

Geology 1100 - Physical Geology – Spring 2018
Tuesday and Thursdays 1:20-2:35 Geol 216

Instructor	Office	e-mail	Phone	Office hours
Dr. Kenneth Sims	GEO 314	ksims7@uwyo.edu	766-3306	In my Office TR 11:00 – 12:00 PM TR 2:45 – 4:00 PM
Lisa Kant (Lab director)	GEO 321	lkant@uwyo.edu		T 11-1

*You should feel free to contact the instructors about the material they present. Please use email or office telephone numbers, no calls at home, please.

Lecture Notes: Can be downloaded from WyoCourses the day/night before class.

Laboratory: No laboratory the first week of classes. Labs begin on the week of February 4th in GEOL 211. The labs are an essential component of this course (35%; see below).

Grade Breakdown: There are 100 points possible in this course. Lectures and laboratories are related but run separately. Regarding lecture, there are two in class exams worth 20 pts each. There is also a final comprehensive test worth 25 points. Laboratories are run under the direction of Lisa Kant along with your specific lab TA. Laboratory material is worth 35 points towards your final grade. The following is a break down of the grade assessment.

Lab:	35 points
Final Exam:	25 points
Two in class Mid-Term Exams (20 points each)	40 points
TOTAL POSSIBLE POINTS	100 POINTS
Extra Credit	05 possible points

Grading: Grading will be on a standard plus/minus scale. Plus/minus grades will be based upon a rounding to the 10ths of a percent place. See below.

The plus/minus grading system would be as follows:

A 92-100 percent	C+ 78-79.9 percent	D 60-67.9 percent
A- 90.0-91.9 percent	C 72-77.9 percent	F < 60 percent
B+ 88-89.9 percent	C- 70-71.9 percent	
B 82-87.9 percent	D+ 68- 69.9 percent	
B- 80-81.9 percent		

Posting of Grades: Grades for Labs and Exams will be posted on WyoCourses.

Grade of Incomplete: During the semester, if a student has suffered severe problems (e.g., physical or mental incapacitation) and cannot complete the course as a result, he/she may be issued an “I” (incomplete) grade. This option is best to be avoided to reduce the frustrations and confusions for both the student and the instructor. The UW regulation on this is long and complex:

<http://uwadmnweb.uwyo.edu/legal/Uniregs/ur720.htm>

Laboratory Section: *The Laboratory portion is worth 35% of the grade. Participation is essential to pass the class. Laboratory exercises must be turned in on the date specified to receive credit!* No late assignments will be accepted without an official University excuse! Individual assignments will not be curved.

Tests: *Tests must be taken on the scheduled date.* Make-up exams will be given only to students with an official University excuse, and exams must be made up within one week after returning from an excused absence.

Note the dates for exam schedule and final. If you cannot make those times, you need to drop the class now. No electronic devices of any sort during the test. International students may ask for clarification of English terms during the test.

Students must bring an ID to the exam. Individual exams will not be curved.

Final Exam: Tuesday, May 14th, 1:15PM-3:15 PM (i.e. 13:15-15:15).

Final exam timing is dictated by the University. For complete listing go to the registrar: http://www.uwyo.edu/registrar/class_schedules/spring2018/sp18finals.pdf

Students who have two exams at the same time or more than two exams in one day and who wish to ask for an exception must complete the Final Exam Conflict form available from the Office of the Registrar prior to the first day of finals (Monday May 13th).

If you can't take the final at the appointed time for some other reason, you should drop the class. A document identifying exam rooms will be published approximately 30 days prior to the first day of final exams.

If you have questions about final exams, refer to UW Regulation 6-403 at www.uwyo.edu/legal/uniregs/ur403.htm.

Class Participation/Contribution: Positive class contribution is strongly encouraged. On the converse side- negative distracting behavior will not be tolerated. This includes texting, emailing and cell phone use. Laptops or tablets are allowed for talking notes and following class lecture slides.

Course Discussion Rules: In this class I expect engagement and participation, including regular attendance. I expect that we will all treat each other with courtesy and respect. This does not mean we have to agree with each other; however, this is a science course and therefore all discussions should be non-partisan, friendly in tone, but serious and professional. Everyone is expected to be collegial, polite and receptive to what everyone else has to say.

Professor Student Relations: I will treat you with respect as a student and I expect the same as a Professor. Please refer to the following website for a detailed explanation of what is expected from both professors and the students.

[http://uwadmnweb.uwyo.edu/a&s/Current/2005Stud&TeachersWorking%20Together\(7-29-05\).doc](http://uwadmnweb.uwyo.edu/a&s/Current/2005Stud&TeachersWorking%20Together(7-29-05).doc)

***Email:** I will do my best to respond to all emails within 48 business hours (weekends excluded). I will often respond sooner. I will only respond to emails with proper salutations, namely Dr. Sims or Professor Sims. I expect all emails to be professional.

