

**Computer Science Technology - Programming & App Development**  
**Associate in Applied Science**  
**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> MTH 116 Intermediate College Algebra <i>or</i> 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> 6-7 credit hours	SPH 106 <i>or</i> SPH 107 Fundamentals of Oral Communication <i>or</i> Fundamentals of Public Speaking	Fall, Spring, Summer	3
	Area III Math or Natural Science Elective	Fall, Spring, Summer	3-4
	<b>Semester 4</b> 13 credit hours <b>Apple App Development STC Achieved</b>	CIS 159 Introduction to Graphic Design for Apps (Recommended CST Elective)	Fall
CIS 227 App Development with Swift II (Recommended CST Elective)		Fall	3
CIS 281 Systems Analysis and Design (Recommended CST Elective)		Fall	3
CIS 193D Systems Analysis and Design Lab (Recommended CST Elective)		Fall	1
Area IV History or Social/Behavioral Science		Fall, Spring, Summer	3
<b>Semester 5</b> 14-16 credit hours <b>Programming &amp; App Development AAS Achieved</b>	CIS 207 Web Development	Spring	3
	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
	CST Elective Choose 1 Programming & App Development Elective	Fall, Spring	1-3
	Area II Fine Arts or Humanities	Fall, Spring, Summer	3
<b>Total Hours</b>			<b>61-64</b>

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

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

\*\*Students desiring not to enroll for a summer semester may complete one of the *Semester 3 Area I-V Requirements* during Semester 2 and the remaining *Semester 3 Area I-IV Requirements* during Semester 4.



**Area II – Area IV Options**

**Area II**

**Humanities and Fine Arts**

Art 100	Art Appreciation
ART 203	Art History I
ART 204	Art History II
ENG 251	American Literature I
ENG 252	American Literature II
ENG 261	English Literature I
ENG 262	English Literature II
ENG 271	World Literature I
ENG 272	World Literature II
HUM 298	Directed Studies in Humanities
MUS 101	Music Appreciation
PHL 206	Ethics and Society
REL 100	History of World Religions
REL 151	Survey of Old Testament
REL 152	Survey of New Testament
SPA 101	Introduction to Spanish I
SPA 102	Introduction to Spanish II
THR 120	Theatre Appreciation

**Area III**

**Math or Natural Science**

AST 220	Introduction to Astronomy
BIO 101 or	Introduction to Biology I or
BIO 103	Principles of Biology I
BIO 102 or	Introduction to Biology II or
BIO 104	Principles of Biology II
CHM 104 or	Introduction to Inorganic Chemistry or
CHM 111	College Chemistry I
CHM 105 or	Introduction to Organic Chemistry or
CHM 112	College Chemistry II
CHM 221	Organic Chemistry I
CHM 222	Organic Chemistry II
GEO 101	Principles of Physical Geography I
GEO 102	Principles of Physical Geography II
MTH 100	Intermediate College Algebra
MTH 110	Finite Mathematics
MTH 112	Precalculus Algebra
MTH 113	Precalculus Trigonometry
MTH 115	Precalculus Algebra & Trigonometry
MTH 120	Calculus and Its Applications
MTH 125	Calculus I
MTH 126	Calculus II
MTH 227	Calculus III
MTH 237	Linear Algebra
MTH 238	Applied Differential Equations I
MTH 265	Elementary Statistics
PHS 111	Physical Science I
PHS 112	Physical Science II
PHY 201	General Physics I -Trig Based
PHY 202	General Physics II-Trig Based
PHY 213	General Physics with Calculus I
PHY 214	General Physics with Calculus II

**Area IV**

**History, Social, and Behavioral Sciences**

ANT 200	Introduction to Anthropology
ANT 220	Cultural Anthropology
ECO 231	Principles of Macroeconomics
ECO 232	Principles of Microeconomics
GEO 100	World Regional Geography
HIS 101	Western Civilization I
HIS 102	Western Civilization II
HIS 201	United States History I
HIS 202	United States History II
POL 200	Introduction to Political Science
POL 211	American National Government
PSY 200	General Psychology
PSY 210	Human Growth & Development
SOC 200	Introduction to Sociology
SOC 210	Social Problems