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Spring 2-1-2019

### GEO 101N.01: Introduction to Physical Geology

Julia A. Baldwin

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# Introduction to Physical Geology

## GEO 101N, Spring 2019

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**Instructor:** Dr. Julie Baldwin  
**email:** julie.baldwin@umontana.edu

**Office:** CHCB 307  
**Phone:** (406) 243-5778

**Class Meetings:** MWF from 11:00 AM - 11:50 AM, CHCB 131

**Office Hours:** *Monday and Friday 12-1 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 geology, the study of how Earth works. Humans around the world are impacted every day 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.

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

- Describe, analyze, and assess the geologic features, events, and processes that impact your 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 and erosion
  - 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

**Textbook and other required course materials:**

- *Essentials of Geology*, 13th Edition, Lutgens, Tarbuck, and Tasa (e-text, inclusive access, see below)
- Mastering Geology, Pearson Education (online assessment, see below)
- Top Hat Classroom Response System account

**GEO 101** is included in the bookstore's Inclusive Access Program. This program grants you access to your required course materials by the first day of class at the discounted rate the bookstore has negotiated on your behalf. Your student account has already been charged this discounted rate. If for any reason you decide to purchase your materials elsewhere, you can opt-out of this program by the add/drop deadline and will receive a refund to your student account. For any questions about billing, please contact Amanda Peterson at [apeterson@montanabookstore.com](mailto:apeterson@montanabookstore.com)

Instructions for accessing all of your course materials are in the Moodle course site (<https://moodle.umt.edu/>).

**Top Hat Classroom Response System:** We will be using the Top Hat ([www.tophat.com](http://www.tophat.com)) classroom response system in class. You will be able to submit answers to in-class questions using smartphones and tablets, laptops, or through text message.

You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>), which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. An email invitation should have been sent to you by email, but if didn't receive this email, you can register by simply visiting our course website: <https://app.tophat.com/e/177670>

Note: our **Course Join Code is 177670**.

<b>Assessment:</b> *	Midterm Exams (2)	40%
	Final Exam	25%
	Mastering Geology assignments	25%
	Top Hat in class attendance and participation	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 the 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- 0-62% !	F 59 or below			

**Exams:** There will be two midterm exams and a cumulative final exam. Exams will be multiple choice. Bring red scantrons on exam days. All material covered during class meetings, in the text, and in other required assignments may appear on exams. Makeup exams will be allowed only for university-excused events and for extraordinary circumstances. If you need to request/discuss a makeup exam, it is required that you contact me in advance of the exam date and as early as possible. **All students are required to take the final exam.**

**Extra Credit: Maximum extra credit that can be earned is 5% of course grade. \***

Activities could include a **Saturday field trip**, online exercises, and other independent activities TBA. !

**Communication:** Please note that I will only use your official UM email address for communication. This is required by UM to comply with FERPA (the Federal Educational Rights and Privacy Act). 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 a college course is **2-3 hours of work outside of class for each hour in class**. This means that for our 3-credit class, you should plan to spend 6-9 hours per week outside of class on reading the textbook chapter, doing assignments and other forms of study.

**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 here: <http://www.umt.edu/student-affairs/dean-of-students/>

**Classroom courtesy:** 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.

## GEO 101 Spring 2019 Approximate Course Schedule

(Mastering Assignments are due at 11:59pm on the indicated due date)