***Office Hours:** I will be in my office (Geology 314) during all office hours unless otherwise notified. I am also available by appointment. I have an open-door policy- if my door is open come in and I will be happy to answer your questions and if it is not a good time to help you I will let you know.

For further information a 6-page document is available at:

http://www.uwyo.edu/as/_files/current/students%20and%20teachers%20working%20together.pdf#students%20and%20teachers%20working%20together

This document lays out the guidelines for the course syllabus, attendance, classroom deportment (no cell phone use! And try not to sleep), phone and email protocol, office hours and how to make appointments outside of office hours. Good stuff.

READING

Optional textbook: How Does Earth Work, by G. A. Smith and A. Pun, published by Prentice Hall. This text is available at the University Bookstore. You can also purchase this book elsewhere (Amazon) and as a e copy from Prentice Hall that comes with options for online practice quizzes, animations, self-study media etc. Other recent introductory texts for geology would also work. I have a few of these I am willing to lend out throughout the semester.

All tests will be based upon lecture slides, which I will provide before each lecture, and also class lectures, which will involve some white board use. So, attendance is strongly encouraged.

Required Lab manual: The required lab manual is available for purchase at the university bookstore. Please purchase the manual before your first laboratory session. If there are no copies available, please notify an employee, the copy center will resupply the manual within 24 hours.

Extra Credit Reading¹ (1 point each up to 5 points total):

Science Reading: Read up to five papers of the “Optional Extra Credit Reading” list given below and then arrange an office visit with me to discuss these papers, which I have read in great detail. I will go over only one paper per week with you; so, you need to start working toward extra credit well before the end of the semester.

When you come in to the office visit, have the answers to these four questions:

- 1) *What was the thesis of this paper?*
- 2) *What was some “cool” fact or concept I learned from this paper?*
- 3) *What was something I didn’t understand about this paper?*
- 4) *How did this paper change my perspective on man and geology?*

These notes will not be turned in so they can be scratches on the back of the actual paper or notes in the margin. I just want to make sure we have an interesting, informed conversation on the paper when we meet. If you can demonstrate a working understanding of the paper you read (i.e. you have read it carefully and thought about it, but still have questions) I will give you 1 point per scientific paper for up to 5 points total.

- Alvarez W. et al. (1980) “*Extraterrestrial Cause for the Cretaceous-Tertiary Extinction*” Science, 208 (4448), p. 1095.
- de Duve C, (1995) “*The beginnings of life on Earth*”, American Scientist, 83, 5, 428-437.
- Dennison, P. E., et al. (2014), “*Large wildfire trends in the western United States, 1984–2011*”. Geophys. Res. Lett., 41, p. 2928..
- Newsome, H.E. and KWW Sims, (1991) “*Core formation during early accretion of the Earth*”, Science, 252, p. 926.
- Patterson, C, (1956) “*Age of meteorites and the earth*”, Geochimica et Cosmochimica Acta, 10, p. 230.
- Rothschild, L.J., and R.L. Mancinelli. 2001. “*Life in extreme environments*”. Nature 409: p. 1092.
- Renne, P R et al (2013). “*Time scales of critical events around the Cretaceous-Paleogene boundary*”. Science, 339, p. 684.
- Shuman, B. (2012) “*Recent Wyoming Temperature Trends their drivers and impacts in a 14,000-year context*”. Climatic Change, 112, 2, p.429.

Academic Essentials: Diligence, Mutual Respect, and Integrity.

Attendance Policy: Class attendance and participation is key to learning the materials and doing well in this course. Each student is expected to attend the lectures to fulfill the academic requirements. For participation in a University-sponsored activity or for unusual circumstances (personal hardship), an authorized absence may be issued to the student by the Director of Student Life or the Director's authorized representative.

¹ These scientific papers can be down loaded from the library; it is part of the exercise. I will teach you how to do this during my office hours or a librarian or friend in the know can also help..

<http://uwadmnweb.uwyo.edu/legal/Uniregs/ur713.htm>

Disabilities: If you have a physical, learning, or psychological disability and require accommodations, please let the instructor know immediately. You will need to register with, and provide documentation of your disability to, University Disability Support Services (UDSS) Room 109 Knight Hall. You may also contact UDSS at (307) 766-3073 or udss@uwyo.edu. It is in the student's best interest to request accommodations within the first week of classes, understanding that accommodations are not retroactive. Visit the UDSS website for more information at: www.uwyo.edu/udss.

Classroom Statement on Diversity: The University of Wyoming values an educational environment that is diverse, equitable, and inclusive. The diversity that students and faculty bring to class, including age, country of origin, culture, disability, economic class, ethnicity, gender identity, immigration status, linguistic, political affiliation, race, religion, sexual orientation, veteran status, worldview, and other social and cultural diversity is valued, respected, and considered a resource for learning.

