

1-2013

# GEO 101N.01: Introduction to Physical Geology

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# **Introduction to Physical Geology** **(GEO 101N, Sect. 01, 3 credits) Spring, 2013**

Instructor: Molly F. Staats  
Email: [molly.staats@umontana.edu](mailto:molly.staats@umontana.edu)

Office: CHCB 355

**Class Meetings:** MWF from 11:10 PM - 12:00 PM, CHCB 131

**Office Hours:** Tuesday 2:00 PM-3:00 PM and Wednesday 1:00 PM-2:00 PM. Please do not hesitate to contact me to arrange another meeting time.

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**Course Description:** This course is an introduction to geosciences; the study of how the Earth works. Humans around the world are impacted everyday by geologic hazards and by access to natural resources. This course will help you to develop a new understanding of the physical processes that have gone into making the Earth as we know it, and an awareness of how Montana fits into the global picture. This knowledge will help you make intelligent decisions about issues that affect humankind.

**Course Objectives:** After completing this course, you will be able to:

- describe, analyze, and assess the geologic features, events, and processes that impact your daily life
- use evidence (e.g., from graphs, rocks, maps, etc.) to support an interpretation or explain a concept
- understand the general principles associated with the discipline of geosciences including:
  - 1) Geoscientists use repeatable observations and testable ideas to explain and understand our planet
  - 2) Earth is 4.6 billion years old and has a complex and varied history
  - 3) Earth is a complex system of interacting rock, water, air, and life
  - 4) Earth is continuously changing, primarily due to active plate tectonics
  - 5) Humans depend on Earth for resources that are formed by geologic processes
  - 6) Natural hazards pose risks to humans and must be understood in order to minimize and mitigate risks
  - 7) Humans significantly alter the Earth and geologic processes have in turn impacted the development of human civilization

**Required materials:**

- 1) *Exploring Geology (3<sup>rd</sup> Edition) with CONNECT Plus 1-semester Access Card, Reynolds, Johnson, Morin, and Carter (ISBN: 978-0077598570). Alternatively, ebook and online access can be purchased online.*
- 2) *Iclicker (classroom response system) (ISBN: 0716779390)*

**Textbook:** Access to the textbook is essential for this course. You may purchase a paper book or you may purchase an ebook through McGraw-Hill Connect. To do this, go to the section website: [http://connect.mcgraw-hill.com/class/m\\_staats\\_section\\_01](http://connect.mcgraw-hill.com/class/m_staats_section_01) You can sign up for a 3-week free trial for the ebook and online access if you would like to try out the ebook. A paper textbook is also on reserve at Mansfield Library. It is most effective for your learning to read chapters of the text prior to the class in which they will be discussed.

**iclicker:** The iclicker will be used at every class period. The purpose of the iclicker is to give the instructor feedback on student understanding as well as to monitor participation. It must be the iclicker model – other brands will not work. Course credit for clicker use in class will begin **Wednesday, February 6th**.

Use your iclicker once you get into class. Then go to the website ([www.iclicker.com](http://www.iclicker.com)) and register it. **Use your 790 number** (the number on your Griz card, NOT your netid - the user name that you use when logging into OneStop/Moodle) when registering your clicker and enter your name **as it appears in the official university directory**. **Note that using another student's clicker to class in their absence is considered academic dishonesty – this will result in both students receiving a zero iclicker points for the semester and will be subject to academic penalty by the University.**

**Moodle:** We will be using an online course supplement. You can log into Moodle by going to UOnline from the UM homepage. You will see the geology course listed when you enter Moodle. If you have technical problems with Moodle, call the UOnline Techs at 243-4999 (during regular working hours only) or email.

To obtain your NetID, go to <http://www.umt.edu/it/support/accessres/netid.php>

When you register for McGraw Hill Connect, enter your name as it appears in the university directory.

**Online Assignments:** Assigned chapter quizzes can be found on Moodle, while study modules (LearnSmart) can be found on McGraw Hill Connect (follow the link on Moodle). Due dates are listed on the schedule included here. LearnSmart modules are a study tool that needs to be completed by the deadline. While the reading quizzes can be taken up to 2 times (up to 20 minutes each attempt) before the deadline– your highest scoring attempt will be recorded for your grade.

