

**Computer Science Technology - Networking & Programming  
 Certificate  
 M.A.P.**

Semester	Suggested Courses	Semester(s) Offered*	Credit Hours
<b>Semester 1</b> 15 credit hours	CIS 149 Introduction to Computers	Fall	3
	CIS 191 Introduction to Computer Programming Concepts	Fall	3
	CIS 193A Introduction to Computer Programming Lab	Fall	1
	CIS 157 Introduction to App Development with Swift	Fall	3
	MTH 100 <i>or</i> Intermediate College Algebra <i>or</i> MTH 116 Mathematical Applications	Fall, Spring, Summer	3
	ORI 101 Orientation to College	Fall, Spring, Summer	2
<b>Semester 2</b> 13 credit hours	CIS 263 Computer Maintenance	Spring	3
	CIS 251 C++ Programming (Recommended CST Elective)	Spring	3
	CIS 193B C++ Programming Lab (Recommended CST Elective)	Spring	1
	CIS 220 App Development with Swift I (Recommended CST Elective)	Spring	3
	ENG 101 English Composition I	Fall, Spring, Summer	3
<b>Semester 3**</b> 3 credit hours	SPH 106 <i>or</i> Fundamentals of Oral Communication <i>or</i> SPH 107 Fundamentals of Public Speaking	Fall, Spring, Summer	3
<b>Semester 4</b> 10-12 credit hours	CIS 161 Intro Networking Communications (Recommended CST Elective)	Fall	3
	CIS 171 Linux I (Recommended CST Elective)	Fall	3
	CIS Elective Select any CIS elective (excluding CIS 146 & CIS 203)	Fall, Spring	3
	CIS Elective Select any CIS elective (excluding CIS 146 & CIS 203)	Fall, Spring	1-3
<b>Semester 5</b> 13 credit hours <b>Programming &amp; Networking Certificate Achieved</b>	CIS 249 Microcomputer Operating Systems	Spring	3
	CIS 255 Java Programming (Recommended CST Elective)	Spring	3
	CIS 193F Java Programming Lab (Recommended CST Elective)	Spring	1
	CIS 207 Web Development	Spring	3
	CIS 202 Python Programming	Spring	3
<b>Total Hours</b>			54-56

Part-time students and full-time students desiring to begin the CST program of study during a spring or summer semester should consult with an academic advisor to establish an alternate degree completion pathway.

\*Course(s) may be offered in additional semesters but are only assured to run in the semester(s) indicated. It is **highly** recommended that course(s) be completed in the semester(s) indicated.

\*\*Students desiring not to enroll for a summer semester may complete the courses listed in *Semester 3* during alternative semesters.