

<b>Program:</b>	<b>Applications Software - Certificate of Achievement</b>
<b>Meta-major:</b>	<b>Science, Technology, Engineering, &amp; Math (STEM)</b>



	Fall Year 1	Spring Year 1	Fall Year 2
	CIS 101 (formerly CO SCI 101) INTRODUCTION TO COMPUTERS AND THEIR USES or CS 101 (formerly CO SCI 103) INTRODUCTION TO COMPUTER SCIENCE 3 units	CS 103 (formerly CO SCI 104) MATHEMATICS FOR PROGRAMMERS 3 units	CS 211 (formerly CO SCI 138) ADVANCED VISUAL BASIC PROGRAMMING <i>Prerequisite: CS 101 or CS 111 or CO SCI 103 or CO SCI 108</i> 3 units
	CS 111 (formerly CO SCI 108) PROGRAMMING IN VISUAL BASIC Only recommended if student is taking CIS 101 3 units	CIS 219 (formerly CO SCI 186) INTRODUCTION TO ORACLE: SQL AND PL/SQL 3 units	CS 122 (formerly CO SCI 148) ADVANCED SPREADSHEET APPLICATIONS <i>Prerequisite: CIS 101 or CS 101 or CO SCI 101 or CO SCI 103</i> 3 units
	CIS 111 (formerly CO SCI 134) SUPPORTING WINDOWS DESKTOPS 3 units	Select one: (A) C++ Track CS 116 (formerly CO SCI 139) PROGRAMMING IN C++ <i>Prerequisite: CS 101 or CS 111 or CO SCI 103 or CO SCI 108</i> (B) JAVA Track CS 113 (formerly CO SCI 141) PROGRAMMING IN JAVA <i>Prerequisite: CS 101 or CS 111 or CO SCI 103 or CO SCI 108</i> 3 units	CS 193 DATABASE ESSENTIALS IN AMAZON WEB SERVICES <i>Prerequisite: CIS 192</i> 3 units
	CS 102 (formerly CO SCI 107) PROGRAMMING LOGIC AND DESIGN (INTRODUCTION TO PROGRAMMING) 3 units	CIS 192 INTRODUCTION TO CLOUD COMPUTING <i>Prerequisite: CO SCI 101 or CO SCI 103</i> 3 units	
<b>Semester Units:</b>	9 to 12	12	9
	<b>Total Units:</b>		30 to 33

<b>Program:</b>	<b>C++ Programming - Skills Certificate</b>
<b>Meta-major:</b>	<b>Science, Technology, Engineering, &amp; Math (STEM)</b>



	Fall Year 1	Spring Year 1	Fall Year 2
	CIS 101 (formerly CO SCI 101) INTRODUCTION TO COMPUTERS AND THEIR USES 3 units or CS 101 (formerly CO SCI 103) INTRODUCTION TO COMPUTER SCIENCE 3 units	CS 103 (formerly CO SCI 104) MATHEMATICS FOR PROGRAMMERS 3 units	CS 216 (formerly CO SCI 140) OBJECT ORIENTED PROGRAMMING IN C++ <i>Prerequisite: CS 116 or CO SCI 139</i> 3 units
	CS 111 (formerly CO SCI 108) PROGRAMMING IN VISUAL BASIC Only recommended if student is taking CIS 101 3 units	CS 116 (formerly CO SCI 139) PROGRAMMING IN C++ <i>Prerequisite: CS 101 or CS 111 or CO SCI 103 or CO SCI 108</i> 3 units	CS 136 (formerly CO SCI 136) INTRODUCTION TO DATA STRUCTURES <i>Prerequisite: CS 113 or CS 116 or CO SCI 139 or CO SCI 141</i> 3 units
	CS 102 (formerly CO SCI 107) PROGRAMMING LOGIC AND DESIGN (INTRODUCTION TO PROGRAMMING) 3 units		
<b>Semester Units:</b>	6 to 9	6	6
	<b>Total Units:</b>		18 to 21

<b>Program:</b>	<b>Java Programming - Skills Certificate</b>
<b>Meta-major:</b>	<b>Science, Technology, Engineering, &amp; Math (STEM)</b>



	Spring Year 1	Fall Year 1	Spring Year 2
	CIS 101 (formerly CO SCI 101) INTRODUCTION TO COMPUTERS AND THEIR USES or CS 101 (formerly CO SCI 103) INTRODUCTION TO COMPUTER SCIENCE 3 units	CS 103 (formerly CO SCI 104) MATHEMATICS FOR PROGRAMMERS 3 units	CS 130 (formerly CO SCI 117) INTRODUCTION TO COMPUTER ARCHITECTURE AND ORGANIZATION <i>Prerequisite: CS 113 or CS 116 or CO SCI 139 or CO SCI 141</i> 3 units
	CS 111 (formerly CO SCI 108) PROGRAMMING IN VISUAL BASIC Only recommended if student is taking CIS 101 3 units	CS 113 (formerly CO SCI 141) PROGRAMMING IN JAVA <i>Prerequisite: CS 101 or CS 111 or CO SCI 103 or CO SCI 108</i> 3 units	CS 213 (formerly CO SCI 142) ADVANCED PROGRAMMING IN JAVA <i>Prerequisites: CS 113 or CO SCI 141</i> 3 units
	CS 102 (formerly CO SCI 107) PROGRAMMING LOGIC AND DESIGN (INTRODUCTION TO PROGRAMMING) 3 units		
<b>Semester Units:</b>	6 to 9	6	6
	<b>Total Units:</b>		18 to 21