

# GEOSCIENCES, BA

Many students are already familiar with Geosciences through what is commonly called "earth science" in high school. Geosciences covers our Planet Earth - its soil, minerals, climate change, magnetic fields, earthquakes, water, plants, fossils, volcanoes and more.

The BA degree in Geosciences requires fewer math, physics, and chemistry prerequisites and upper-level courses than the BS degree. It is designed for students who expect to use the earth sciences in preparation for a career in law, business, government, primary or secondary schools, or natural resources, or for those who start the Geosciences program later in their college careers. The BA degree in Geosciences is more easily combined with complementary majors for students to pursue a double or a triple major.

Geosciences majors at UWM can organize their electives around a particular area of interest if they wish:

- Hard Rock - the study of structural geology, mineralogy, petrology, volcanology and tectonics
- Hydrogeology - the study of water resources
- Paleontology - the study of evolutionary patterns in history
- Sedimentary Geology - the study of rocks, fossils, and landforms in the context of the biological and chemical make-up

Geosciences touches on all aspects of the other natural sciences including chemistry, biology, mathematics and physics, so the ideal student for Geosciences loves all types of science and is curious about how they interrelate. Most Geosciences students also love the outdoors and traveling off of the beaten path.

Required outdoor field work prepares students for jobs with environmental and water resource management; energy and mineral industries; and government agencies.

UWM students often participate in research abroad in places as diverse as Iceland, Turkey, South America, Ireland, and New Zealand. Others gain hands-on experience in the dirt of Montana, the hills of South Dakota or the swamps of Florida.

## Requirements

### Course of Study – Bachelor of Arts Degree

Complete 120 credits including 90 credits in the College of Letters & Science and with 36 of the 90 credits in L&S upper-level (numbered above 300) courses. The College requires that students must complete in residence at UWM at least 15 credits in upper-division (numbered 300 or above) courses in their major. Students are also required to complete University-wide General Education Requirements and the specific L&S requirements listed below.

To complete a major, students must satisfy all the requirements of the major as stated in this catalog. Students who declare their majors within five years of entering the UW System as a degree candidate may satisfy the requirements outlined in any catalog issued since the time they entered. Credits used to satisfy the major also may be used to satisfy other degree requirements.

## University General Education Requirements (GER)

Code	Title	Credits
<b>Oral and Written Communication</b>		
<i>Part A</i>		
Achieve a grade of C or better in the following course:		
ENGLISH 102	College Writing and Research (or equivalent)	
<i>Part B</i>		
Course designated as OWC-B; may be completed through a major-specific course requirement		
<b>Quantitative Literacy</b>		
<i>Part A</i>		
Earn at least 3 credits with a grade of C or higher in one of the following courses or an equivalent course, or achieve a placement code of at least 30 on the mathematics placement test (or other appropriate test, as determined by the Mathematical Sciences Department)		
MATH 102	Mathematical Literacy for College Students II	
MATH 103	Contemporary Applications of Mathematics	
MATH 105	Introduction to College Algebra	
MATH 108	Algebraic Literacy II	
MATH 111	Introduction to Logic - Critical Reasoning <sup>1</sup>	
or PHILOS 111	Introduction to Logic - Critical Reasoning	
MATH 116	College Algebra	
Or equivalent course		
<i>Part B</i>		
Course designated as QL-B; may be completed through a major-specific course requirement		
<b>Arts</b>		
Select 3 credits		3
<b>Humanities</b>		
Select 6 credits		6
<b>Social Sciences</b>		
Select 6 credits		6
<b>Natural Sciences</b>		
Select 6 credits (at least two courses including one lab)		6
<b>UWM Foreign Language Requirement</b>		
Complete Foreign Language Requirement through:		
Two years (high school) of a single foreign language		
Two semesters (college) of a single foreign language		
Or equivalent		
<b>UWM Cultural Diversity Requirement</b>		
One course from the Arts, Humanities, or Social Sciences must also satisfy UWM's Cultural Diversity requirement		

<sup>1</sup> Math 111 and Philosophy 111 are jointly offered and count as repeats of one another. Students cannot receive credit for both courses.

## College of Letters & Science Requirements

### I. English Composition Requirement

Students must satisfy the English Composition Requirement with one of the following options:

- 1) Completing ENGLISH 102 with a grade of C or higher; or
- 2) by placing beyond ENGLISH 102 on the English Placement Test (EPT) (or other assessment as determined by the English Department); or
- 3) transferring a course of at least 2.5 equivalent credits from another institution that is equivalent to English 102, or a UWM higher-level expository writing course, with a grade of C or higher.

**Note:** This requirement is the same as the University General Education Requirement for Oral and Written Communication Part A. The College of Letters & Science does not have a specific requirement for a writing course beyond English 102, but students must complete the university-wide requirement for Oral and Written Communication Part B listed above.

