Technical and Vocational Programs

A 25 59 0 CP Information Technology: Computer Programming – Associate in Applied Science

C 25 59 0 CP Fundamentals of Computer Programming Certificate

CONCENTRATION OVERVIEW

The Information Technology: Computer Programming curriculum prepares graduates for employment as computer programmers and related positions through the study of computer concepts, logic, programming procedures, languages, operating systems, networking and data management. Students will gain the knowledge and skills to design, process, implement, and manage information systems in a variety of business and industry settings.

Upon completion of this concentration, graduates should qualify for employment in entry-level positions in businesses, educational systems, and governmental agencies as programmers, programmer trainees, programmer/analysts, computer operators, system technicians or database specialists. The program will incorporate the competencies of industry-recognized certification exams.



Student Learning Outcomes – Upon completion of the program, students will:

- 1. Demonstrate the ability to analyze the needs of a software-development project; and develop, code, and test an appropriate software solution to implement the project.
- 2. Communicate programming-related concepts effectively through the delivery of a major project report and final project oral presentation.
- 3. Identify methods to evaluate digital content for validity and usefulness.

Partnership: N/A

A 25 59 0 CP Information Technology: Computer Programming A.A.S.

Fall Semester Course Number and TitlePre-Requisites: ENG 002 Tier 1 Co-requisites: ENG 011HoursHoursHoursContact Hours							
ENG 111 Writing & Inquiry Pre-Requisites: ENG 002 Tier 1 Co-requisites: ENG 011 3 3 3 3 CIS 110 Introduction to Computers Pre-Requisites for CIS 110: ENG 002 Tier 1 and MAT 003 Tier 1 Pre-Requisites for CIS 111: none 1-2 2 3.4 2-3 CIS 111 Basic PC Literacy CTS 115 Info Sys Business Concept Pre-Requisites: ENG 002 Tier 1 Pre-Requisites: ENG 002 Tier 1 3 3 3 3 CIS 115 Info to Programming and Logic Pre-Requisites: CIS 110 or CIS 111 or CIS 115 2 3 5 3 CSC 139 Visual Basic Programming Co-Requisites: CIS 110 or CIS 111 or CIS 115 2 2 4 3 TOTAL SEMESTER HOURS Pre-Requisites: none 2 2 4 3 First Year Spring Somester Course Number and Title Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CIS 110 or CIS 111 2 3 5 3 CSC 239 Advanced Visual Basic Programming Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CIS 110 or CIS 111 2 2 4 3 Sofing Somester Course Number and Title Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CIS 110 or CIS 111 2 2 2 4 3 Sof 110 Operating 	Fall Semester	Pre-Requisites and Co-Requisites				Contact	Credit
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MAT 171 Pre-calculus MAT 003 Tiel 2 and ENG 002 Tier 1 Algebra Pre-Requisites for MAT 171: MAT 003 Tier 2 or MAT 143 or MAT 152 Co-Requisites for MAT 171: MAT 071 WBL 110 World of Work Pre-Requisites: none 1 1	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043	2	3		4	3
Algebra Pre-Requisites for MAT 171: MAT 003 Tier 2 or MAT 143 or MAT 152 Co-Requisites for MAT 171: MAT 071 Image: Constant of Wark WBL 110 World of Work Pre-Requisites: none 1 1	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152:	2	3		4 5 5	3 3 3
003 Tier 2 or MAT 143 or MAT 152 Co-Requisites for MAT 171: MAT 071 Image: Comparison of Compari	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and	2	3		4 5 5	3 3 3
Co-Requisites for MAT 171: MAT Image: Co-Requisites for MAT 171: MAT WBL 110 World of Work Pre-Requisites: none 1 1 1	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and	2	3		4 5 5	3 3 3
071 Image: Constraint of Work WBL 110 World of Work Pre-Requisites: none 1 1	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR MAT 171 Pre-calculus	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and ENG 002 Tier 1 Pre-Requisites for MAT 171: MAT	2	3		4 5 5	3 3 3
WBL 110 World of Work Pre-Requisites: none 1 1	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR MAT 171 Pre-calculus	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and ENG 002 Tier 1 Pre-Requisites for MAT 171: MAT 003 Tier 2 or MAT 143 or MAT 152	2	3		4 5 5	3 3 3
	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR MAT 171 Pre-calculus	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and ENG 002 Tier 1 Pre-Requisites for MAT 171: MAT 003 Tier 2 or MAT 143 or MAT 152 Co-Requisites for MAT 171: MAT	2	3		4 5 5	3 3 3
	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR MAT 171 Pre-calculus Algebra	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and ENG 002 Tier 1 Pre-Requisites for MAT 171: MAT 003 Tier 2 or MAT 143 or MAT 152 Co-Requisites for MAT 171: MAT 071	2 2 2-3	3		4 5 5 4-5	3 3 3 3-4
TOTAL SEMESTER HOURS 16-17	CTI 120 Network & Sec Foundation NOS 110 Operating Systems Concepts CSC 239 Advanced Visual Basic Programming MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR MAT 171 Pre-calculus Algebra	Pre-Requisites: CIS 110 or CIS 111 Pre-Requisites: CSC 139 Pre-Requisites for MAT 143: MAT 003 Tier 1 and ENG 002 Tier 1 Co-Requisites for MAT 143: MAT 043 Pre-Requisites for MAT 152: MAT 003 Tier 2 and ENG 002 Tier 1 Pre-Requisites for MAT 171: MAT 003 Tier 2 or MAT 143 or MAT 152 Co-Requisites for MAT 171: MAT 071	2 2 2-3	3		4 5 5 4-5	3 3 3 3-4

