Fall 9-1-2021

GEO 102N.00: Introduction to Physical Geology Lab

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GEO102 – Introduction to Physical Geology Lab – Autumn, 2021

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CHCB 367

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This course is designed to complement the lecture class GEO 101 – Introduction to Physical Geology through a series of exercises and labs that provide a basic working knowledge of Earth, its materials, structures, and processes. Along with GEO 101, this course is designed to provide a broad introduction to Earth's resources on which we depend and the interactions between humans as inhabitants of Earth and Earth's natural geologic processes.

Below is a list of the main **learning objectives** of this course:

1) Understand and be able to use the basic units for geologic measurement and appreciate the vast spatial and temporal scales involved in geosciences.
2) Develop an appreciation for and basic working knowledge of geologic time, fossilization, and the tools geologists use to date geologic events.
3) Understand the means by which minerals are classified and be able to recognize basic rock-forming minerals through direct observation.
4) Describe the basic elements of Earth's plate tectonic system.
5) Develop an understanding of plutonic and volcanic rocks, how these are recognized, and how they originate.
6) Be able to classify sedimentary rocks, sediment textures, and learn how ancient environments are interpreted from the sedimentary rock record.
7) Be able to explain metamorphism, what causes rocks to metamorphose, and identify basic metamorphic rocks.
8) Describe basic geologic structures such as folds and faults and relate each to the type of stress involved.
9) Describe the major tectonic settings and ways in which mountains are formed.
10) Understand Earth's fresh water resources, including groundwater, streams, lakes, and wetlands; how these interact and how human activities have impacted water resources.
11) Understand the fundamental drivers of climate change and ocean circulation and how these processes affect geologic environments.

Required materials:

You will need to create hand-written (talk to the TA or professor about accommodations, we are happy to accommodate as necessary) lab notes, including annotated drawings, for your labs. A graph paper or blank paper notebook will be the best way for you to complete and submit your labs. You may choose to use colored pencils (or pens) as well. You will also need a straight edge and calculator (your phone will be fine). Occasionally you will need to access the internet during labs: a laptop, tablet, or even your phone are welcome for these assignments.

Lab Schedule:
Subject to change/flex dependent on holidays/weather

Week	Lab	Week	Lab
1	Intro/syllabus/meet the TA	**9**	River Hydrology part 1
2	Minerals	**10**	River Hydrology part 2
3	Rocks part 1	**11**	Groundwater
4	Rocks part 2	**12**	Ocean Circulation
5	Plate Tectonics	**13**	Climate
6	Geologic Structures	**14**	Pollution
7	Earthquakes	**15**	****scheduled holiday buffer****
8	Volcanoes	**16**	Final exam

Your part in this class:

Lab attendance is required for success in this course. Please come to lab each week on time, with notebook/paper and writing utensils, and prepared to engage in lab activities. Each week you will be assigned a lab intended to fill the 1 hour 50 minute time slot that the lab is scheduled for. Labs are due at the end of the lab period unless otherwise indicated by your TA. Labs will be returned at the beginning of the lab period of the following week. There will be two required field trips during this course: one on campus and one to the Clark Fork River. Your TA will let you know a week prior to their occurrence. Please show up on time, prepared with weather-appropriate clothing and suitable walking shoes for lab those weeks. If you require accommodations, please talk to your TA or the professor as soon as possible. We want to accommodate your needs!
A final exam will be administered during the time slot assigned to your lab section at the end of the semester.

Course Grading

Your grade for this class will be based on each of your labs, as well as your grade on the final exam. Each lab will be graded based off the 'Lab and Field Notes Rubric' that can be found under the introduction section of the course Moodle page.

Labs 80%
Exam 20%

Make-up Policy

If you are unable to attend lab during your scheduled time for non-health related reasons, please communicate to your TA as soon as possible. You may be able to attend another section for that lab so you do not fall behind, or you may be able to complete a make-up at-home lab. Sections of this course and TAs are scheduled as follows:

Tuesday		**Wednesday**		**Thursday**		**Friday**	
9:00-10:50 am	Andrew	3:00-4:50 pm	Ash	10:00-11:50 am	Ash	10:00-11:50 am	Mike
3:00-4:50 pm	Andrew						

If you are unable to attend class because you are sick or quarantining, please e-mail your section TA for accommodations.

Student Conduct Code

Please be familiar with the UM Student Conduct Code. The Student Conduct Code can be found on the Vice President for Student Affairs website:
https://www.umt.edu/student-affairs/community-standards/default.php

Course Accommodations (DSS)

Students with disabilities will receive reasonable accommodations in this course. To request course modifications, please contact Dr. Bursztyn as soon as possible so she can work with Disability Services in the accommodation process. For more information, visit the Disability Services website (https://www.umt.edu/dss/) or call 406.243.2243 (Voice/Text).

Covid-19 mitigation during class activities (subject to change with ongoing procedures changes)

1) Mask use is required within the classroom. Please review UM's face covering policy.
2) Each student is provided with a Healthy Griz kit. We expect students to clean their personal workspace when they arrive for class, and before they leave the classroom.
3) Refill stations for cleaning supplies/hand sanitizer will be set up around campus - please learn where they are and use them.
4) Classrooms may have one-way entrances / exits to minimize crowding.
5) Students are discouraged from congregating outside the classroom before and after class.
6) Instructors should assign seating to ensure social distancing and take attendance to support contact tracing efforts.
7) Instructors should not allow more students in their classrooms at any time, for any reason, than the maximum approved capacity.
8) Additional seating should not be added to classrooms.
9) Drinking liquids and eating food (which requires mask removal) is strongly discouraged within the classroom.
10) Stay home and contact the Curry Health Center at (406) 243-4330 if you feel sick and/or if exhibiting COVID-19 symptoms. Contact your TA for accommodations for that week of lab.
11) If you are diagnosed with COVID-19, follow instructions for quarantine and contact your advisor so they can help you stay on track academically. Contact your TA for accommodations.
12) Students, please remain vigilant outside the classroom and help mitigate the spread of COVID-19