### II. Mathematics and Formal Reasoning

To satisfy the Mathematics and Formal Reasoning Requirement, students must satisfy the following two requirements:

1. Achieve a placement code of at least 30 on the mathematics placement test (or other appropriate test, as determined by the Mathematical Sciences Department) or earn at least 3 credits with a grade of C or higher in one of the following courses or an equivalent course:

Code	Title	Credits
MATH 102	Mathematical Literacy for College Students II	3
MATH 103	Contemporary Applications of Mathematics	3
MATH 105	Introduction to College Algebra	3
MATH 108	Algebraic Literacy II	3
MATH 111	Introduction to Logic - Critical Reasoning <sup>1</sup>	3
or PHILOS 111	Introduction to Logic - Critical Reasoning	
MATH 116	College Algebra	3
MATH 175	Mathematical Explorations for Elementary Teachers I	3

<sup>1</sup> Math 111 and Philosophy 111 are jointly offered and count as repeats of one another. Students cannot receive credit for both courses.

**Note:** This requirement is the same as the University General Education Requirement for Quantitative Literacy Part A, listed above.

2. Complete one course (at least 3 credits) at the 200 level or above chosen from courses in Mathematics, PHILOS 211, or Letters and Science statistics courses:

Code	Title	Credits
Complete one of the following:		
3 or more credits in any 200-level or above Math course		
AFRIC 220	Introduction to Statistics in African and African Diaspora Studies	
ANTHRO 568	Introduction to Anthropological Statistics	

ATM SCI 500	Statistical Methods in Atmospheric Sciences
BIO SCI 465	Biostatistics
ECON 210	Economic Statistics
GEOG 247	Quantitative Analysis in Geography
HIST 595	The Quantitative Analysis of Historical Data
MTHSTAT 215	Elementary Statistical Analysis
PHILOS 211	Elementary Logic
POL SCI 390	Political Data Analysis
POL SCI 392	Survey Research
PSYCH 210	Psychological Statistics
SOCIOL 261	Introduction to Statistical Thinking in Sociology

**Note:** This requirement is NOT the same as the University General Education Requirement for Quantitative Literacy Part B. To complete the BA, students must take one of the L&S approved courses. **Not all of the courses listed here will satisfy the QL-B requirement.**

### III. Foreign Language Requirement

Placement testing may be used to satisfy all or part of this requirement. Language courses (including American Sign Language) other than English taken in high school may be used to satisfy all or part of this requirement. One year of high school language equates to one semester of college work.

Completion of the L&S Language Requirement also satisfies the university-wide Foreign Language GER, but not vice versa.

Code	Title	Credits
Completed in one of the following ways:		0-18
Successful completion of the 4th semester of college work or equivalent in one language other than English (including American Sign Language)		
Successful completion of the 3rd semester of college work or equivalent in one language other than English (including American Sign Language) PLUS the 2nd semester of college work or equivalent in another language other than English (including American Sign Language)		

### IV. International Requirement

See Approved Courses for the L&S International Requirement (<http://catalog.uwm.edu/letters-science/approved-courses-international-requirement/>) for course options.

Code	Title	Credits
Completed in one of the following ways:		9
Complete 3 courses (min. 9 cr) in a single foreign language (not including literature-in-translation or American Sign Language) at the 3rd semester level and above		
Complete 3 non-language courses (min. 9 credits) with an international content chosen from at least 2 curricular areas.		
Complete 9 credits in combination of the two options above.		

### V. Breadth Requirement

Along with completing the University General Education Requirements of 3 credits in the Arts (A); 6 credits in the Humanities (HU), Social Sciences (SS), and Natural Sciences (NS/NS+); and a course with the Cultural

Diversity (CD/+) designation, L&S students must complete the Breadth requirement.

Code	Title	Credits
<b>Arts</b>		
Select 3 credits		3
<b>Humanities</b>		
Complete 12 credits of L&S courses with Humanities Breadth designation; no more than 6 credits from a single subject area. *		12
<b>Social Sciences</b>		
Complete 12 credits of L&S Courses with Social Science Breadth designation; no more than 6 credits from a single curricular area. *		12
<b>Natural Sciences</b>		
Complete 12 credits of L&S Courses with Natural Sciences Breadth designation, including at least one laboratory or field course; no more than 6 credits from a single curricular area. *		12
<b>Cultural Diversity</b>		
Complete 3 credits in a course with Cultural Diversity (CD) designation.**		3

\* Students should check their course selections carefully with the list of approved L&S Breadth Courses (<http://catalog.uwm.edu/letters-science/breadth-requirement-course-list/>). Students are advised to select at least 6 credits worth of courses in each of the Humanities, Social Science, and Natural Sciences areas that can satisfy both the campus-wide General Education Requirements and the L&S Breadth requirement.

\*\* Students are advised to select a course that satisfies the Cultural Diversity requirement as well as a Humanities or Social Science breadth/GER requirement.

