

# Computer Information Systems-Software Developer Certificate

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The Microcomputer Programmer/Analyst Certificate provides a foundation in skills needed to analyze business problems and develop software solutions using current industry standard development tools. The certificate provides an academic credential reflecting enhanced job skills for those seeking advancement in their information services career or for individuals with a prior degree in another discipline seeking a career change.

## Suggested/Sample Course Sequence

The sequence taken by the student may vary depending on prerequisites, course availability, and personal/ professional responsibilities.

(Major Code 5180; State CIP Code 11.0201)

- Software Development (<http://www.jccc.edu/academics/computers/software-development>)
- Gainful Employment Data (<http://www.jccc.edu/academics/computers/software-development/gainful-employment/Gedt.html>)

## First Semester

CS 134	Programming Fundamentals	4
CWEB 110	XHTML and CSS	3
Total Hours		7

## Second Semester

CS 200 or CS 201 or CS 205	Concepts of Programming Algorithms Using C++* Concepts of Programming Algorithms using C#* Concepts of Programming Algorithms using Java*	4
Note: Transfer students should take the language that transfers to their chosen school. Java or C# is recommended for most career students.		
CIS 162	Database Programming*	4
CIS 204	UNIX Scripting and Utilities*	3
Total Hours		11

## Third Semester

CS 235 or CS 236 or CIS 240	Object-Oriented Programming Using C++* Object-Oriented Programming Using C#* Advanced Topics in Java*	4
CIS 242	Introduction to System Design and Analysis*	3
CIS 275	Web-Enabled Database Programming*	4
CIS 260	Database Management*	4
Total Hours		15

**Total Program Hours: 33**