Date	Day	Chapter in <u>Essentials of Geology, Lutgens, Tarbuck, and Tasa, 13e</u>
<b>Jan 11</b>	<b>F</b>	<b>No class – Julie out of town</b>
Jan 14	M	Ch. 1 Intro to Geology
Jan 16	W	Ch. 1 Intro to Geology <b>1/16</b> Intro to Mastering Assignment Due
Jan 18	F	Ch. 2 Plate Tectonics <b>1/20</b> Ch. 1 Mastering Assignment Due
<b>Jan 21</b>	<b>M</b>	<b>MLK Holiday – no class</b>
Jan 23	W	Ch. 2 Plate Tectonics
Jan 25	F	Ch. 2 Plate Tectonics <b>1/27</b> Ch. 2 Mastering Assignment Due
Jan 28	M	Ch. 3 Matter & Minerals
Jan 30	W	Ch. 3 Matter & Minerals
Feb 1	F	Ch. 3 Matter & Minerals <b>2/3</b> Ch. 3 Mastering Assignment Due
Feb 4	M	Ch. 4 Igneous Rocks & Intrusive Activity
Feb 6	W	Ch. 4 Igneous Rocks & Intrusive Activity
Feb 8	F	Ch. 5 Volcanoes & Volcanic Hazards <b>2/10</b> Ch. 4 Mastering Assignment Due
Feb 11	M	Ch. 5 Volcanoes & Volcanic Hazards
Feb 13	W	Ch. 5 Volcanoes & Volcanic Hazards
Feb 15	F	Ch. 6 Weathering & Soils <b>2/17</b> Ch. 5 Mastering Assignment Due
<b>Feb 18</b>	<b>M</b>	<b>President's Day Holiday – no class</b>
Feb 20	W	Ch. 6 Weathering & Soils
<b>Feb 22</b>	<b>F</b>	<b>EXAM 1 (covers Ch. 1-6)</b> <b>2/24</b> Ch. 6 Mastering Assignment Due
Feb 25	M	Ch. 7 Sedimentary Rocks
Feb 27	W	Ch. 7 Sedimentary Rocks
Mar 1	F	Ch. 7 Sedimentary Rocks <b>3/3</b> Ch. 7 Mastering Assignment Due
Mar 4	M	Ch. 8 Metamorphism and Metamorphic Rocks
Mar 6	W	Ch. 8 Metamorphism and Metamorphic Rocks
Mar 8	F	Ch. 18 Geologic Time <b>3/10</b> Ch. 8 Mastering Assignment Due
Mar 11	M	Ch. 18 Geologic Time
Mar 13	W	Ch. 18 Geologic Time
Mar 15	F	Ch. 10 Origin and Evolution of the Ocean Floor <b>3/17</b> Ch. 18 Mastering Assignment Due
Mar 18	M	Ch. 10 Origin and Evolution of the Ocean Floor
Mar 20	W	Ch. 11 Crustal Deformation & Mountain Building
Mar 22	F	Ch. 11 Crustal Deformation & Mountain Building
Mar 25-29	M-F	<b>Spring Break – no class</b> <b>3/31</b> Ch. 10 Mastering Assignments Due
April 1	M	Ch. 11 Crustal Deformation & Mountain Building
April 3	W	Ch. 9 Earthquakes & Earth's Interior
<b>April 5</b>	<b>F</b>	Ch. 9 Earthquakes & Earth's Interior <b>4/7</b> Ch. 11 Mastering Assignment Due
April 8	M	Ch. 9 Earthquakes & Earth's Interior
April 10	W	<b>EXAM 2 (covers ch. 7-11, 18)</b>
April 12	F	Ch. 13 Running Water <b>4/14</b> Ch. 9 Mastering Assignment Due

<b>Date</b>	<b>Day</b>	<b>Chapter in <u>Essentials of Geology, Lutgens, Tarbuck, and Tasa, 13e</u></b>
April 15	M	Ch. 13 Running Water
April 17	W	Ch. 14 Groundwater
April 19	F	Ch. 14 Groundwater <b>4/21</b> Ch. 13&14 Mastering Assignments Due
April 22	M	Ch. 15 Glaciers & Glaciation
April 24	W	Ch. 15 Glaciers & Glaciation
April 26	F	Ch. 20 Global Climate Change <b>4/28</b> Ch. 15&20 Mastering Assignments Due
<b>May 2</b>	<b>R</b>	<b>Final Exam 10:10-12:10</b>