

## BS in Geosciences

Required core courses:

GEO 101N	3 cr.	Intro to Physical Geology	_____
GEO 102N	1 cr.	Intro to Physical Geology Lab	_____
GEO 211	2 cr.	Earth History & Evolution	_____
GEO 226	4 cr.	Rocks, Minerals & Resources	_____
GEO 228	2 cr.	Surface Processes	_____
GEO 231	2 cr.	Geosciences Field Methods	_____
			Total: 14 cr

Also required are six additional 3 or 4 credit Geosciences courses, relevant to the student's interests, at the 300 or 400 levels. The tables below suggest some courses to choose among depending upon student career interests. Courses may be combined from the two advising tracks, or chosen from other electives, but students should be aware of all prerequisites.

Course of study #1: Earth History, Evolution, and Resources

GEO 305	4 cr.	Igneous & Metamorphic Petrology	_____
GEO 309	4 cr.	Sedimentation and Stratigraphy	_____
GEO 310	3 cr.	Invertebrate Paleontology	_____
GEO 311	3 cr.	Paleobiology	_____
GEO 327	4 cr.	Geochemistry	_____
GEO 315	3 cr.	Structural Geology	_____
GEO 429	6 cr.	Field Geology	_____
GEO 433	3 cr.	Global Tectonics	_____
GEO 442	4 cr.	Architecture of Sedimentary Deposits	_____
GEO 443	4 cr.	Prin of Sedimentary Petrology	_____
GEO 435	3 cr.	Applied Magnetism	_____
GEO 436	3 cr.	Subsurface Imaging	_____
GEO 460	4 cr.	Process Geomorphology	_____

Course of study #2: Water, Climate, and Environment

GEO 309	4 cr.	Sedimentation and Stratigraphy	_____
GEO 320	3 cr.	Global Water	_____
GEO 327	4 cr.	Geochemistry	_____
GEO 315	3 cr.	Structural Geology	_____
GEO 407	3 cr.	Global Biogeochemical Cycles	_____
GEO 420	4 cr.	Hydrogeology	_____
GEO 422	3 cr.	Hydrology	_____
GEO 442	4 cr.	Architecture of Sedimentary Deposits	_____
GEO 443	4 cr.	Prin of Sedimentary Petrology	_____
GEO 435	3 cr.	Applied Magnetism	_____
GEO 436	3 cr.	Subsurface Imaging	_____
GEO 460	4 cr.	Process Geomorphology	_____
GEO 482	3 cr.	Global Change	_____
GEO 488	3 cr.	Snow, Ice and Climate	_____
			Total: ____ cr

At least six courses, 18 credits required.

Required cognate science courses:

Physics: 205N/206N and 207N/208N or 215N/216N and 217N/218N	205/206 _____ 5cr 215/216 _____ 5cr	207/208 _____ 5cr 217/218 _____ 5cr
Chemistry (CHMY): 121N and 123/124N or 141N and 143N	121 _____ 3cr 141 _____ 5cr	123/124 _____ 3cr/2cr 143 _____ 5cr
Math (M): 162 and 274 or 171 and 172	162 _____ 4cr 171 _____ 4cr	274 _____ 3cr 172 _____ 4cr

Computer Science (modeling or programming), or GIS, or Statistics.

\_\_\_\_\_ 3cr

Additional\* \_\_\_\_\_ cr  
\_\_\_\_\_ cr

Total (at least 30 required) \_\_\_\_\_

\*Additional cognate science courses must be completed such that the sum is a minimum of 30 credits. These may include additional courses in Chemistry, Computer Science, Math, and Physics above the listed minimum levels specified above. Biology 100 or above is also appropriate, but substitutions of other science courses must be approved by the student's Geosciences departmental advisor.

Physics 205/207 vs. 215/217

The 215/217 series is calculus based, the 205/207 series is algebra based. Take the 215/217 series if you plan to take additional physics courses or go to graduate school in a quantitative area of Geosciences. Some government agency jobs and graduate schools require calculus based physics (215/217). Keep in mind that both 205 and 215 tend to be offered every semester, whereas 215 (Physics with Calc I) tends to be offered only in the fall and 217 (Physics with Calc II) tends to be offered only in the spring.

Chemistry 121N and 123N/124N vs. 141N and 143N

The 121N/123N/124N series is a broad overview of organic and inorganic chemistry, and 141N/143N focuses on inorganic chemistry. Take 141N/143N if you plan to take additional courses in chemistry or go to graduate school in a geochemistry related area of Geosciences. Some government agency jobs and graduate schools require "College Chemistry" (141N/143N).

Math 162 and 274 vs. 171 and 172

Math 162/274 is applied; Math 171/172 is theoretical. If you plan to take additional math courses or go to graduate school take 171/172. Some government agency jobs and graduate schools require "Calculus I and II" (171/172).

For additional information on the Math department's recommended sequencing of math courses (including those you may need before calculus): <http://www.umt.edu/mathplacement/regularmath.aspx>

For additional advising information, including copies of this form, see the department's Advising website: <http://www.umt.edu/geosciences/Advising/advising.html>

