

# 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.

Students can opt for either a Bachelor of Science degree (BS) or a Bachelor of Arts degree (BA) in geosciences.

The BA degree in Geosciences requires less math 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 the biological and chemical make-up of landforms

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. Many 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, Spain, and New Zealand. Others gain hands-on experience in the dirt of Montana, the hills of South Dakota or the volcanoes of Hawaii.

## Course of Study – Bachelor of Arts Degree

Complete 120 credits including 75 credits in the College of Letters & Science and with 36 of the 75 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. The College also requires that students complete at least 30 credits overall in residence at UWM. For additional residency and transfer credit limitations, see L&S Undergraduate Policies and Regulations (<https://catalog.uwm.edu/letters-science/#policiesandregulationstext>).

Students are also required to complete University-wide General Education Requirements (<https://catalog.uwm.edu/policies/undergraduate-policies/#bachelorsdegreegeneraleducation>) 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

The degree requirements in the College of Letters and Science build on the University General Education Requirements to provide a broad base of knowledge as well as an array of skills cited by employers as critical to professional success: critical thinking, problem solving, oral and written communication, ability to work well with others, and adaptability to change.

For the Bachelor of Arts (B.A.), you must complete the UWM General Education Requirements as well as these L&S requirements: the International requirement, the Breadth requirement, and the Research requirement. The International requirement develops your potential for cross-cultural understanding in a globalizing world. The Breadth requirement ensures that you take classes in a wide variety of subjects, across humanities, natural sciences, and social sciences. The Research requirement calls for you to build your critical thinking and oral and written communication skills through conducting an independent research project, usually in your major.

For the Bachelor of Arts (B.A.) you will also complete the Language other than English requirement, to further develop your understanding of cultures through language.

### I. Total Credits and Upper-Division Courses Requirement

Students must complete 120 credits including 75 credits in the College of Letters & Science and with 36 of the 75 credits in L&S upper-level (numbered above 300) courses.

### II. Language other than English Requirement

Students doing the BA must fulfill the language other than English requirement by either successfully completing the fourth semester of university work or equivalent in one language other than English, or by successfully completing the second semester of university work or equivalent in two languages other than English (including all world languages and American Sign Language).

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. Proficiency tests approved by the Languages faculty may be used to satisfy all or part of this requirement.

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

### III. International Requirement

To meet the International Requirement, students must successfully complete some three course (minimum 9 credits) combination of

1. language other than English (*not* including American Sign Language) at 3rd semester level or above, *and/or*
2. non-language courses with L&S approved international content (see Courses Approved for the L&S International Requirement (<https://catalog.uwm.edu/letters-science/approved-courses-international-requirement/>) for course options).

### IV. Breadth Requirement

In addition to completing the University General Education Requirements, L&S students must complete the Breadth requirement.

The L&S Breadth requirement calls for 6 credits each in L&S courses designated L&S Humanities, L&S Natural Sciences, and L&S Social Sciences breadth. One of the L&S Natural Science breadth courses must be a laboratory or fieldwork course. These courses must be beyond and

in addition to courses in those areas used to satisfy General Education Requirements.

Please refer to the list of Courses Approved for the L&S Breadth Requirement (<https://catalog.uwm.edu/letters-science/breadth-requirement-course-list/>).

### V. 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 (<https://catalog.uwm.edu/letters-science/approved-courses-research-requirement/>).

### VI. The Minor

Students are encouraged to consider completing a minor, but it is not required. To complete a 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. The minor must contain at least 9 credits in upper-division (numbered 300 and above) courses.

## 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	Evolution of the Earth	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.

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**Total Credits****43-44**

<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.

## Geosciences BA Learning Outcomes

Students graduating from the Geosciences BA program will be able to:

- recognize basic earth materials and geological processes.
- apply the scientific method to geological problems.
- communicate scientific findings both orally and in writing.
- use field and laboratory skills to investigate geological questions.

## Letters & Science Advising

During your time at UWM, you may have multiple members of your success team, including advisors, peer mentors and success coaches. Letters & Science students typically work with at least two different types of advisors as they pursue their degrees: professional college advisors and faculty advisors. L&S college advisors advise across your entire degree program while departmental faculty advisors focus on the major.

**College advisors** are located in Holton Hall (or virtually for online students) and serve as your primary advisor. They are your point person for your questions about navigating college and completing your degree. College advisors will:

- Assist you in defining your academic and life goals.
- Help you create an educational plan that is consistent with those goals.
- Assist you in understanding curriculum, major and degree requirements for graduation, as well as university policies and procedures.
- Provide you with information about campus and community resources and refer you to those resources as appropriate.
- Monitor your progress toward graduation and completion of requirements.

**Faculty advisors** mentor students in the major and assist them in maximizing their development in the program. You will begin working with a faculty advisor when you declare your major. Faculty advisors are an important partner and will:

- Help you understand major requirements and course offerings in the department.
- Explain opportunities for internships and undergraduate research and guide you in obtaining those experiences.
- Serve as an excellent resource as you consider potential graduate programs and career paths in your field.

Students are encouraged to meet with both their college advisor and faculty advisor at least once each semester. Appointments are available in-person, by phone or by video.

Currently enrolled students should use the Navigate360 website (<https://uwm.navigate.eab.com/>) to make an appointment with your assigned advisor or call (414) 229-4654 if you do not currently have an assigned

Letters & Science advisor. Prospective students who haven't enrolled in classes yet should call (414) 229-7711 or email [let-sci@uwm.edu](mailto:let-sci@uwm.edu).

## 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 (<https://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.