A 25 59 0 CP Information Technology: Computer Programming A.A.S.

Second Year Fall Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
CTS 120 Hardware/Software Support	Co-Requisites for CTS 120: CIS 110 or CIS 111					
OR WBL 111, WBL 112, WBL 121, WBL 122, WBL 131, WBL 132, Work-Based Learning	Pre-Requisites for WBL: None	2	3		5	1-3
CTS 285 Systems Analysis & Design	Pre-Requisites: CIS 115 Co-Requisites: DBA 110	3			3	3
CTS 240 Project Management	Pre-requisites: ENG 002 Tier 1 and CIS 110 or CIS 111	2	2		4	3
DBA 110 Database Concepts	Pre-Requisites: CIS 110 or CIS 111	2	3		5	3
NET 110 Networking Concepts	Pre-Requisites: CIS 110 or CIS 111	2	2		4	3
CSC 151 JAVA Programming	Pre-Requisites for CSC 151: CIS 110 or CIS 111 or CIS 115	2	3		5	3
TOTAL SEMESTER HOURS						16-18

Continued on next page

A 25 59 0 CP	Information Technology: Computer Programming
	A.A.S.

Second Year Spring Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
CSC 289 Programming Capstone Project	Pre-Requisites: CTI 110, CTI 120, CTS 115, CTS 285, and					
OR	[(CSC 139 and CSC 239) or (CSC 151 and CSC 251) or (CSC 134 and CSC 234)]	1	4		5	3
CTS 289 System Support Project	Pre-Requisites: CTI 110, CTI 120, CTS 115, CTS 240 and CTS 285					
CSC 251 Advanced JAVA Programming	Pre-Requisites for CSC 251: CSC 151	2	3		5	3
WEB 151 Mobile Application Dev I	Pre-Requisites: CSC 134, CSC 139, CSC 151 or other programming class (see advisor)	2	3		5	3
PSY 150 General Psychology OR	Pre-Requisites for PSY 150: ENG 002 Tier 1					
SOC 210 Introduction to Sociology	Pre-Requisites for SOC 210: ENG 002 Tier 1	3			3	3
OR ECO 251 Prin. Of Microeconomics	Pre-Requisites for ECO 251: ENG 002 Tier 1 and MAT 003 Tier 1					
DBA 120 Database Programming	Pre-Requisites: DBA 110	2	2		4	3
ART 111 Art Appreciation OR MUS 110 Music Appreciation OR PHI 240 Introduction to	Pre-Requisites for ART 111 or MUS 110: none Pre-Requisites for PHI 240: ENG 111	3			3	3
Ethics						18
TOTAL SEMESTER HOURS REQUIRED FOR ASSOCIATE DEGREE					67-71	

Continued on next page

C 25 59 0 CP Fundamentals of Computer Programming Certificate

First Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
CIS 110 Introduction to Computers OR CIS 111 Basic PC Literacy	Pre-Requisites for CIS 110: ENG 002 Tier 1 and MAT 003 Tier 1 Pre-Requisites for CIS 111: none	1-2	2		3-4	2-3
CTI 110 Web, Pgm, & DB Foundation	Pre-Requisites: none	2	2		4	3
CIS 115 Intro to Programming and Logic	Pre-Requisites: MAT 003 Tier 1	2	3		5	3
CSC 139 Visual Basic Programming OR CSC 151 JAVA Programming	Co-Requisites for CSC 139: CIS 110 or CIS 111 or CIS 115 Pre-Requisites for CSC 151: CIS 110 or CIS 111 or CIS 115	2	3		5	3
TOTAL SEMESTER HOURS	·					11-12
Second Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
CTI 120 Network & Sec Foundation	Pre-Requisites: CIS 110 or CIS 111	2	2		4	3
CSC 239 Advanced Visual Basic Programming OR CSC 251 Adv JAVA Programming	Pre-Requisites for CSC 239: CSC 139 Pre-Requisites for CSC 251: CSC 151	2	3		5	3
TOTAL SEMESTER HOURS	TOTAL SEMESTER HOURS					
TOTAL SEMESTER HOURS	TOTAL SEMESTER HOURS REQUIRED FOR CERTIFICATE					