**Assessment:** Exams 1, 2, and 3 – 45% total, lowest of the three dropped  
Final Exam (required) – 25%  
Clicker points– 10%  
In-class work–5%  
LearnSmart modules– 5%  
Reading quizzes – 10%

**Final grade:** This course must be taken for a traditional letter grade to apply it to Gen Ed.  
A minimum of C- must be earned to apply the course for Gen Ed credit.

A 93-100%	A- 90-92%	B+ 87-89%	B 83-86%	B- 80-82%
C+ 77-79%	C 73-76%	C- 70-72%	D+ 67-69%	D 63-66%
D- 60-62%	F 59 or below			

**Extra Credit** – A number of options will be offered on the Moodle site throughout the semester. **If** time and funding permits there may be an Optional Saturday Field Trip (participation and short assignment) for 5%. **Maximum extra credit per student is 5% of course grade.**

**Exams:** There will be three midterm exams and a final exam (which will include a comprehensive portion). Exams will include multiple choice and free-response portions, which will include concept sketches. All material covered in lecture, text, and assignments (see schedule below) is fair game. All exams are mandatory (please note that your lowest-scoring midterm of the three will be dropped), unless you can prove in writing that you were ill (written verification from physician) or had a death in your immediate family. In such situations, you must contact me **before** the exam to inform me of your absence. Missing an exam will result in a grade of 0 and no make-up will be given unless you meet the exception criteria above (verified illness or death in the family **AND** advance notification).

**Communication:** Please note that I will only use your official UM email to communicate with you. This is required to comply with FERPA (the Federal Educational Rights and Privacy Act). Email is the preferred way to contact me. **It is your responsibility to make sure you get messages sent to your UM email address.** Make sure that all emails contain the Course: GEO 101, the section: Section 01, and your full name.

**Studying & Time Expectations:** A standard benchmark for studying for a college science class is **2-3 hours of work outside of class for each hour in class.** This means that for our 3-hour class, you should plan to spend 6-9 hours per week outside of class. Part of that time you will be reading the textbook chapters. Some of the time will be spent working on LearnSmart modules and taking quizzes or discussing/studying with other students in the class.

**Students with Disabilities:** Whenever possible, and in accordance with civil rights laws, the University of Montana will attempt to provide reasonable modifications to students with disabilities who request and require them. Please feel free to setup a time with me to discuss any modifications that may be necessary for this course. For more information, visit the Disability Services for Students website at [www.umt.edu/dss/](http://www.umt.edu/dss/)

**Academic Integrity:** All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at [http://life.umt.edu/vpsa/student\\_conduct.php](http://life.umt.edu/vpsa/student_conduct.php)

**Classroom courtesy:** This will be a large class and the classroom can be expected to be **full**. Please be considerate of your classmates. Please do not engage in extraneous talking and other distracting behavior in the classroom.

