

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.

| 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 002 Tier 1 Co-Requisites: ENG 011 | 3 | | | 3 | 3 |
| CIS 111 Basic PC Literacy OR 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 |
| CTS 115 Info Sys Business Concept | Pre-Requisites: ENG 002 Tier 1 | 3 | | | 3 | 3 |
| CIS 115 Intro to Programming and Logic | Pre-Requisites: MAT 003 Tier 1 | 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 | | | | | | 18-19 |
| 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: 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 | 2-3 | 2 | | 4-5 | 3-4 |
| WBL 110 World of Work | Pre-Requisites: none | 1 | | | 1 | 1 |
| TOTAL SEMESTER HOURS | | | | | | 15 |

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 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 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 153 C# Programming | Pre-Requisites for CSC 151: 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 for CSC 121: CSC 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 002 Tier 1 Pre-Requisites for SOC 210: ENG 002 Tier 1 Pre-Requisites for ECO 251: ENG 002 Tier 1 and MAT 003 Tier 1 | 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 |
| TOTAL SEMESTER HOURS | | | | | | 15 |
| TOTAL SEMESTER HOURS REQUIRED FOR ASSOCIATE DEGREE | | | | | | 64-67 |