GEOSCIENCES B.S.

The B.S. in Geosciences is designed for students who seek post-graduate employment as a professional geoscientist or preparation for graduate study in geosciences.

General Degree Requirements

To earn a baccalaureate degree, all students must complete successfully, in addition to any other requirements, the University of Montana General Education Requirements. Please refer to the General Education Requirements page (https://catalog.umt.edu/academics/general-education-requirements/) for more information.

Additional requirements for graduation can be found on the Degree/Certificate Requirements for Graduation page (https://catalog.umt.edu/academics/graduation-requirements/).

Unless otherwise noted in individual program requirements, a minimum grade point average of 2.00 in all work attempted at the University of Montana-Missoula is required for graduation. Please see the Academic Policies and Procedures page (https://catalog.umt.edu/academics/policies-procedures/) for information on how your GPA is calculated.

Courses taken to satisfy the requirements of a major, minor, or certificate program must be completed with a grade of C- or better unless a higher grade is noted in the program requirements.

Bachelor of Science - Geosciences

Course Requirements

Code	Title	Hours
Lower-Division Core		
Complete one of the following courses:		3
ERTH 101N	Earth Systems Science	
GEO 101N	Introduction to Physical Geology	
GEO 105N	Oceanography	
GEO 107N	Natural Disasters	
Complete one of the following courses:		1
ERTH 103N	Earth Systems Science Lab	
GEO 102N	Introduction to Physical Geology Lab	
Complete all of the following courses:		
GEO 201	The Rocky Planet	4
GEO 202	The Water Planet	4
Electives		
Complete 18 credits of the following courses. At least three of these courses must be at the 400-level.		18
GEO 302	Mineralogy and Optical Mineralogy	
GEO 305	Igneous & Metamorph Petrology	
GEO 309	Sedimentation/Stratigraphy	
GEO 318	Earth's Changing Climate	
GEO 321	Earth Resources and Sustainability	
GEO 322	Energy and the Environment	
GEO 323	Computational Methods for Earth and Environmental Scientists	
GEO 391	Special Topics	
GEO 392	Independent Study	
GEO 420	Hydrogeology	
GEO 421	Hydrology	
GEO 439	Geophysics	
GEO 443	Principles of Sedimentary Petrology	
GEO 460	Process Geomorphology	
GEO 488	Snow, Ice and Climate Change	
GEO 491	Special Topics	
GEO 499	Senior Thesis/Capstone	
Cognate Sciences [1]		
Physics		
Complete one of the following sequences:		10
Algebra- and Trigonometry-based Physics:		
PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	
Calculus-based Physics:		
PHSX 215N & PHSX 216N	Fundamentals of Physics with Calculus I and Physics Laboratory I with Calculus	
Chemistry		
Complete one of the following:		3-5
CHMY 121N	Introduction to General Chemistry	
CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	
Mathematics		
Complete the following course:		
M 171	Calculus I	4
Computer Science		
Complete the following courses:		
CSCI 150	Introduction to Computer Science	3
GPHY 284	Intro to GIS and Cartography	3
or STAT 216	Introduction to Statistics	
Cognate Electives		
Complete two of the following courses:		6
COMX 111A	Introduction to Public Speaking	
COMX 242	Argumentation	
ENST 230H	Nature and Society	
ENST 320E	Earth Ethics	
ENST 367	Environmental Politics & Policies	
GPHY 335	Water and Sustainability	
NRSM 427	Water Policy	
NRSM 475	Environment & International Development	
PHL 112E	Intro Ethics and Environment	
PHL 323	Ethics of Climate Change	
Total Hours		**59**

[1] Students must complete a minimum of 24 credits in cognate science courses. More advanced courses in Chemistry, Computer Science, Math, and Physics may be used to meet this requirement. Course substitutions for the 24 credit minimum in cognate sciences must be approved by a departmental advisor.

Four Year Plan

Course	Title	Hours
Freshman		
Autumn		
ERTH 101N & ERTH 103N	Earth Systems Science and Earth Systems Science Lab	4
M 171	Calculus I (or appropriate prereq)	4
CSCI 150	Introduction to Computer Science	3
CHMY 121N or CHMY 141N ***and*** CHMY 142N	Introduction to General Chemistry or College Chemistry I ***and*** College Chemistry I Lab	4
ERTH 194	Getting to Know Earth, Water, and Climate Science	1
	Hours	**16**
Spring		
WRIT 101	College Writing I	4
GPHY 284 or STAT 216	Intro to GIS and Cartography or Introduction to Statistics	3
General Education Requirement / Elective		9
	Hours	**16**
Sophomore		
Autumn		
GEO 201	The Rocky Planet	4
PHSX 205N & PHSX 206N or PHSX 215N ***and*** PHSX 216N	College Physics I (with lab) or Fundamentals of Physics with Calculus I ***and*** Physics Laboratory I with Calculus	5
STAT 216 or GPHY 284	Introduction to Statistics or Intro to GIS and Cartography	4
General Education Requirement / Elective		3
	Hours	**16**
Spring		
GEO 202	The Water Planet	4
COMX 111A or COMX 242 or ENST 230H or ENST 320E or ENST 367 or GPHY 335 or NRSM 427 or NRSM 475 or PHL 112E or PHL 323	Introduction to Public Speaking (Cognate Elective) or Argumentation or Nature and Society or Earth Ethics or Environmental Politics & Policies or Water and Sustainability or Water Policy or Environment & International Development or Intro Ethics and Environment or Ethics of Climate Change	3
General Education Requirement / Elective		9
	Hours	**16**
Junior		
Autumn		
Geoscience Degree Elective		6
COMX 111A or COMX 242 or ENST 230H or ENST 320E or ENST 367 or GPHY 335 or NRSM 427 or NRSM 475 or PHL 112E or PHL 323	Introduction to Public Speaking (Cognate Elective) or Argumentation or Nature and Society or Earth Ethics or Environmental Politics & Policies or Water and Sustainability or Water Policy or Environment & International Development or Intro Ethics and Environment or Ethics of Climate Change	3
General Education Requirement / Elective		6
	Hours	**15**
Spring		
Geoscience Degree Elective		6
Upper Division Elective		3
General Education Requirement / Elective		6
	Hours	**15**
Senior		
Autumn		
Geoscience Degree Elective		3
Advanced Writing Requirement		3
General Education Requirement / Elective		9
	Hours	**15**
Spring		
Geoscience Degree Elective		3
Upper Division Elective		3
General Education Requirement / Elective		9
	Hours	**15**
	Total Hours	**124**

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