3	0	3	
DBA 110	Database Concepts	2	3	0	3	
WEB 115	Web Markup and Scripting	2	2	0	3	
					12	
3rd Semester (Summer)						
ENG 111	Writing & Inquiry	3	0	0	3	
Mathematics - select one:						
MAT 143	Quantitative Literacy	2	2	0	3	
MAT-171	Precalclus Algebra	3	2	0	4	
					6	or 7
4th Semester (Fall)						
CTS 285	Systems Analysis & Design	3	0	0	3	
NOS 230	Windows Administration I	2	2	0	3	
SEC 110	Security Concepts	2	2	0	3	
Programming Elective - select one:					3	
CSC 134	C++ Programming	2	3	0		
CSC 121	Python Programming	2	3	0		
CSC 139	Visual Basic Programming	2	3	0		
CSC 151	JAVA Programming	2	3	0		
Technical Elective - select one:					3	
CIS 110	Introduction to Computers	2	2	0		
CSC 134	C++ Programming	2	3	0		
CSC 121	Python Programming	2	3	0		
CSC 139	Visual Basic Programming	2	3	0		
CSC 151	JAVA Programming	2	3	0		
CTI 140	Virtualization Concepts	1	4	0		
					15	

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5th Semester (Spring)

CTS 289	System Support Project	1	4	0	3	_____
DBA 120	Database Programming I	2	2	0	3	_____
NOS 120	Linux/UNIX Single User	2	2	0	3	_____
WEB 151	Mobile Application Dev I	2	2	0	3	_____
	Social/Behavioral Science Elective	3	3	0	3	_____
					15	

6th Semester (Summer)

Communications elective - select one:		3	0	0	3	_____
COM 231	Public Speaking					
ENG 112	Writing/Research in the Disciplines					
ENG 114	Professional Research and Reporting					
Humanities/Fine Arts elective		3	0	0	3	_____
					6	

Total Semester Hours Credit Required for Graduation: 70

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Course Descriptions

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ACA 122 College Transfer Success 0-2-1

This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions. This course has been approved for transfer under the CAA and ICAA as a premajor 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 for transfer under the CAA and ICAA as a general education course in Mathematics.

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

Prerequisites: Take One Set: Set 1: DMA-010, DMA-020, DMA-030, and DMA-040; Set 2: DMA-025 & DMA-040; Set 3: MAT-121, Set 4: MAT-171; Set 5: MAT-003

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 general education course in Mathematics.

COM 231 Public Speaking 3-0-3

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in Communications.

CSC 121 Python Programming 2-3-3

This course introduces computer programming using the Python programming language. Emphasis is placed on common algorithms and programming principles utilizing the standard library distributed with Python. Upon completion, students should be able to design, code, test, and debug Python language programs.

CSC 134 C++ Programming 2-3-3

This course introduces computer programming using the C++ 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 has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CSC 139 Visual BASIC Programming 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 has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

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. Upon completion students should be able to design, code, test, debug JAVA language programs. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

CTI 110 Web, Programming, & Database Foundation 2-2-3

This course covers the introduction of the tools and resources available to students in programming, mark-up language and services on the Internet. Topics include standard mark-up language Internet services, creating web pages, using search engines, file transfer programs; and database design and creation with DBMS products. Upon completion students should be able to demonstrate knowledge of programming tools, deploy a web-site with mark-up tools, and create a simple database table.

CTI 120 Network & Sec Foundation 2-2-3

This course introduces students to the Network concepts, including networking terminology and protocols, local and wide area networks, and network standards, Emphasis is placed on securing information systems and the various implementation policies. Upon completion, students should be able to perform basic tasks related to networking mathematics, terminology, media and protocols.

CTI 140 Virtualization Concepts 1-4-3

This course introduces operating system virtualization. Emphasis is placed on virtualization terminology, virtual machine storage, virtual networking and access control. Upon completion, students should be able to perform tasks related to installation, configuration and management of virtual machines.

CTS 120 Hardware/Software Support 2-3-3

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,

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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 220 Advanced Hardware/Software Support 2-3-3

Prerequisite: 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 and Design 3-0-3

Local 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: CTI 110, CTI 120, and CTS 115

Local 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.

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 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 that create, update, and produce reports.

ENG 111 Writing and Inquiry 3-0-3

Prerequisites: DRE 098 or ENG 002

Local Prerequisites: Take one: 1) ENG 011; 2) ENG 002; 3) DRE 098; 4) ENG 090; 5) ENG 095

This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive

process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, 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 universal general education transfer component (UGETC) course in English Composition.

ENG 112 Writing/Research in the Disciplines 3-0-3

Prerequisite: ENG 111

This course, the second in a series of two, introduces research techniques, documentation styles, and writing strategies. Emphasis is placed on analyzing information and ideas and incorporating research findings into documented writing and research projects. Upon completion, students should be able to evaluate and synthesize information from primary and secondary sources using documentation appropriate to various disciplines. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in English Composition.

