

1. Certificate programs provide career skills to enable students to enter the job market after graduation, retrain in a new career, or upgrade employment skills. Occupational courses are designed to meet these needs instead of transferring to four-year institutions; however, four-year institutions may accept some courses. Check with your college of transfer intent for more info.
2. By completing some general education requirements, most certificate programs lead to an AAS Degree. Consult the website or a CCA advisor for more info.
3. You must apply for graduation on the website or at Enrollment Services prior to your final semester.

Certificate Requirements – (6 credits)

	CIS 220 Fundamentals of Unix	3 cr.
	CSC 116 Logic and Program Design	3 cr.

Programming Electives – (12 credits)

Choose a minimum of 12 credits.

Note: One advanced programming class is required. CIS 232 does not satisfy this advanced programming requirement.

	CIS 232 Unix Shell Programming	3 cr.
	CSC 154 Intro to MS Visual Basic.NET	3 cr.
	CSC 157 Adv. Visual Basic.NET Prog.	3 cr.
	CSC 160 Comp. Science I: C++	4 cr.
	CSC 161 Comp. Science II: C++	4 cr.
	CSC 225 Computer Architecture/ Assembly Language Programming	4 cr.
	CSC 230 C Language Programming	3 cr.
	CSC 231 Advanced C Language Prog.	3 cr.
	CSC 236 C++ Programming	4 cr.
	CSC 237 Adv. C++ Programming	4 cr.
	CSC 240 Java Programming	3 cr.
	CSC 241 Adv. Java Programming	3 cr.

PROGRAMMING CERTIFICATE TOTAL 18 cr.

Recommended Progression:

1st semester:

	CIS 220 Fundamentals of Unix	3 cr.
	CSC 116 Logic and Program Design	3 cr.

Recommended Progression:

**2nd semester: DEPENDS ON LANGUAGES
STUDENT WANTS TO STUDY**

Recommended Progression:

**3rd semester DEPENDS ON LANGUAGES
STUDENT WANTS TO STUDY**

Recommended Progression:

**4th semester DEPENDS ON LANGUAGES
STUDENT WANTS TO STUDY**

For Further Information:

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