

# GEOLOGY (B.S.)

Geology is the scientific study of planet Earth and involves the observation and interpretation of processes that form and change our world. Some of these processes, such as earthquakes, tsunamis, and volcanic eruptions, proceed rapidly, often with catastrophic consequences. Others, such as erosion or mountain building can progress so slowly that their results are scarcely noticeable over a human lifetime. Each of these processes, however, can exert a profound influence on human activities and can, in turn, be influenced intentionally or unintentionally by human activities.

## Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (<http://bulletins.wayne.edu/undergraduate/general-information/admission/>) to the University.

## Program Requirements

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (<http://bulletins.wayne.edu/undergraduate/general-information/general-education/>) and the College of Liberal Arts and Sciences Group Requirements (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/bachelors-degree-requirements/>), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (<http://bulletins.wayne.edu/undergraduate/general-information/academic-regulations/>) and the College (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/academic-regulations/>) governing undergraduate scholarship and degrees.

## Major Requirements

Students must complete at least thirty-four credits in geology exclusive of the introductory courses (1000-level) and must include the following:

Code	Title	Credits
Twenty of the thirty-four credits from advanced courses (numbered 3000 and above)		
ESG 2130	Mineralogy	4
ESG 3160	Petrology	4
ESG 3300	Structural Geology	4
ESG 3400	Principles of Sedimentology and Stratigraphy	4
GEL 5993	Writing Intensive Course in Geology	0
Credits in field mapping and field techniques, to be fulfilled by completed six credits in a summer field course <sup>1</sup>		6

<sup>1</sup> If the Geology Department at Wayne State University does not offer a summer field course in any given year, students should complete the field course requirement by attending an approved field course at another university. In certain unusual circumstances the required six credits in field mapping and field techniques may be earned through an extended field-oriented research project when this project involves extensive field mapping and is under the direct supervision of a faculty member or other qualified field geologist throughout the duration of the field work. Questions about appropriate Field Camp opportunities outside of Wayne State University should be directed to the program advisor and/or faculty members.

## Cognate Requirements

Code	Title	Credits
MAT 1800 & MAT 2010	Elementary Functions and Calculus I (or equivalent)	8
Select one of the following sequences or equivalent:		8
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	
OR		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	
AND		
CHM 1100 & CHM 1130	General Chemistry I and General Chemistry I Laboratory (or equivalent)	5
A semester of biology (BIO 1500 or equivalent) is strongly recommended		4

Although there are no required cognate courses beyond those listed above, geology majors should consult their advisor regarding cognate courses which might be of value to their particular program. Depending on interest and future goals, additional courses in mathematics, physics, and chemistry, as well as courses in biology, computer science, civil engineering, and urban studies might be of particular value.

## Geology Honors

The Honors Program in Geology is open to students of superior academic ability who are majoring in geology. To be recommended for an honors degree from this department, a student must maintain a cumulative grade point average of at least 3.3. He/she must accumulate at least twelve credits in honors-designated courses including: two Geology Honors or Honors Option courses (min. 6 credits), GEL 4998 (<https://bulletins.wayne.edu/search/?P=GEL%204998>): Honors Thesis (3 credits), and one 4200-level Honors Seminar (3 credits).