

**Sample Curriculum Plan: Earth Sciences B.S. + M.S. Science Education**

**Freshman Year**

FIRST SEMESTER (Fall)			SECOND SEMESTER (Spring)		
Course Title	Catalog Number	REQ	Course Title	Catalog Number	REQ
Introductory Geology	GES 101	X	Historical Geology	GES 102	X
Introductory Geology Laboratory (1 cr)	GES 103	X	Introductory Astronomy	GES 131	X
<i>IF: College Writing I</i>	<i>CWP 101</i>	X	<i>College Writing II</i>	<i>CWP 102</i>	X
<i>IF: Mathematics</i> <i>Recommended: MAT 126 Applied Calculus I (4cr) or</i> <i>Appropriate MAT by advisement</i>		X	<i>Recommended: MAT 127 Applied Calculus II (4cr)</i>		
<i>IF: Global Engagement – Language option</i>		X	<i>IF: Global Engagement – Language option</i>		X
<i>IF: Humanities</i>		X	<i>IF: Arts</i>		X
<b>Total Credits : 16 – 17</b>			<b>Total Credits : 18 – 19</b>		

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; for the Global Engagement requirement students applying to the MSED program must demonstrate foreign language competency to the 102 level.

**Sophomore Year**

THIRD SEMESTER			FOURTH SEMESTER		
Course Title	Catalog Number	REQ	Course Title	Catalog Number	REQ
Invertebrate Paleontology (4 cr)	GES 302	X	Geomorphology (4 cr)	GES 307	X
Oceanography	GES 111	X	Meteorology	GES 241	X
<i>IF: Social Science</i>			<i>Recommended: CHE 112/114 Fundamentals of</i> <i>Chemistry II (3 cr /1 cr laboratory)</i>		
<i>IF: Natural Science</i> <i>Recommended: CHE 111 Fundamentals of Chemistry I (4 cr)</i>		X	<i>IF: Diversity</i> <i>‡ Nature/Needs of Individuals who are Exceptional</i>	EXE 100	X
<i>IF: American History</i>		X	<i>IF: Western Civilizations</i>		X
<b>Total Credits : 16 – 17</b>			<b>Total Credits : 16 – 17</b>		

**Junior Year**

FIFTH SEMESTER			SIXTH SEMESTER		
Course Title	Catalog Number	REQ	Course Title	Catalog Number	REQ
Mineralogy and Petrology (4 cr)	GES 303	X	Structural Geology (4 cr)	GES 408	X
<i>Recommended: PHY 107 General Physics I (4 cr) or</i> <i>PHY111 University Physics I (5 cr)</i>			Upper division Astronomy course		X
<i>IF: Non-Western Civilizations</i>		X	<i>Recommended: PHY 108 General Physics II (4 cr) or</i> <i>PHY112 University Physics II (5 cr)</i>		
<i>‡ Educational Psychology: Middle and Secondary Education</i>	SPF 303	X	<i>Recommended: BIO 111 Introduction to Biology (4 cr)</i>		
All college elective			All-college elective		
<b>Total Credits : 16 – 18</b>			<b>Total Credits : 16 – 19</b>		

**Senior Year**

SEVENTH SEMESTER			EIGHTH SEMESTER		
Course Title	Catalog Number	REQ	Course Title	Catalog Number	REQ
Upper division GES Elective by advisement (3 – 4 cr)	GES xxx	X	Geology of North America	GES 405	X
Graduate Course #1 : Literacy for Teaching Science	SCI 545	X	Graduate Course #2: Teaching Science with Technology	SCI 664	X
<i>‡ Undergraduate research GES 499</i>			<i>‡ Undergraduate research GES 499</i>		
All college elective			All college elective		
All college elective			All college elective		
<b>Total Credits : Minimum 12 undergraduate credits 3 graduate credits</b>			<b>Total Credits : Minimum 12 undergraduate credits 3 graduate credits</b>		

**Graduate Year**

<b>SEVENTH SEMESTER</b>			<b>EIGHTH SEMESTER</b>		
<b>Course Title</b>	<b>Catalog Number</b>	<b>REQ</b>	<b>Course Title</b>	<b>Catalog Number</b>	<b>REQ</b>
Secondary Science Education Teaching: Theory, Content and Pedagogy	SCI 502	X	Initial Middle School Science Teaching Experience (6 cr)	SCI 677	X
Curricular Research Topics in Science	SCI 650	X	Initial High School Science Teaching Experience (6 cr)	SCI 678	X
Literacy Instruction in the Upper Grades	EDU 609	X	Seminar in Science Education (1 cr)	SCI 679	X
Master's Project (3 cr) (will not finish until after completion of student teaching placement)	SCI 690	X			
<b>Total Credits : 12</b>			<b>Total Credits : 13</b>		

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

‡ Courses that should be taken by students interested in pursuing a Master of Science in Science Education (M.S.Ed.) degree.

† All students are strongly encouraged to pursue undergraduate research.