

**PROGRAM COURSE CHECKLIST****B. S. ENVIRONMENTAL, GEOGRAPHICAL, & GEOLOGICAL SCIENCES: GIS AND SPATIAL ANALYSIS**

<b>Total of 60 Credits <i>excluding</i> Directed General Ed</b>		<b>Credits</b>	<b>Semester Taken</b>
<b>Core Requirements: (6 Credits)</b>			
<b>Required</b>			
EGGS 120	Physical Geology*	4	
EGGS 242	Mapping and GIS Fundamentals	3	
<b>Choose 1</b>			
EGGS 100	Environmental Science	3	
EGGS 105	Environmental Issues and Choices	3	
EGGS 140	Environmental Sustainability	3	
<b>Choose 1</b>			
EGGS 102	World Cultural Geography*	3	
EGGS 104	World Regional Geography*	3	
<b>Ethics Requirement (Choose 1): (0 Credits)*</b>			
PHIL 203	Business Ethics	3	
PHIL 302	Ethics	3	
PHIL 204	Environmental Ethics	3	
<b>Math Requirement (0 Credits)*</b>			
STAT 141	Introduction to Statistics	3	
<b>Spatial Analysis Requirements: (24 Credits)</b>			
EGGS 160	Digital Earth	3	
EGGS 320	Remote Sensing of the Earth	3	
EGGS 325	UAV Applications	3	
EGGS 360	Principles of GIS 1	3	
EGGS 361	Principles of GIS 2	3	
EGGS 364	Digital Cartography	3	
EGGS 381	Programming in GIS	3	
EGGS 440	Advanced Topics in GIS	3	
<b>Technical Requirements: (12 Credits)</b>			
<b>Required</b>			
CMSC 115	Python Programming*	3	
CMSC 150	Principles of Database Design	3	
CMSC 215	Advanced Python	3	
<b>Choose 1</b>			
CMSC 125	Fundamentals of Web Development	3	
IDT 470	Introduction to Website Development	3	
<b>Choose 1</b>			
CMSC 120	Object-Oriented Programming with Java	4	
CMSC 155	Introduction to JavaScript	3	
DATS 275	Introduction to Networks	3	
ENGT 180	Computer Aided Design and Eng. Graphics	3	
GRAP 200	Introduction to Graphic Design	3	
<i>Continued on reverse</i>			

<b>Degree Electives (Choose at least 2, 6 credits)</b>			
<b>Geospatial Visualization Concentration Course Options</b>			
CMSC 225	Advanced JavaScript	3	
DATS 210	Data Visualization	3	
DATS 310	Databases for Big Data	3	
GRAP 202	Typography and Logo Design	3	
GRAP 378	Web and Social Media Design	3	
VR 200	Introduction to Virtual and Augmented Reality	3	
<b>Environmental &amp; Demographic Analysis Course Options</b>			
CRJ/EGGS 370	GIS for the Social Sciences	3	
EGGS 221	Economic Geography	3	
EGGS 250	Elements of Planning	3	
EGGS 275	Introduction to Surveying		
EGGS 342	Geostatistics	3	
EGGS 350	Advanced Planning	3	
EGGS 410	GIS for Environmental Research	3	
<b>Computer Science Course Options</b>			
CMSC 130	Graphical User Interfaces in Java	4	
CMSC 230	Advanced Java	4	
CMSC 345	Mobile Device Application Development	3	
<b>Major Capstone (12+ Credits)</b>			
EGGS 492	EGGS Internship Capstone Seminar	3	
EGGS 498	Internship in EGGS	9+	

\*These courses are directed General Education and are not counted against the total required credits.