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. This course has been approved for transfer under the CAA and ICAA as a general education course in English Composition.

MAT 143 Quantitative Literacy 2-2-3

Prerequisite: Take one set: 1) DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, and DRE-098; 2) DMA 025, DMA 040, DMA 050 and DRE 098; 3) DMA 025, DMA 045 and DRE 098; 4) DMA 010, DMA 020, DMA 030, DMA 045 and DRE 098; 5) MAT-003 & ENG-002; 6) MAT-003 & ENG-111; 7) MAT-003 & DRE-098; 8) DMA-010, DMA-020, DMA-030, DMA-040, DMA-050, & ENG-002; 9) DMA-010, DMA-020, DMA-030, DMA-045, & ENG-002; 10) DMA-025, DMA-040, DMA-050, & ENG-002; 11) DMA-025, DMA-045, & ENG-002
Local RISE corequisites: Take one group: 1) MAT-043; 2) MAT-003; 3) DMA-010, DMA-020, DMA-030, DMA-040, DMA-050, DRE-098; 4) DMA-025, DMA-040, DMA-050, DRE-098; 5) DMA-025, DMA-045, DRE-098

This course is designed to engage students in complex and realistic situations involving the mathematical phenomena of quantity, change and relationship, and uncertainty through project- and activity-based assessment. Emphasis is placed on authentic contexts which will introduce the concepts of numeracy, proportional reasoning, dimensional analysis, rates of growth, personal finance, consumer statistics, practical probabilities, and mathematics for citizenship. Upon completion, students should be able to utilize quantitative information as consumers and to make personal, professional, and civic decisions by decoding, interpreting, using, and communicating quantitative information found in modern media and encountered in everyday life. This course has been approved for transfer under the CAA and ICAA as

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a universal general education transfer component (UGETC) course in Mathematics.

MAT 171 Precalculus Algebra 3-2-4

Prerequisite: Take one set:

1. DMA-010, DMA-020, DMA-030, DMA-040, DMA-050, DMA-060, DMA-070, and DMA-080; 2. DMA-010, DMA-020, DMA-030, DMA-040, DMA-050, and DMA-065; 3. DMA-010, DMA-020, DMA-030, DMA-045, DMA-060, DMA-070, and DMA-080

4. DMA-010, DMA-020, DMA-030, DMA_045, & DMA-065;

5. DMA-025, DMA-040, DMA-050, DMA-060, DMA-070, & DMA-

080; 6. DMA-025, DMA-040, DMA-050, & DMA-065;

7. DMA-025, DMA-045, DMA-060, DMA-070, & DMA-080;

8. DMA-025, DMA-045, & DMA-065; 9. MAT-212; 10. MAT-003

Local RISE Corequisites: Take one group: 1. MAT-071; 2. MAT-003;

3. DMA-010, DMA-020, DMA-030, DMA-040, DMA-050, DMA-060, DMA-070, DMA-080; 4. MAT-121; 5. MAT-161;

6. DMA-010, DMA-020, DMA-030, DMA-040, DMA-050, DMA-065;

7. DMA-010, DMA-020, DMA-030, DMA-045, DMA-065;

8. DMA-025, DMA-045, DMA-065; 9. DMA-025, DMA-040, DMA-

050, DMA-060, DMA-070, DMA-080; 10. DMA-025, DMA-045,

DMA-060, DMA-070, DMA-080; 11. DMA-010, DMA-020, DMA-

030, DMA-045, DMA-060, DMA-070, DMA-080; 12. DMA-025,

DMA-040, DMA-050, DMA-065; 13. MAT-060, MAT-080;

14. MAT-060, MAT-090; 15. MAT-095

This course is designed to develop topics which are fundamental to the study of Calculus. Emphasis is placed on solving equations and inequalities, solving systems of equations and inequalities, and analysis of functions (absolute value, radical, polynomial, rational, exponential, and logarithmic) in multiple representations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to algebra-related problems with and without technology. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in Mathematics.

NOS 120 Linux/UNIX Single User 2-2-3

This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles.

NOS 130 Windows Single User 2-2-3

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

This course covers the installation and configuration of a Windows Server operating system. Emphasis is placed on the basic configuration of core network services, Active Directory and group

policies. Upon completion, students should be able to install and configure a Windows Server operating system.

SEC 110 Security Concepts 2-2-3

This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

WEB 115 Web Markup and Scripting 2-2-3

This course introduces Worldwide Web Consortium (W3C) standard client-side Internet programming using industry-established practices. Topics include JavaScript, markup elements, stylesheets, validation, accessibility, standards, and browsers. Upon completion, students should be able to develop hand-coded web pages using current markup standards.

WEB 151 Mobile Application Dev I 2-2-3

This course introduces students to programming technologies, design and development related to mobile applications. Topics include accessing device capabilities, industry standards, operating systems, and programming for mobile applications using an OS Software Development Kit (SDK). Upon completion, students should be able to create basic applications for mobile devices.