

1-2014

# GEO 101N.01: Introduction to Physical Geology

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## **Introduction to Physical Geology (GEO 101N, Sect. 01, 3 credits) Spring, 2014**

Instructor: Dr. Kathleen Harper  
email: [kathleen.harper@umontana.edu](mailto:kathleen.harper@umontana.edu)

Office: CHCB 371  
Phone: 243-4720

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

**Office Hours: Monday and Wednesday; 1 - 2 PM or by appointment.** Please do not hesitate to contact me to arrange to meet at another time.

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**Course Description:** This course is an introduction to geosciences; the study of how Earth works. Humans around the world are impacted everyday by interaction with our planet, including geologic hazards and access to natural resources. This course will help you to develop your understanding of the physical processes that have gone into making the Earth what it is today, 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) Geologic processes have impacted the development of human civilization and the actions of humans can significantly impact the Earth

**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/or online access to CONNECT website can be purchased online. Be sure not to discard the paper packaged with a new textbook that has your online access code.

2) Iclicker remote (classroom response system), simple version OK. You may purchase an iclicker remote at the bookstore (ISBN: 0716779390). Alternatively, a web version can be used via paid subscription on a smart phone, tablet, or laptop – To get the free trial, subscribe and download apps, go to [www.iclickergo.com](http://www.iclickergo.com)

**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/k\\_harper\\_sring\\_2014\\_geo101-01](http://connect.mcgraw-hill.com/class/k_harper_sring_2014_geo101-01)

You can sign up online for a 3-week free trial for the ebook and website access if you would like to try out the ebook. A paper textbook is also on reserve at Mansfield Library.

Either way, you are required to have access to Mc-Graw Hill Connect to do the Learnsmart assignments. If you purchase access online, there is a 15% discount offered through March, using promo code :SpringStudent. 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 5th**. Final calculation of your iclicker total at the end of the term will drop your six lowest scoring days.

Use your iclicker once in class. Then go to the website ([www.iclicker.com](http://www.iclicker.com)) and register it. **Use your NetID** when registering your clicker and enter your name as it appears in the official university directory.

**Note that using another student's clicker in class is considered academic dishonesty – this will result in both students receiving zero iclicker points for the semester and will be subject to academic penalty by the University.**

**Moodle:** Access the Moodle course supplement by going to UOnline from the UM homepage. You will see GEO101 listed when you enter Moodle. For Tech Support, call the UOnline Techs at 406.243.4999 or 866.225.1641 (toll-free) or email them at [umonline-help@umontana.edu](mailto:umonline-help@umontana.edu). They are available during the regular work day, Monday through Friday.

**Online Assignments:** Due dates for online assignments are listed on the schedule included here. **Learnsmart modules** are on McGraw-Hill Connect (follow link on Moodle). When you register for Connect, enter your name as it appears in the university directory (no nicknames, please!), and use your UM email address. Learnsmart modules are a study tool -these assignments required, but are scored on completion only. Your grade will be visible in McGraw-Hill Connect. I will transfer these periodically to the Moodle gradebook.

**Please note that this website has its own technical support staff.** They are available for extended hours including evening and weekend hours, by phone or email. Please do not email me for technical support or help with your McGraw-Hill Connect account access.

Note that if you have taken this course before, you need to re-register for the new course on Connect. If your access is still valid, you should not have to pay again to do this, but you may need to contact the Connect tech support for assistance.

**Reading quizzes** will be on Moodle – you will be able to take the quizzes two times (up to 20 minutes each attempt) up to the deadline time given – your highest scoring attempt will be recorded for your grade. Your quiz grades will show up immediately in the Moodle gradebook.

**Assessment:**

- Exams 1, 2, and 3 – 35% total, lowest of the three dropped**
- Final Exam (required) – 20%**
- Reading quizzes – 15%**
- In-class assignments – 10%**
- iclicker response – 10%**
- LearnSmart modules – 10%**

**Final grade:** This course must be taken for a traditional letter grade to meet the Natural Sciences General Education requirement. A minimum final grade of C- is required to meet a Gen Ed requirement. The following scale may be adjusted at my discretion.

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			

**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 questions, including concept sketches. All material covered in lecture, text, and assignments (see schedule below) may appear on exams. Makeup exams will be allowed only for university-sponsored events and for extraordinary circumstances. If you need to request/discuss a makeup exam, it is required to contact me in advance of the exam date or as soon as possible. The lowest of your three midterm grades will be dropped (this would include a score of zero given for a non-excused missed exam). **All students are required to take the final exam.**

**Extra Credit – Maximum extra credit will be 5% of course grade.**

One option for extra credit will be a Field Trip (participation and short assignment) offered on a Saturday. Additional extra credit assignments will be offered via the Moodle site.

**Communication:** Please note that I will only use your official UM email. This is required to comply with FERPA (the Federal Educational Rights and Privacy Act). Email is the preferred way to contact me – a message left on my office phone will take longer to reach me. **It is your responsibility to make sure you read messages sent to your UM email address in a timely manner.**

**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 on reading the textbook chapter, doing LearnSmart modules and studying in ways that are most effective for you.

**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 set up a time to meet 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. Use of cell phones, laptops, and other electronic devices for purposes other than participating in class is distracting and disrespectful and is not acceptable in the classroom.

