Jumpstart Pathway

Geosciences Transfer to University of Montana

Associate of Science

Academic & Career Pathway: Science, Technology, Engineering and Math

Student: **Advisor:**

Course/Semester (Prefix, Number and Title)	Credits	Fall/Spring Only	Milestone Course	Notes	Completed
Semester 1					
M 171 Calculus	4		*	UM required course. Student may need to take M 151 the summer or semester prior to taking M 171. M 171 is offered fall and spring semesters.	
WRIT 101 College Writing I	3				
GEO 101 Intro to Physical Geology & Lab	4		*	UM required course	
PHSX 205 College Physics I & Lab	4		*	UM required course	
COMX 111 Intro to Public Speaking	3		*	UM required course. Course offered every fall, spring, and summer semester.	
Total	**18**				
Semester 2					
STAT 216 Introduction to Statistics	3		*	UM required course	
PSYX 100 Introduction to Psychology	3			S&PS/H course	
CSCI 100 Intro to Programming	3		*	UM required course	
BIOB 170 Principles of Biological Diversity	4	Spring		This course is not required by UM, but it is a good science option for students that want to complete an AS at HC.	
NASX 105 Intro to Native American Studies	3			D & CHAI course Course offered every fall, spring, and summer semester.	
Total	**16**				
Semester 3					
LIT 110	3			This course not required by UM degree, but it will meet the intermediate writing requirement.	
CHMY 121 Intro to Gen. Chemistry & Lab or CHMY 141 College Chemistry I & Lab	4		*	UM required course. Choose one	

BIOB 160 Principles of Living Systems	4	Fall		*or others; see notes at bottom Course may not be needed if student takes M151 prior to taking M 171 in semester 1	
SPNS 101 Elementary Spanish I	4			H&FA course needed for 60 credits for degree.	
Total	**15**				
Semester 4					
ECNS 202 Principles of Macroeconomics, PSCI 210 Intro to American Government, or SOCI 101 Intro to Sociology	3			S&PS/H course Recommended courses meet core requirements at both UM and HC. Any HC S&PS/H course will meet the HC requirement.	
SPNS 102	4	Spring		H&FA course Meets UM language requirement. 4-credit course needed for 60 credits for degree.	
ENST 230 Nature and Society	3		*	UM required course	
ECNS 105 Environmental Science	3			Course not required by UM, but compliments this pathway well. This course may not be needed if student completed M121 and/or M151 prior to taking M171—check overall credits earned.	
Total	**13**				
Recommended					
BIOB 290 Undergraduate Research	1-3*	*optional		Take last semester of program	

Students must earn a C- or better in order to successfully complete a course.

Notes: Flexibility in these courses is built for students later in the program to reflect directions they may wish to take their future education. If the student is leaning towards an interest in paleontology/ paleobiology, take the BIOB courses. These students should speak with Larry Taylor regarding plausible research projects, taking advantage of Dr. Taylor's connections to the paleobiology world and expertise (PhD in paleontology). If more interested in pure geology, GIS courses may be useful. Other courses may be substituted here if the student, from discussion with their advisors or instructors, recognizes specific gaps in their education they wish to address.

Career outlook:
People with degrees in geosciences are in high demand nationally and employment in geoscience-related occupations currently is growing at about 3% per year.

The state of Montana is one of the best places in the country for students interested in paleontology, as many world-renowned fossil sites, such as the Hell Creek Formation, are located here. Students who study paleontology find employment with colleges and universities (e.g., teaching paleontology, earth sciences, comparative anatomy), natural history museums (e.g. fossil preparation, collection, curation, exhibit design, education), as scientific illustrators, writers, paleontology consultants for energy resource companies, and resource specialists for local, state, and federal land-management agencies or parks. Because students who study this option are trained in core geology courses, employment may be found in areas outside paleontology that require geologic expertise.

There are outstanding opportunities for employment in the public and private sectors in fields such as petroleum geology, mining geology, seismology (including earthquake and volcanic risk assessment), hydrology (surface and ground water) natural-hazard geology, environmental clean-up and containment of environmental hazards, mitigation of future environmental problems related to development, preservation of water resources (both surface and ground water), and the study of the processes of climate change and global warming. The optimal degree for employment and advancement in the geological sciences in the private sector is the Master's Degree, and the undergraduate Geology Option is an excellent preparatory degree for graduate study. Some students interested in college teaching or advanced research may require a Ph.D. degree.

UM Geosciences degree requirements https://catalog.umt.edu/colleges-schools-programs/humanities-sciences/geosciences/bs-geosciences

UM General Education core requirements https://catalog.umt.edu/academics/general-education-requirements/

60 credits to degree

BIOB 160 may not be needed for HC degree if student takes M 151 Precalculus prior to taking M 171 in semester 1.

Students that complete the Helena College General Education Core will earn a Certificate of General Studies.

Certificate of General Studies		
Category	**Credits**	**Complete**
Natural Science with Lab		
Natural Science		
Mathematics		
Written Communication		
Oral Communication		
Social & Psychological Sciences/History		
Social & Psychological Sciences/History		
Humanities/Fine Arts		
Humanities/Fine Arts		
Cultural Diversity		
Total Credits (30-32)		

Helena College Academic Map AY 2021-2022