

PROGRAMMING & APPLICATION DEVELOPMENT

Associate in Applied Science, 70 Credit Hours, 18-Month Program

The Programming and Application Development program trains students to develop software for many needs. Students will learn about several programming languages as well as development platforms including Java, .Net, xHTML, and SQL. The program works to ensure students understand the basics while they also get experience working with cutting edge technologies such as cloud computing and mobile applications. Students must possess strong troubleshooting and technical skills, including strong math and logic skills, and good computer literacy.

A typical job description for a computer programmer may include typically working 40 hours per week. However, the programmer may work evenings or weekends in order to meet deadlines. Telecommuting is becoming more common with some employees working from remote locations. Some work may have to be accomplished in the office due to security reasons. Programmers may work prolonged hours in front of a computer. Tasks for programmers typically include coding, testing, troubleshooting, maintaining, and modifying programs; developing detailed programming logic; and coding changes. Writing and maintaining programming documentation is required. Students will also be prepared to continue learning and advancing within the field, allowing them to work within an organization to apply programming to business strategy, tactics, and goals.

There are opportunities for two-semester diplomas in the following:

- Cisco Academy/Computer Technician
- Programming

Or, students may choose to pursue a two-year AAS degree as a Computer Network Specialist in one of the following areas:

- Computer Networking Specialist with emphasis in programming
- Programming

Course No.	Course Title	Credits
General Education Requirements		
CIS 109	WORD, LEVEL I	1
CIS 112	EXCEL, LEVEL I	1
CIS 116	ACCESS, LEVEL I	1
ENGL 101	COMPOSITION*	3
ENGL 202	TECHNICAL COMMUNICATIONS	3
ECN 202	PRINCIPLES OF ECONOMICS(MACRO) <i>or</i>	3
SOC 100	INTRODUCTION TO SOCIOLOGY	
MATH 101	INTERMEDIATE ALGEBRA** (<i>or higher</i>)	3
MATH 120	TRIGONOMETRY	3
ORT 010	ORIENTATION	1
PSYC 103	HUMAN RELATIONS IN THE WORKPLACE	3
	Total	22
Technical Requirements		
CNS 216	INTRODUCTION TO PROGRAMMING	3
CNS 217	PROGRAMMING LOGIC AND DESIGN	3
CNS 218	INTERMEDIATE PROGRAMMING	3
CNS 219	DATABASES	3
PCN 120	WEB DEVELOPMENT TOOLS	3
PCN 125	WEB PROGRAMMING LANGUAGES	3
PCN 126	SYSTEM ANALYSIS & DESIGN	3
PCN 128	PROGRAMMING LANGUAGE CONCEPTS	3
PCN 230	DESIGN PATTERNS	3
PCN 232	WEB APPLICATION DESIGN	3
PCN 235	DEVELOPING USER INTERFACES	3
PCN 239	ADVANCED WEB DEVELOPMENT	3
PCN 240	ADVANCED PROGRAMMING CONCEPTS	3
PCN 242	PROGRAMMING WORKFLOW	3
PCN 245	SECURITY & CRYPTOGRAPHY	3
PCN 249	DEVELOPING SMARTPHONE APPLICATIONS	3
	Total	48

*Prerequisite: Acceptable COMPASS score or Basic Writing.

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Semester breakdown on next page

Semester Breakdown Programming & Application Development

First Semester			Second Semester		
		CR			CR
CNS 219	Databases	3	CNS 216	Introduction to Programming	3
PCN 120	Web Development Tools	3	CNS 217	Programming Logic and Design	3
PCN 125	Web Programming Languages	3	CNS 218	Intermediate Programming	3
PCN 126	System Analysis & Design	3	PCN 128	Programming language Concepts	3
CIS 109	Word, Level I	1	ENGL 101	Composition	3
CIS 112	Excel, Level I	1	PSYC 103	Human Relations in the Workplace	3
CIS 116	Access, Level I	1		Total Credit Hours	18
MATH 101	Intermediate Algebra (<i>or higher</i>)	3			
ORT 010	Orientation	1			
	Total Credit Hours	19			
Third Semester			Fourth Semester		
		CR			CR
PCN 230	Design Patterns	3	PCN 240	Advanced Programming Concepts	3
PCN 232	Web Application Design	3	PCN 242	Programming Workflow	3
PCN 235	Developing User Interfaces	3	PCN 245	Security & Cryptography	3
PCN 239	Advanced Web Development	3	PCN 249	Developing Smartphone App	3
ECN 202	Principles of Economics <i>or</i>	3	ENGL 202	Technical Communications	3
SOC 100	Introduction to Sociology	3		Total Credit Hours	15
MATH 120	Trigonometry	3			
	Total Credit Hours	18			

CNS 299 Internship: This class may be used as a substitute for any second year 3-credit course based on location and substance of the internship opportunity. This class is available for AAS students and Programming Diploma students.