

Program Curriculum

Course Prefix	Course Number	Course Title	Credit Hours
General Education Credit Hour Sub-total			18¹
Required Courses			
CS	1410	Object-oriented Programming	3
CS	1415	Object-oriented Programming Lab	1
CS	1430	User Experience Design	1
CS	1810	Introduction to Web Development	3
CS	2420	Data Structures and Algorithms	3
CS	2450	Introduction to Software Engineering	3
CS	2700	Digital Circuits	3
CS	2810	Computer Organization and Architecture	3
CS	2860	Operating Systems Theory	3
MATH	1210	Calculus I (<i>QL</i>)	5
MATH	2270	Linear Algebra (<i>IE</i>)	3
MATH	3040	Statistics for Scientists and Engineers	3
MATH	3310	Discrete Mathematics	3
COMM	2110	Interpersonal Communication (<i>SS</i>)	3
ENGL	3260	Technical Writing	3
SE	3140	Ethics and Personal Software Process	3
SE	3250	Survey of Languages	3
SE	3520	Database Theory	3
SE	3630	Mobile Application Development	3
SE	3820	Back-end Web Development	3
SE	3830	Cloud Application Development	3
SE	4230	Advanced Algorithms	3
SE	4270	Software Maintenance Practices	3
SE	4340	Secure Coding Practices	3
SE	4400	Software Engineering Practicum I	4
SE	4450	Software Engineering Practicum II	4
SE	4620	Distributed Internet Application Development	3
Required Courses Credit Hour Sub-total			81

¹ AI, E1, E2, FA, FND, & HU. The remaining GE credits are satisfied in the Required and Elective Courses

Science and Math Elective Coursework			
Physical Science Electives (<i>PS, LAB</i>)			3-19 ²
Life Science Electives (<i>LS, LAB</i>)			3-19 ²
Math Electives			0-11
Science and Math Elective Credit Hour Sub-total			19
Emphasis Option #1			
Name of Emphasis: Entrepreneurship			
BUS	1600	Entrepreneurship Seminars	1
BUS	2222	Entrepreneurship	3
BUS	2650	Management Principles for Entrepreneurs	3
Emphasis #1 Credit Hour Sub-total			7
Total Number of Credits to Complete Program			125
Emphasis Option #2			
Name of Emphasis: Digital Media Design			
ART	1120	2D Surface	3
ART	1140	4D Time	3
ART	2400	Introduction to Graphic Design	3
Emphasis #2 Credit Hour Sub-total			9
Total Number of Credits to Complete Program			124³
Emphasis Option #3			
Name of Emphasis: Web Development			
SE	3840	Web Telemetry, Operations, and Reporting	3
SE	4850	Advanced Front-end Development	4
Emphasis #3 Credit Hour Sub-total			7
Total Number of Credits to Complete Program			125
Emphasis Option #4			
Name of Emphasis: Data Science			
MATH	3080	Applied Linear Regression	3
MATH	3280	Data Mining	3
MATH	3480	Theory and Applications of Machine Learning	3
Emphasis #4 Credit Hour Sub-total			9
Total Number of Credits to Complete Program			124⁴

² Three PS GE credits may be used toward Physical Science Electives, or three LS GE credits may be used toward Life Science Electives but not both. A minimum of eight credits must come from the combined Physical Science Electives and Life Science Electives.

³ This combination of Art classes satisfies the GE Fine Arts requirement.

⁴ This combination of Math classes satisfies three of the Math Elective Credits.

Physical Science Electives			
CHEM	1210/1215	Principles of Chemistry I/Lab	4/1
CHEM	1220/1225	Principles of Chemistry II/Lab	4/1
GEO	1110/1115	Physical Geology/Lab	3/1
GEO	1220/1225	Historical Geology/Lab	3/1
PHYS	2210/2215	Physics for Scientists and Engineers I/Lab	4/1
PHYS	2220/2225	Physics for Scientists and Engineers II/Lab	4/1
PHYS	2710	Modern Physics	3
Life Science Electives			
BIOL	1610/1615	Biology I/Lab	3/1
BIOL	1620/1625	Biology II/Lab	3/1
BIOL	2030/2035	Introductory Genetics/Lab	3/1
BIOL	2060/2065	Introductory Microbiology/Lab	3/1
BIOL	2200/2205	General Microbiology/Lab	3/2
BIOL	2320/2325	Human Anatomy/Lab	3/1
BIOL	2420/2425	Human Physiology/Lab	3/1
Math Electives			
MATH	1220	Calculus II	4
MATH	2210	Calculus III	3
MATH	3080	Applied Linear Regression	3 ⁵
MATH	3280	Data Mining	3 ⁵
MATH	3480	Theory and Applications of Machine Learning	3 ⁵

⁵ If emphasis is Data Science, only three of these credits may be used as Math Elective credits.