

## Programming and System Analysis

The Certificate of Completion (CCL) in Programming and System Analysis provides an in-depth exploration of different computer language and technical skills. Includes, but is not limited to the following: operating systems, local area networks, team roles, and dynamics. An Associate in Applied Science (AAS) is also available.

MAJOR CODE	EFFECTIVE
5048	2017 Fall
TOTAL CREDITS	CIP CODE
24	11.0501
AWARD	GPA
Certificate of Completion (CCL)	2.00
ACADEMIC DIVISION	
Business & Computing Studies Division	

### Program Notes:

- Students must earn a grade of "C" or better for all courses required within the program.
- + indicates course has prerequisites and/or corequisites.
- ++ indicates any suffixed courses.
- Consultation with an Academic Advisor is recommended for course selection.

### Program Prerequisites:

None

### Required Courses: 21 Credits

COURSE	COURSE TITLE	CRS	GRD	ADVISOR NOTES
CIS105	Survey of Computer Information Systems	3		
CIS224	Project Management Microsoft Project for Windows	3		
CIS126DA	UNIX Operations System (3) <b>OR</b>	3		
CIS126DL	Linux Operating System (3) <b>OR</b>			
+MST150++	Any Microsoft Windows course (3)			
+ CIS150	Programming Fundamentals (3) <b>OR</b>	3		
+ CIS150AB	Object-Oriented Programming Fundamentals (3)			
+ CIS151	Computer Game Development - Level I (3) <b>OR</b>	3		
+ CIS159	Visual Basic Programming I (3) <b>OR</b>			
+ CIS162++	Any C Programming: Level I course (3) <b>OR</b>			
+ CIS163AA	Java Programming: Level I (3)			
+ CIS225	Business Systems Analysis and Design (3) <b>OR</b>	3		
+ CIS225AB	Object Oriented Analysis and Design (3) <b>OR</b>			
+ CIS250	Management of Information Systems (3)			
+ CIS119DO	Introduction to Oracle: SQL (3) <b>OR</b>	3		
+ CIS276DA	My SQL Database (3)			
+CIS276DB	SQL Server Database (3)			

### Restricted Electives: 3 Credits

COURSE	COURSE TITLE	CRS	GRD	ADVISOR NOTES
+ CIS251	Computer Game Development-Level II (3)	3		
+ CIS259	Visual Basic Programming II (3)			
+ CIS262++	Any C Programming: Level II course (3)			
+ CIS263AA	Java Programming: Level II (3)			

### Recommended Course Sequence

This version of the program will be used for advising and student planning purposes. Any developmental course requirements should be completed prior to starting the courses listed below as they may be required for enrollment in courses listed in the semester sequence.

### Semester I

<input checked="" type="checkbox"/>	COURSE	CRS	COURSE NOTES:
	CIS105	3	
	CIS224	3	
	CIS126DA or CIS126DL or +MST150++	3	
<b>CREDITS</b>		<b>9</b>	

### Semester II

<input checked="" type="checkbox"/>	COURSE	CRS	COURSE NOTES:
	+ CIS150 or + CIS150AB	3	
	+ CIS151 or + CIS159 or +CIS162++ or +CIS163AA	3	
	+CIS119DO or +CIS276DA or +CIS276DB	3	
<b>CREDITS</b>		<b>9</b>	

### Semester III

<input checked="" type="checkbox"/>	COURSE	CRS	COURSE NOTES:
	+CIS225 or +CIS225AB or +CIS250	3	
	Restricted Elective	3	Choose course from Restricted Electives list.
<b>CREDITS</b>		<b>6</b>	