## GEO101-01 Spring, 2013 Course Schedule

Date	Day	Chapter/Section in <i>Exploring Geology</i>	Online assignments
Jan. 28	M	Ch. 1 The Nature of Geology (omit 1.4, 1.9, 1.10)	
Jan. 30	W	Ch. 2 Investigating Geologic Questions (omit 2.2, 2.10, 2.11)	
Feb. 1	F	Ch. 2 Investigating Geologic Questions (omit 2.2, 2.10, 2.11)	
Feb.4	M	Ch. 3 Plate Tectonics	LearnSmart Module Chapter 2 & Chapter 2 quiz due at 5pm
Feb.6	W	Ch. 3 Plate Tectonics	<b>i&lt;clicker starts</b>
Feb. 8	F	Ch. 3 Plate Tectonics	
Feb. 11	M	Ch. 3 Plate Tectonics	LearnSmart Module Chapter 3 & Chapter 3 quiz due at 5pm
Feb. 13	W	Ch. 4 Earth Materials (omit 4.10, 4.15)	
Feb. 15	F	Ch. 4 Earth Materials (omit 4.10, 4.15)	
<b>Feb. 18</b>	<b>M</b>	<b>NO CLASS: Presidents Day</b>	LearnSmart Module Chapter 4 & Chapter 4 quiz due at midnight
<b>Feb. 20</b>	<b>W</b>	<b>EXAM #1 (covers Ch. 1, 2,3,4)</b>	
Feb. 22	F	Ch. 5 Igneous Environments (omit 5.11, 5.13, 5.14)	
Feb. 25	M	Ch. 5 Igneous Environments (omit 5.11, 5.13, 5.14)	
Feb. 27	W	Ch. 6 Volcanoes and Volcanic Hazards (omit 6.5, 6.13-6.15)	
Mar. 1	F	Ch. 6 Volcanoes and Volcanic Hazards (omit 6.5, 6.13-6.15)	
Mar. 4	M	Ch. 7 Sedimentary Environments and Rocks (omit 7.12, 7.14-7.16)	LearnSmart Module Chapter 5 and 6 & Chapter 5/6 quiz due at 5pm
Mar. 6	W	Ch. 7 Sedimentary Environments and Rocks (omit 7.12, 7.14-7.16)	
Mar. 8	F	Ch. 8 Deformation and Metamorphism	
Mar. 11	M	Ch. 8 Deformation and Metamorphism	LearnSmart Module Chapter 7 and 8 & Chapter 7/8 quiz due at 5pm
Mar. 13	W	Ch. 8 Deformation and Metamorphism	
Mar. 15	F	Ch. 11 Mountains, Basins, and Continents	
Mar. 18	M	Ch. 11 Mountains, Basins, and Continents	LearnSmart Module Chapter 11 & Chapter 11 quiz due at 5pm
<b>Mar. 20</b>	<b>W</b>	<b>EXAM #2 (covers Ch. 5, 6, 7, 8, 11)</b>	
Mar. 22	F	Ch. 12 Earthquakes and Earth's Interior (omit 2.11, 12.13, 12.14)	
Mar. 25	M	Ch. 12 Earthquakes and Earth's Interior (omit 2.11, 12.13, 12.14)	
Mar. 27	W	Ch. 12 Earthquakes and Earth's Interior (omit 2.11, 12.13, 12.14)	
Mar. 29	F	Ch. 12 Earthquakes and Earth's Interior (omit 2.11, 12.13, 12.14)	

<b>Apr. 1-5</b>	<b>M-F</b>	<b>NO CLASS: Spring Break</b>	
Apr. 8	M	Ch. 9 Geologic Time (omit 9.10, 9.11)	LearnSmart Module Chapter 12 & Chapter 12 quiz due at 5pm
Apr. 10	W	Ch. 9 Geologic Time (omit 9.10, 9.11)	
Apr. 12	F	Ch. 9 Geologic Time (omit 9.10, 9.11)	
Apr. 15	M	Ch. 18 Energy and Mineral Resources	LearnSmart Module Chapter 9 & Chapter 9 quiz due at 5pm
Apr. 17	W	Ch. 18 Energy and Mineral Resources	
Apr. 19	F	Ch. 18 Energy and Mineral Resources	
Apr. 22	M	Ch. 13 Climate (only 13.10-13.12) and Ch. 14 Glaciers and Changing Sea levels (omit 14.9-14.15)	LearnSmart Module Chapter 18 & Chapter 18 quiz due at 5pm
<b>Apr. 24</b>	<b>W</b>	<b>EXAM #3 (covers Ch. 12, 9, 18)</b>	
Apr. 26	F	Ch. 13 Climate (only 13.10-13.12) and Ch. 14 Glaciers and Changing Sea levels (omit 14.9-14.15)	
Apr. 29	M	Ch. 13 Climate (only 13.10-13.12) and Ch. 14 Glaciers and Changing Sea levels (omit 14.9-14.15)	LearnSmart Module Chapter 13 and 14 & Chapter 13/14 quiz due at 5pm
May 1	W	Ch. 16 Streams and Flooding	
May 3	F	Ch. 16 Streams and Flooding	
May 6	M	Ch. 17 Water Resources (omit 17.2, 17.6, 17.7)	LearnSmart Module Chapter 16 & Chapter 16 quiz due at 5pm
May 8	W	Ch. 17 Water Resources (omit 17.2, 17.6, 17.7)	
May 10	F	Ch. 17 Water Resources (omit 17.2, 17.6, 17.7) <b>REVIEW</b>	LearnSmart Module Chapter 17 & Chapter 17 quiz due <b><u>Monday, May 13<sup>th</sup></u></b> at midnight
<b>May</b>	<b>T</b>	<b>EXAM #4 (FINAL)- Ch.13.10-13.12, 14, 16, 17 and Cumulative: Tuesday, May 14<sup>th</sup> 10:10PM-12:10PM</b>	

**The above schedule, policies, procedures, and assignments for this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better student learning.**