GEOSCIENCES B.S.

Bachelor of Science - Geosciences

College Humanities & Sciences

Degree Specific Credits: 62

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: This option is designed for students who seek post-graduate employment as a professional geoscientist or preparation for graduate study in geosciences.

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Lower Division Core	8
Degree Electives	24
Cognate Sciences	30
Physics	
Chemistry	
Math	
Computer Science	
Upper Division Writing	3-10
Languages	4
Total Hours	69-76

Lower Division Core

Rule: Must complete all of the courses in one of two options

Note: Completion of either option fulfills the Lower Division Core requirements.

Option 1

GEO 101N	Introduction to Physical Geology	3
GEO 102N	Introduction to Physical Geology Lab	1
GEO 211	Earth's History and Evolution	4
Total Hours		8

Minimum Required Grade: C-

Option 2

GEO 103N	Introduction to Environmental Geology	3
GEO 104N	Introduction to Environmental Geology Laboratory	1
GEO 211	Earth's History and Evolution	4
Total Hours		8

Minimum Required Grade: C-

Degree Electives

Rule: Must complete 24 credits from the following list of courses

Select 24 credits from the following:		24
GEO 225	Earth Materials	
GEO 305	Igneous & Metamorph Petrology	
GEO 309	Sedimentation/Stratigraphy	
GEO 311	Paleobiology	
GEO 315	Structural Geology	
GEO 318	Climate System Dynamics	
GEO 320	Global Water	
GEO 327	Geochemistry	
GEO 420	Hydrogeology	
GEO 421	Hydrology	
GEO 433	Global Tectonics	
GEO 443	Principles of Sedimentary Petrology	
GEO 460	Process Geomorphology	
GEO 482	Global Change	
GEO 488	Snow, Ice and Climate	
GEO 491	Special Topics	
Total Hours		24

Minimum Required Grade: C-

Cognate Sciences

Rule: In addition to completing course work in Geosciences, a minimum of 30 credits in cognate science classes must be completed.

Note: More advanced courses in Chemistry, Computer Science, Math, and Physics may be used to meet the 30 credit minimum total in cognate sciences. BIOB 101N or above is also appropriate. Course substitutions for the 30 credit minimum in cognate sciences must be approved by a departmental advisor.

Physics

Rule: Must complete 1 of the following sequences

Select one of the following sequences:		10
Option 1:		
PHSX 205N	College Physics I	
PHSX 206N	College Physics I Laboratory	
PHSX 207N	College Physics II	
PHSX 208N	College Physics II Laboratory	
Option 2 with Calculus:		
PHSX 215N	Fund of Physics w/Calc I	
PHSX 216N	Physics Laboratory I w/Calc	
PHSX 217N	Fund of Physics w/Calc II	
PHSX 218N	Physics Laboratory II w/Calc	

Minimum Required Grade: C-

Chemistry

Rule: Must complete the following courses

CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	5
CHMY 143N & CHMY 144N	College Chemistry II and College Chemistry II Lab	5
Total Hours		10

Minimum Required Grade: C-

Math

Rule: Must complete 1 of the following subcategories

7-8 Total Credits Required

Math Option 1		7
M 162	Applied Calculus	
M 263	Applied Differential Equations (Applied Differential Equations)	
Math Option 2		8
M 171	Calculus I	
M 172	Calculus II	

Minimum Required Grade: C-

Computer Science

Rule: Must complete 1 course in Computer Science (Programming or Modeling)

Note: These courses are recommended to complete the Computer Science requirement. Credit may be received for only 1 of these 4 courses for the 30 credit minimum cognate science requirement.

Select one of the following:		3-4
CSCI 172	Intro to Computer Modeling	
CSCI 250	Computer Mdlng/Science Majors	
GPHY 284	Intro to GIS and Cartography	
STAT 216	Introduction to Statistics	
Total Hours		3-4

Minimum Required Grade: C-

Upper Division Writing

Rule: Must complete 1 upper division writing course

Note: These courses are recommended to complete the upper division writing requirement in Geosciences but students may also select from the university-approved list of upper division writing courses to fulfill this requirement.

GEO 320	Global Water	3-10
or GEO 499	Senior Thesis /Capstone	
Total Hours		3-10

Minimum Required Grade: C-

Languages

Rule: Must complete 1 of the following courses

Note: Students graduating in Geosciences may substitute one of these courses in place of the Modern and Classical Language requirement.

M 162	Applied Calculus	4
or M 171	Calculus I	
Total Hours		4

Minimum Required Grade: C-