

ACADEMIC ROADMAP TEMPLATE: Earth Sciences, Environmental Earth Sciences Concentration (BS)

(Recommended courses in italics - these courses will greatly improve your performance in the major and are expected of any student planning to apply to graduate school.)

Freshman Year

FIRST SEMESTER (Fall) (17 cr.)			SECOND SEMESTER (Spring) (16 cr.)		
Course Title	Catalog Number	Prerequisite(s)	Course Title	Catalog Number	Prerequisite(s)
Introductory Geology	GES 101	None	Historical Geology	GES 102	None
Introductory Geology Laboratory (1 cr)	GES 103	Co-registration with GES 101	† <i>Environmental Earth Science</i>	<i>GES 223</i>	<i>None</i>
Oceanography	GES 111	None			
College Writing I	CWP 101		College Writing II	CWP 102	CWP 101
<i>Applied Calculus I (4cr)</i> or <i>Appropriate MAT by advisement</i>	<i>MAT 126</i>	4 years Regents High School Math	<i>Applied Calculus II (4cr)</i>	<i>MAT 127</i>	<i>MAT 126</i>
Intellectual Foundations course			Intellectual Foundations course		

Freshmen should satisfy the following IF 14 requirements as soon as possible: complete CWP 101 and 102; take MAT 114, MAT 124, MAT 126 or MAT 161 to fulfill the Mathematics & Quantitative Reasoning requirement; fulfill the Global Engagement requirement (two years of high school fulfill foreign language are equivalent to the 102-level). It is important to balance some courses in the major with IF 14 courses (e.g., Arts, Humanities, Social Science, and Natural Science) each semester to ensure timely degree completion.

Sophomore Year

THIRD SEMESTER (15 – 18cr.)			FOURTH SEMESTER (17 cr.)		
Course Title	Catalog Number	Prerequisite(s)	Course Title	Catalog Number	Prerequisite(s)
Sedimentology and Stratigraphy (4 cr)	GES 306	GES 101, GES 103	Geomorphology (4 cr)	GES 307	GES 101, GES 103
<i>Fundamentals of Chemistry I (4 cr)</i>	<i>CHE 111</i>		Introductory Astronomy	GES 131	None
<i>Introduction to Biology (4 cr)</i>	<i>BIO 111</i>		<i>Fundamentals of Chemistry II (3 cr /1 cr laboratory)</i>	<i>CHE 112/ CHE 114</i>	<i>CHE 111</i>
† <i>IF Social Sciences – select course of interest that is prerequisite for Society and Policy</i>	<i>ECO 202, PSC 230, PSY 101 or SOC 100</i>	None	† <i>Environmental Science Minor Society and Policy Course (or take ANT 100 and ANT 367 not for IF 14 credit)</i>	<i>ECO 355, HIS 330, PSC 370, PSY 370, SOC 353</i>	<i>ECO 202, None, PSC 230, PSY 370, SCO 100</i>
Intellectual Foundations course			Intellectual Foundations course		

Junior Year

FIFTH SEMESTER (16 cr.)			SIXTH SEMESTER (15 – 18 cr.)		
Course Title	Catalog Number	Prerequisite(s)	Course Title	Catalog Number	Prerequisite(s)
Mineralogy and Petrology (4 cr)	GES 303	GES 101, GES 103	Structural Geology (4 cr)	GES 408	GES 101, GES 103
Environmental Geochemistry (junior or senior year)	GES 350	GES 101, GES 103, Upper division status	† <i>Introduction to Ecology, Evolution, and Behavior (4 cr)</i>	<i>BIO 213</i>	<i>BIO 111</i>
† <i>Environmental Case Studies (junior or senior year)</i>	<i>ENS 300</i>	<i>Upper division status</i>	‡ <i>Fundamentals of GIS</i>	<i>GEG 425</i>	<i>GES 325</i>
‡ <i>Maps and Mapmaking</i>	<i>GEG 325</i>		** <i>Undergraduate research</i>	<i>GES 499</i>	
Intellectual Foundations course			Intellectual Foundations course		

Senior Year

SEVENTH SEMESTER (15 – 18 cr.)			EIGHTH SEMESTER (15 – 18 cr.)		
Course Title	Catalog Number	Prerequisite(s)	Course Title	Catalog Number	Prerequisite(s)
Field Geology	GES 450	GES 303, GES 408	Environmental Field Methods	GES 460	Capstone course
Hydrogeology	GES 452	at least one 300-level GES course	‡ <i>Advanced Topics in GIS</i>	<i>GEG 429</i>	<i>GEG 425</i>
† <i>Environmental Science Minor elective from list – other than GES prefix</i>		Varies	† <i>Environmental Science Minor elective from list – other than GES prefix</i>		Varies
Intellectual Foundations course or all college elective			* <i>Upper division all college elective(s)</i>		

* 33 credits worth of upper division coursework (courses at the 300 and 400 level) is required for all SUNY Buffalo State degrees.

** All students are strongly encouraged to pursue undergraduate research. Minors in Environmental Science† and in GIS‡ are also strongly encouraged. The GIS minor requires the three listed courses as well as three additional courses selected from a list of options. It is important to meet with an advisor to help with planning your schedule.