

ACADEMIC ROADMAP: Earth Sciences, Earth Science 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) (16 cr.)			SECOND SEMESTER (Spring) (15 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	Introductory Astronomy	GES 131	None
College Writing I	CWP 101		College Writing II	CWP 102	CWP 101
<i>Applied Calculus I (4cr)</i> or Appropriate MAT by advisement	<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			Intellectual Foundations course		

Freshmen should satisfy the following IF 14 requirements as soon as possible: CWP 101 and 102; an appropriate math course or sequence to fulfill the Mathematics & Quantitative Reasoning requirement; Global Engagement requirement (students applying to the MSED program must demonstrate foreign language competency to the 102 level). It is important to balance some courses in the major with IF 14 courses to ensure timely degree completion.

Sophomore Year

THIRD SEMESTER (17 cr.)			FOURTH SEMESTER (17 cr.)		
Course Title	Catalog Number	Prerequisite(s)	Course Title	Catalog Number	Prerequisite(s)
Invertebrate Paleontology (4 cr)	GES 302	GES 102	Geomorphology (4 cr)	GES 307	GES 101, GES 103
Oceanography	GES 111	None	Meteorology	GES 241	
<i>* Fundamentals of Chemistry I (4 cr)</i>	<i>CHE 111</i>	None	<i>* Fundamentals of Chemistry II (3 cr /1 cr laboratory)</i>	<i>CHE 112/ CHE 114</i>	<i>CHE 111</i>
Intellectual Foundations course			Intellectual Foundations course		
Intellectual Foundations course			Intellectual Foundations course		

Junior Year

FIFTH SEMESTER (17 cr.)			SIXTH SEMESTER (17 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
<i>† Undergraduate research</i>	<i>GES 499</i>		Upper division Astronomy course		GES 131
<i>General Physics I (4 cr)</i> or <i>University Physics I (5 cr)</i>	<i>PHY 107</i> <i>PHY111</i>		<i>General Physics II (4 cr)</i> or <i>University Physics II (5 cr)</i>	<i>PHY 108</i> <i>PHY112</i>	<i>PHY 107</i> <i>PHY 111</i>
Intellectual Foundations course			<i>‡ Maps and Mapmaking</i>	<i>GEG 325</i>	
Intellectual Foundations course or all-college elective			Intellectual Foundations course or all-college elective		

Senior Year

SEVENTH SEMESTER (15 – 18cr.)			EIGHTH SEMESTER (15 – 18cr.)		
Course Title	Catalog Number	Prerequisite(s)	Course Title	Catalog Number	Prerequisite(s)
Upper division GES Elective by advisement (3 – 4 cr)			Geology of North America	GES 405	GES 101, GES 103
<i>‡ Fundamentals of GIS</i>	<i>GEG 425</i>	<i>GES 325</i>	<i>‡ Advanced Topics in GIS</i>	<i>GEG 429</i>	<i>GEG 425</i>
<i>* † Upper division all college elective</i>					
<i>* Upper division all college elective</i>			<i>* Upper division all college elective</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.

‡ A minor in GIS is also strongly encouraged. It 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.