## GEO101-01 Spring, 2014 Course Schedule

Date	Day	Chapter/Section in <i>Exploring Geology 3e</i>	Assignments
Jan. 27	M	Ch. 1 The Nature of Geology (omit 1.4, 1.9-10)	
Jan. 29	W	Ch. 2 Investigating Geologic Questions (omit 2.2, 2.10-11)	
Jan. 31	F	Ch. 2 Investigating Geologic Questions	
Feb. 3	M	Ch. 3 Plate Tectonics (omit 3.9, add 10.3)	LearnSmart Ch. 2 & Chapter 1/2 quiz due Mon 11AM
Feb. 5	W	Ch. 3 Plate Tectonics	
Feb. 7	F	Ch. 3 Plate Tectonics	
Feb. 10	M	Ch. 3 Plate Tectonics	LearnSmart Ch. 3 & Chapter 3 quiz due Mon 11AM
Feb. 12	W	Ch. 4 Earth Materials (omit 4.7, 4.11-4.13, 4.15)	
Feb. 14	F	Ch. 4 Earth Materials	
<b>Feb. 17</b>	<b>M</b>	<b>President's Day Holiday – No Class</b>	LearnSmart Ch. 4 & Chapter 4 quiz due Mon midnight
<b>Feb. 19</b>	<b>W</b>	<b>EXAM #1 (covers Ch. 1, 2,3,4)</b>	
Feb. 21	F	Ch. 5 Igneous Environments (omit 5.5, 5.8, 5.13-15)	
Feb. 24	M	Ch. 5 Igneous Environments	
Feb. 26	W	Ch. 6 Volcanoes and Volcanic Hazards (omit 6.5, 6.9, 6.15)	
Feb. 28	F	Ch. 6 Volcanoes and Volcanic Hazards	
Mar. 3	M	Ch. 7 Sedimentary Environments and Rocks (omit 7.8-12, 7.15)	LearnSmart Modules Chapter 5 and 6 & Chapter 5/6 quiz due Mon 11AM
Mar. 5	W	Ch. 7 Sedimentary Environments and Rocks	
Mar. 7	F	Ch. 8 Deformation and Metamorphism (omit 8.10-11, 8.13-15)	
Mar. 10	M	Ch. 8 Deformation and Metamorphism	LearnSmart Modules Chapter 7 and 8 & Chapter 7/8 quiz due Mon 11AM
<b>Mar. 12</b>	<b>W</b>	<b>EXAM #2 (covers Ch. 5, 6, 7, 8)</b>	
Mar. 14	F	Ch. 9 Geologic Time (omit 9.7, 9.10-12)	
Mar. 17	M	Ch. 9 Geologic Time	
Mar. 19	W	Ch. 9 Geologic Time	
Mar. 21	F	Ch. 11 Mountains, Basins, and Continents (omit 11.3, 11.5, 11.9, 11.11, 11.14)	

<b>Date</b>	<b>Day</b>	<b>Chapter/Section in <i>Exploring Geology 3e</i></b>	<b>Assignments</b>
Mar. 24	M	Ch. 11 Mountains, Basins, and Continents	LearnSmart Module Chapter 9 & Chapter 9 quiz due Mon 11AM
Mar. 26	W	Ch. 12 Earthquakes and Earth's Interior (omit 12.11-14, 12.17)	
Mar. 28	F	Ch. 12 Earthquakes and Earth's Interior	LearnSmart Module Chapter 11 & Chapter 11 quiz <u>due Mon 3/31 midnight</u>
<b>SPRING BREAK</b>			
Apr. 7	M	Ch. 12 Earthquakes and Earth's Interior	LearnSmart Module Chapter 12 & Chapter 12 quiz due Mon 11AM
Apr. 9	W	Ch. 18 Energy and Mineral Resources (omit 18.6-18.8, 18.14)	
Apr. 11	F	Ch. 18 Energy and Mineral Resources	
Apr. 14	M	Ch. 18 Energy and Mineral Resources	LearnSmart Module Chapter 18 & Chapter 18 quiz due Mon 11AM
<b>Apr. 16</b>	<b>W</b>	<b>EXAM #3 (covers Ch. 9, 11, 12, 18)</b>	
Apr. 18	F	Ch. 16 Streams and Flooding (omit 16.4, 16.10-11, 16.15-16)	
Apr. 21	M	Ch. 16 Streams and Flooding	
Apr. 23	W	Ch. 17 Water Resources (omit 17.6-7)	
Apr. 25	F	Ch. 17 Water Resources	
Apr. 28	M	Ch. 17 Water Resources	LearnSmart Module Chapter 16 & Chapter 16 quiz due Mon 11AM
Apr. 30	W	Ch. 13 Climate (only 13.10-13.12)	
May 2	F	Ch. 13 Climate	
May 5	M	Ch. 14 Glaciers and Changing Sea levels (omit 14.9-14.16, 14.18-19)	LearnSmart Module Chapter 17 & Chapter 17 quiz due Mon 11AM
May 7	W	Ch. 14 Glaciers and Changing Sea levels	
May 9	F	Ch. 14 Glaciers and Changing Sea levels	LearnSmart Modules Chapters 13 & Chapter 14 <u>Monday, May 12th 10 AM</u>
<b>EXAM #4 (FINAL) - Ch. 16, 17, 13, 14; Monday, May 12th, 10:10AM-12:10PM</b>			

Tentative date for optional field trip: **Saturday, April 19<sup>th</sup>**

**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.**