

# PROGRAMMING TECHNICIAN, CERTIFICATE OF COMPLETION

The Certificate of Completion Programming Technician is a one-year certificate that includes the first year of the Computer Science and supporting Computer Information Technologies. This certificate is intended for students focused on becoming career-ready in one year. Students completing this certification will be prepared to seek entry-level employment in occupations such as a software testing specialist, junior developer, mobile application developer, or web developer.

Click here (<https://www.socc.edu/pathways/roadmapsaz/312-cis-software-development-roadmap>) to learn how this certificate can lead to an AAS in CIS Software Development.

## Gainful Employment Disclosure

Southwestern is required by federal regulations to disclose information related to the College's educational programs that lead to gainful employment in a recognized occupation. This information is intended to provide students the opportunity to measure employment outcomes associated with certificate programs.

Gainful employment information for the Certificate of Completion Programming Technician (<https://www.socc.edu/images/ge/programming.html>) can be found online.

## Graduation Requirements

Students must complete a minimum of 45 credit hours with a cumulative Grade Point Average (GPA) of 2.0 or better. All courses must be completed with a grade of 'C' or better. One course must be completed at Southwestern before the Certificate of Completion Programming Technician is awarded.

Complete the graduation application process one term prior to the term of completion (e.g., spring term graduates must apply during winter term).

## Pre-Program Courses

Students are required to take the following courses *prior to* the program courses, depending on students' college placement information. See advisor for details:

Code	Title	Credits
CIS90	Computer Basics (or demonstrate proficiency)	2
MTH60	Algebra I (or placement in higher math course)	4
WR90R	Academic Literacy (or placement in higher writing course)	4

## Program Guide

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
CIS151	Network Essentials	4
CS160	Computer Science Orientation	4
MTH86	Computer Technology Mathematics <sup>1</sup>	4
WR115	Introduction to Expository Writing (or higher)	3
Credits		15

<b>Winter</b>		
CIS140U	Intro to Operating Systems: Unix	4
CIS145	Hardware Installation Support	4
CS161	Introduction to Computer Science I	4
CS195	Web Development I	3
Credits		15
<b>Spring</b>		
BA110	Group Dynamics for Teams <sup>2</sup>	3
CS133WS	Web Scripting	4
CS162	Introduction to Computer Science II	4
Specific Elective <sup>3</sup>		4
Credits		15
Total Credits		45

<sup>1</sup> MTH105 Math in Society or higher may be substituted for MTH86 Computer Technology Mathematics.

<sup>2</sup> BA120 Leadership Development, BA285 Human Relations in Organizations, PSY100 Introduction to Psychology, PSY201 General Psychology, PSY201H General Psychology w/Honors, PSY203 General Psychology, or PSY203H General Psychology w/Honors may be substituted for BA110 Group Dynamics for Teams.

<sup>3</sup> Specific Elective: Any CS/CIS, BA, AC course not required for the degree; WR227 Report Writing, MTH65 Algebra II, MTH95 Intermediate Algebra, or higher; ART115 Basic Design I, Intro to Elements Elements Of Art & Prin Of Design, ART116 Basic Design II, Color Theory, ART117 Basic Design III, Intro to 3D Design, ART225 Computer Art I, or MFG4101 Electrical Systems Troubleshooting I.

## Program Student Learning Outcomes

Upon successful completion of this program, the student will be able to:

- Plan, write and debug software applications within multiple programming environments.
- Design, administer, and maintain a database.
- Plan and design integrate technology systems ranging from servers to user interfaces.
- Apply project life cycle concepts to assist in finding solutions to business needs.
- Research, interpret, and communicate technical information in written, graphic, diagrammatic, electronic and oral forms.
- Demonstrate the ability to work independently or in a group environment with sensitivity to needs of customers and coworkers.