



# SOFTWARE DEVELOPMENT, ASSOCIATE OF SCIENCE - COMPUTER PROGRAMMING & ANALYSIS

**Program Code:** 2195A

**Career Pathway:** Science, Technology, Engineering, and Math

**Location(s):** Courses for this program are offered at all BC locations. (<https://www.broward.edu/about/locations/>) This program is also offered fully online.

**Program Entrance Requirements:** HS Diploma or GED

**Program Description:** The Associate in Science Degree Software Development – Computer Programming & Analysis is designed to prepare students for the dynamic world of application and web development. Students will use current technology to learn procedural and object-oriented programming or well as web design including client-side and server-side scripting. The program will culminate with a capstone course in which students will work on a hands-on group project that can be used in their portfolios.

- Information Technology Support Specialist, Technical Certificate 6337
- Computer Programming Specialist, Technical Certificate 6331
- Computer Programmer, Technical Certificate 6332
- Software Development, Associate of Science - Computer Programming & Analysis 2195A
- Bachelor of Applied Science

Course	Title	Credits	6337	6331	6332
ENC1101	COMPOSITION I	3.00			
CGS1060C	COMPUTER AND INTERNET LITERACY	3.00	X	X	X
GE Course	General Education Speech	3.00			
COP1000C	INTRODUCTION TO COMPUTER PROGRAMMING	3.00		X	X
COP1334C	INTRODUCTION TO C++	3.00		X	X
GE Course	General Education Mathematics Core <sup>1</sup>	3.00			
CIS1513C	PROJECT MANAGEMENT	4.00			X
COP1700C	INTRODUCTION TO DATABASE AND MYSQL	3.00			X
CTS1831C	WEB AUTHORING I	4.00			X
COP1250C	PROGRAMMING I	3.00		X	X
CTS2852C	CLIENT-SIDE SCRIPTING	4.00			X
GE Course	General Education Humanities Core	3.00			
COP2335C	INTERMEDIATE C++ PROGRAMMING	3.00		X	X
Math or Internship or IT Elective <sup>2</sup>		6.00			
GE Course	General Education Natural Science Core	3.00			
COP2361C	OBJECT-ORIENTED ANALYSIS AND DESIGN	3.00		X	X
COP2360C	C# PROGRAMMING	3.00			
AMH2020 or POS2041	HISTORY OF THE UNITED STATES SINCE 1877 NATIONAL GOVERNMENT	3.00			
<b>Total Credits</b>		<b>60</b>	<b>18</b>	<b>18</b>	<b>33</b>

<sup>1</sup> MAC1105C COREQUISITE COLLEGE ALGEBRA is a 5-credit course. Students who register for this course must see an advisor to discuss their academic plan.

<sup>2</sup> Any course with a computing prefix.

## Notes:

Students should complete all Core Computing Requirements before completing specialization courses.

In addition to the courses marked, students must also complete 14 additional credits to earn TC 6337. Students may choose from the program electives beginning with CET, CIS, COP, CTS, CGS, or ISM.

See General Education course information here (<https://catalog.broward.edu/programs-study/aa-general-education-graduation-requirements/>).

In accordance with Florida Statute and Florida Administrative Code, students may need to satisfy the Civic Literacy Graduation Requirement. Visit the Civic Literacy Graduation Requirement page at [broward.edu/civic-literacy](http://broward.edu/civic-literacy) (<https://students.broward.edu/resources/civic-literacy/>).

**Students are strongly encouraged to meet with an advisor (<https://students.broward.edu/resources/advising/>) to create a personalized educational plan.**

## Program Highlights

### Credit for Prior Learning

Accelerate your path to completion with these options:

- Credit by exam
- Prior Learning Assessment
- Earned industry certifications
- And much more...

### Related Industry Certifications

Upon completing this program, graduates will be eligible to sit for the following industry certifications/licenses:

- CIW Advanced HTML5 and CSS3 Specialist
- CIW JavaScript Specialist
- CIW Database Design Specialist
- PCEP - Certified Entry-Level Python Programmer
- C++ Certified Associate Programmer (CPA)
- Project+

### Get and Internship

Completion of the degree requires PSC4912 INDEPENDENT RESEARCH IN THE PHYSICAL SCIENCES or PSC4948 SENIOR INTERNSHIP for Physical Science concentration. After completing your first year of coursework make sure to visit Employment Solutions (<https://broward.edu/career/>) for internship opportunities and helpful tools like virtual job shadow, to help take your career to the next level!

- Get an Internship (<http://broward.edu/studentresources/career/Pages/Find-a-job-or-internship.aspx>)
- Virtual Job Shadow Tool (<http://www.broward.edu/studentresources/career/Pages/default.aspx>)

### Median Wage and Job Growth Outlook

Broward College has Career Coach (<https://www.broward.edu/careercoach/>)! It is designed to help you find a good career by providing the most current local data on wages, employment, job postings, and associated education and training.

### Fund Your Education

This Program is Financial Aid (<https://www.broward.edu/admissions/financial-aid/>) eligible. Scholarships (<https://www.broward.edu/admissions/financial-aid/scholarships/>) may be available. This program is part of the Career Source Broward ITA List (<http://careersourcebroward.com/>).

## Program Learning Outcomes

Graduates from this program will:

- Demonstrate an object-oriented approach to system development.
- Analyze a system problem and design a software-based solution.
- Design and code robust, structured, well-documented programs to solve complex problems.
- Demonstrate an understanding of basic computer programming concepts including the use of decisions and conditional loops in a working program.
- Demonstrate the ability to write an interactive, fully functioning program that uses functions and allows for code re-use.
- Create an interactive program consisting of input/output, loops, selection structures, and functions.
- Plan and execute dynamic interaction to otherwise static web pages using a scripting language.
- Summarize the properties of a project and classify project roles and responsibilities.