## VI. The Major

The College of Letters and Science requires that students attain at least a 2.0 GPA in all credits in the major attempted at UWM. In addition, students must attain a 2.0 GPA on all major credits attempted, including any transfer work. Individual departments or programs may require higher GPAs for graduation. Some departmental majors require courses from other departments. Contact your major department for information on whether those credits will count as part of the major GPA. The College requires that students must complete in residence at UWM at least 15 credits in upper-division (numbered 300 or above) courses in their major.

### Research Requirement

Within their majors, students must complete a research experience approved by the L&S faculty. A list of courses satisfying the research requirement in each major can be found here (<http://catalog.uwm.edu/letters-science/approved-courses-research-requirement/>).

## VII. The Minor

The College of Letters and Science requires that students attain at least a 2.0 GPA in all credits in the minor attempted at UWM. In addition, students must attain a 2.0 GPA on all minor credits attempted, including any transfer work.

## Major Requirements

All students who major in Geosciences must complete at least 15 credits in Geosciences courses at the advanced level (numbered 300 or above) in residence at UWM as part of the 36 advanced-level credits required for the L&S degree. The College requires that students attain at least

a 2.0 GPA on all credits in the major attempted at UWM. In addition, students must attain a 2.0 GPA on all major credits attempted, including any transfer work.

Code	Title	Credits
<b>Required</b>		
GEO SCI 100	Introduction to the Earth	3
GEO SCI 102	Principles of Historical Geology	3
GEO SCI 301	Principles of Mineralogy	4
GEO SCI 302	Elementary Petrology	4
GEO SCI 414	Structural Geology (satisfies L&S research requirement)	4
GEO SCI 455	Field Geology (normally taken over the summer) <sup>1</sup>	3
GEO SCI 511	Stratigraphy and Sedimentation	4
<b>Electives</b>		
Select 9 additional credits from Geosciences Department courses at the 300 level or above		9
<b>Other Requirements</b>		
<i>Physics and Chemistry</i>		
Select at least one laboratory course in physics and one laboratory course in chemistry selected from the courses required for the Geosciences B.S. Option.		9-10
<b>Total Credits</b>		<b>43-44</b>

<sup>1</sup> GEO SCI 455 is required but not offered at UWM. Students must enroll in a field course at another university to satisfy the requirement.

## Letters & Science Advising

The College of Letters and Science provides general academic advising for all students with a major in the College, particularly as it relates to campus' general education requirements and the College's degree requirements. We also provide specialized advising for pre-professional students (pre-med, pre-dental, pre-pharmacy, etc.) regardless if their major is in Letters and Science or not. Prospective students, including high school students and students seeking to transfer to a program in Letters and Science may also receive advising from our admissions counselors.

Upon admission, students are assigned an advisor in the College advising office. Academic advising is available Monday through Friday from 8:30 a.m. to 4:30 p.m. by appointment. Appointments outside of these times may be available and phone appointments are available for online students. The advising office (<https://uwm.edu/letters-science/advising/contact-advising/>) is located on the first floor of Holton Hall. Current students should call (414) 229-4654 to schedule an appointment or use the Navigate website (<https://uwmilwaukee.campus.eab.com>) to make an appointment with your assigned advisor; online scheduling is only available if you already have a Letters & Science advisor assigned to you. Prospective students should call (414) 229-7711 or email [let-sci@uwm.edu](mailto:let-sci@uwm.edu).

When students declare a major, they will receive an additional faculty advisor located within the major department who will assist with requirements for that major. Students should read the "Declaration of Major" information on the website of the major that they are interested in. In some cases, the student will need to choose a faculty advisor as part of the declaration process.

All students are cautioned to consult their Letters & Science academic advisor AND their major advisor prior to each registration period to ensure they understand all requirements. Do not rely on pre-printed sample plans, as they are intended to be samples only and may not be right for your particular situation.

## **Honors in the College of Letters and Science**

### **Dean's Honor List**

GPA of 3.750 or above, earned on a full-time student's GPA on 12 or more graded credits in a given semester.

### **Honors College Degree and Honors College Degree with Distinction**

Granted to graduating seniors who complete Honors College requirements, as listed in the Honors College (<http://catalog.uwm.edu/honors-college/>) section of this site.

### **Commencement Honors**

Students with a cumulative GPA of 3.500 or above, based on a minimum of 40 graded UWM credits earned prior to the final semester, will receive all-university commencement honors and be awarded the traditional gold cord at the December or May Honors Convocation. Please note that for honors calculation, the GPA is **not** rounded and is truncated at the third decimal (e.g., 3.499).

### **Final Honors**

Earned on a minimum of 60 graded UWM credits: Cum Laude - 3.500 or above; Magna Cum Laude - 3.650 or above; Summa Cum Laude - 3.800 or above.

### **Contact Information**

Current Students contact the Department directly at [geo-info@uwm.edu](mailto:geo-info@uwm.edu)  
Prospective Students contact a Letters & Science Admissions Counselor at  
(414) 229-7711 or [let-sci@uwm.edu](mailto:let-sci@uwm.edu)

<http://uwm.edu/geosciences/undergraduate/>