

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

*This program offers a [Career and College Promise pathway \(CCP\) C25590HC](#). Courses within the pathway are highlighted in yellow.

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

First Year Fall Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
ENG 111 Writing and Inquiry	Pre-Requisites: ENG 025 Co-Requisites: None	3			3	3
CIS 111 Basic PC Literacy OR CIS 110 Introduction to Computers	Pre-Requisites for CIS 110: ENG 025 and MAT 025 Pre-Requisites for CIS 111: None	1-2	2		3-4	2-3
CTS 115 Info Sys Business Concept	Pre-Requisites: ENG 025	3			3	3
CIS 115 Intro to Programming and Logic	Pre-Requisites: MAT 025	2	3		5	3
CSC 151 JAVA Programming	Co-Requisites: CIS 110 or CIS 111 or CIS 115	2	3		5	3
CTI 110 Web, Pgm, & DB Foundation	Pre-Requisites: None	2	2		4	3
TOTAL SEMESTER HOURS						17-18
First Year Spring Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
ENG 112 Writing/Research in Disciplines	Pre-Requisites: ENG 111	3			3	3
CTI 120 Network & Sec Foundation	Pre-Requisites: CIS 110 or CIS 111	2	2		4	3
NOS 110 Operating Systems Concepts	Pre-Requisites: CIS 110 or CIS 111	2	3		5	3
CSC 251 Advanced JAVA Programming	Pre-Requisites: CSC 151	2	3		5	3
MAT 143 Quantitative Literacy OR MAT 152 Statistical Methods I OR MAT 171 Pre-calculus Algebra	Pre-Requisites for MAT 143: ENG 025 and MAT 025 Pre-Requisites for MAT 152: ENG 025 and MAT 025 Pre-Requisites for MAT 171: MAT 035 or MAT 110 or MAT 143 or MAT 152 with a C or higher	2-3	2		4-5	3-4
WBL 110 World of Work	Pre-Requisites: None	1			1	1
TOTAL SEMESTER HOURS						16-17

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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 OR WBL 111, WBL 112, WBL 121, WBL 122, WBL 131, WBL 132 Work-Based Learning	Co-Requisites for CTS 120: CIS 110 or CIS 111 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 025 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 153 C# Programming	Pre-Requisites: CIS 110 or CIS 111 or CIS 115	2	3		5	3
TOTAL SEMESTER HOURS						16-18

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 121 Python Programming	Pre-Requisites: CIS 115	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 SOC 210 Introduction to Sociology OR ECO 251 Prin. Of Microeconomics	Pre-Requisites for PSY 150: ENG 02 Pre-Requisites for SOC 210: ENG 025 Pre-Requisites for ECO 251: ENG 025 and MAT 025	3			3	3
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 Ethics	Pre-Requisites for ART 111 or MUS 110: None Pre-Requisites for PHI 240: ENG 111	3			3	3
CTS 289 System Support Project	Pre-Requisites: CTI 110, CTI 120, CTS 115, CTS 240 and CTS 285	1		4	5	3
TOTAL SEMESTER HOURS						18
TOTAL SEMESTER HOURS REQUIRED FOR ASSOCIATE DEGREE						67-71

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 111: None Pre-Requisites for CIS 110: ENG 025 and MAT 025	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 025	2	3		5	3
CSC 151 JAVA Programming	Co-Requisites: 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 251 Advanced JAVA Programming	Pre-Requisites: CSC 151	2	3		5	3
TOTAL SEMESTER HOURS						6
TOTAL SEMESTER HOURS REQUIRED FOR CERTIFICATE						17-18