

**Professional Geology**  
**University and College Core**

*English Composition (6 hours)*

- EN 1103 English Comp I **or** EN 1163 Accelerated Comp I
- EN 1113 English Comp II **or** EN 1173 Accelerate Comp II

*Oral Communication (3 hours)*

- CO 1003 Fundamentals of Public Speaking **or**
- CO 1013 Introduction to Communication

*Foreign Language (6 hours)*

- 2<sup>nd</sup> semester proficiency in a foreign language

*Fine Arts (3 hours)*

- See A&S requirements

*Humanities (6 hours)*

- 3 hours Literature (see A&S requirements)
- 3 hours History (see A&S requirements)

*Social Science (6 hours)*

- GR 1123 Intro to World Geography
- 3 hours in a different discipline (see A&S requirements)

*Basic Concentration Core (4 hours)*

- GG 1113 Survey of Earth Science I and
- GG 1111 Earth Science I Lab
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**Concentration Core**

*Mathematics (6 hours)*

- MA 1713 Calculus I
- MA 1723 Calculus II

*Natural Sciences (17 hours)*

- CH 1213 Chemistry I
- CH 1211 Investigations in CH I (lab)
- CH 1223 Chemistry II
- CH 1221 Investigations in CH II (lab)
- PH 1113 General Physics I
- PH 1123 General Physics II
- PH 1133 General Physics III **or** GG 4233 Applied Geophysics

*Concentration Requirements (46 hours)*

- GG 1121 Earth Science II Lab
- GG 1123 Survey of Earth Science II
- GG 3133 Intro to Environmental Geology
- GG 3613 Water Resources
- GG 4114 Mineralogy
- GG 4123 Petrology
- GG 4201 Practicum in Paleontology
- GG 4304 Principles of Sedimentary Deposits I

- GG 4333 Geowriting
- GG 4413 Structural Geology
- GG 4443 Principles of Sedimentary Deposits II
- GG 4503 Geomorphology
- GR 2313 Maps and Remote Sensing
- ST 3213 Intro to Statistical Inference **or** GR 4633 Statistical Climatology
- 6 hours Summer Field Camp

*Departmental Elective Group #1 (3 hours; choose 1 course below)*

- GG 4203 Principles of Paleobiology
- GG 4113 Micropaleontology

*Departmental Elective Group #2 (6 hours; choose 2 courses below)*

- GG 1133 Planetary Geology
- GG 3603 Intro to Oceanography
- GG 4523 Coastal Environments
- GR 1603 Intro to Meteorology

*Departmental Elective Group #3 (9 hours; choose 3 courses below)*

- GG 4063 Development of Fossil Fuel Resources
- GG 4153 Engineering Geology
- GG 4433 Subsurface Methods
- GG 4613 Physical Hydrogeology
- GR 4303 Principles of GIS

*General Electives (3 hours)*

- Number of credit hours needed to bring total credit hours to 124. Consult Advisor for specifics.

**Total hours needed for degree: 124**

**Note:**

- A grade of C or higher is required on all departmental courses to satisfy graduation requirements. Students in the Professional Geology concentration are required to take the Association of State Board of Geologists Fundamentals of Geology (ASBOG-FG) exam prior to completing the program.
- Professional Geology students are required to attend a 6-credit hours Summer Field Camp course during the summer of their junior or senior year.

## Sample Curriculum

### B.S. in Geosciences with a concentration in Professional Geology

#### FRESHMAN YEAR

Fall Semester				Spring Semester			
Course			Credit	Course			Credit
EN	1103	English Comp I	3	EN	1113	English Comp II	3
MA	1713	Calculus I	3	MA	1723	Calculus II	3
GR	1123	Intro World Geography	3			Social Science <sup>a</sup>	3
GG	1113	Survey Earth Sci I	3	GG	1123	Survey Earth Sci II	3
GG	1111	Earth Science I Lab	1	GG	1121	Earth Science II Lab	1
GR	2313	Maps and Remote	3				
<b>Total Credit Hours</b>			<b>16</b>	<b>Total Credit Hours</b>			<b>13</b>

## SOPHOMORE YEAR

Fall Semester				Spring Semester			
Course			Credit	Course			Credit
EN		Literature <sup>b</sup>	3	HI		History <sup>c</sup>	3
CH	1213	Chemistry I	3	CH	1223	Chemistry II	3
CH	1211	Investigations in CH I	1	CH	1121	Investigations in CH II	1
GG	3613	Water Resources	3	GG	3133	Intro Environ. Geology	3
CO	1003	Public Speaking	3			General Elective <sup>e</sup>	3
		Fine Arts <sup>d</sup>	3				
<b>Total Credit Hours</b>			<b>16</b>	<b>Total Credit Hours</b>			<b>13</b>

## JUNIOR YEAR

Fall Semester				Spring Semester			
Course			Credit	Course			Credit
GG	4114	Mineralogy	4	GG	4123	Petrology	3
FL		Foreign Language I	3	GG	4xxx	Dept. Elective #3 <sup>f</sup>	3
GG	4201	Pract. Paleontology	1	FL		Foreign Language II	3
PH	1113	Physics I	3	ST	3123	Statistical Inference	3
GG		Dept. Elective #1 <sup>f</sup>	3	PH	1123	Physics II	3
<b>Total Credit Hours</b>			<b>14</b>	<b>Total Credit Hours</b>			<b>16</b>

## SENIOR YEAR

Fall Semester				Spring Semester			
Course			Credit	Course			Credit
GG	4503	Geomorphology	3	GG		Dept. Elective #2 <sup>f</sup>	3
GG	4413	Structural Geology	3	GG	4xxx	Dept. Elective #3 <sup>f</sup>	3
GG	4304	Sed. Dep. I	4	GG	4443	Sed. Dep. II	3
PH	1133	Physics III or GG 4233	3	GG	4xxx	Dept. Elective #3 <sup>f</sup>	3
GG		Dept. Elective #2 <sup>f</sup>	3	GG	4333	Geowriting	3
<b>Total Credit Hours</b>			<b>15</b>	<b>Total Credit Hours</b>			<b>15</b>

Summer Semester (junior or senior year)			
Course			Credit
GG	xxxx	Summer Field Camp <sup>g</sup>	6
<b>Total Credit Hours</b>			<b>6</b>

**TOTAL CREDIT HOURS 124**

<sup>a</sup>Social Science – check Arts & Sciences core requirements guidelines for approved courses.

<sup>b</sup>Literature – Intro Literature or American, English, or World Literature. Check Arts & Sciences core requirements guidelines for approved courses.

<sup>c</sup>History – check Arts & Sciences core requirements guidelines for approved courses.

<sup>d</sup>Fine Arts – check Arts & Sciences core requirements guidelines for approved courses.

<sup>e</sup>General Elective – any course with college credit that follows University and Arts & Sciences guidelines to bring the total credits to 124 hours.

<sup>f</sup>Dept. Elective – a specific Geosciences course as outlined in the curriculum requirements.

<sup>g</sup>6 credit hours Summer Field Camp course not offered at MSU. Transfer credits accepted from other accredited universities with approved field camp courses.