Academic Dishonesty: I set a high standard for myself as an educator, and expect that students will do the same for their own education. Thus academic dishonesty will not be tolerated.

University Regulation 802 (Revision 2) defines academic dishonesty as “an action attempted or performed that misrepresents one's involvement in an academic task in any way, or assists another student in misrepresenting his or her involvement in an academic endeavor”. Examples of academic dishonesty relevant to this course include, but are not limited to:

- i. Plagiarism: presenting the work (i.e. ideas, data, creations) of another, wholly or on part, as one's own work without customary and proper acknowledgement of sources and extent of use, unless authorized by the instructor.
- ii. Fraud: altering or inventing data, research, or citations for an academic endeavor; fabricating, forging or otherwise misrepresenting to an instructor or an institution one's past or current academic or professional activities; impersonating someone or allowing oneself to be impersonated for an examination or other academic endeavor; using a ghost writer, commercial or otherwise, or any type of assignment.
- iii. Multiple Submissions: submitting, wholly or in part, the same academic endeavor to earn credit in two or more courses without explicit approval by all concerned instructors.

UW has a time-tested procedure to judge cases of academic dishonesty, and serious penalties may be assessed. Essentially, do not cheat and do not help others cheat! In this class, if a student is caught cheating, he or she will not only lose the full point of the assignment/test, but may also be assigned a “F” for the course or worse.

Again, plagiarism is considered a form of cheating. When writing papers, a student may cite other's work, but proper attribution must be given. Note that I have plagiarism software and will spot-check everybody's work. For the first incidence, students will lose

the full points on the particular homework or assignments; subsequent incidences will be brought before the department head for considerations of formal University of Wyoming charges of academic dishonesty.

Duty to Report: While I want you to feel comfortable coming to me with issues you may be struggling with or concerns you may be having, please be aware that I have some reporting requirements that are part of my job requirements at UW.

For example, if you inform me of an issue of sexual harassment, sexual assault, or discrimination I will keep the information as private as I can, but I am required to bring it to the attention of the institution's Title IX Coordinator. If you would like to talk to those offices directly, you can contact Equal Opportunity Report and Response (Bureau of Mines Room 319, 766-5200, report-it@uwyo.edu, www.uwyo.edu/reportit). Additionally, you can also report incidents or complaints to the UW Police Department. You can also get support at the STOP Violence program (stopviolence@uwyo.edu, www.uwyo.edu/stop, 766-3296) (or SAFE Project (www.safeproject.org, campus@safeproject.org, 766-3434, 24-Hour hotline: 745-3556).

Another common example is if you are struggling with an issue that may be traumatic or unusual stress. I will likely inform the Dean of Students Office or Counseling Center. If you would like to reach out directly to them for assistance, you can contact them using the info below or going to www.uwyo.edu/dos/uwyocares.

Finally, know that if, for some reason, our interaction involves a disruptive behavior or potential violation of policy, I inform the Dean of Students, even when you and I may have reached an informal resolution to the incident. The purpose of this is to keep the Dean apprised of any behaviors and what was done to resolve them.

Final Disclaimer: As the instructor I reserve the option to make changes to the schedule (particularly the suggested readings) throughout the course. Changes will be announced in class or via e-mail.

LECTURE SCHEDULE (SPRING, 2018)

Date	Lecture	Reading
January		
29	Organizational Meeting	Syllabus
31	Why Study Geology (Lisa Kant)	Chapter 1
February		
5	Nucleosynthesis, Origin of the Solar System and Early Earth	Class Notes
7	Geologic Time I: Measurements, Oral Tradition, Theories, Beliefs	Class Notes
12	Plate Tectonics I: The Unifying Theory of Geology	Class Notes
14	Minerals	Chapter 2
19	Rocks and Rock Forming Processes	Chapter 3
21	Formation of Magma and Igneous Rocks	Chapter 4
26	Weathering: Formation of Sediment and Sedimentary Rocks	Chapter 5
28	Metamorphic Rocks and the Rock Cycle	Chapter 6
March		
5	Geologic Time II- Atoms as clocks	Chapter 7
7	Geologic Time III- Examples of Earth Materials as chronometers	Chapter 7
12	<u>Review</u>	Readings &RS
14	<u>TEST #1</u>	
18-22	Spring Break	
26	Motion Inside the Earth	Chapter 8-11
28	Plate Tectonics 2: Ridges; Rifts ('Divergent Margins') and Plumes	Chapter 12
April		
2	Plate Tectonics 3: Subduction Zones ('Convergent Margins')	Chapter 12
4	Lisa Kant's Campus Geology Tour	
9	Tectonics and Surface Relief:	Chapter 13
11	Erosion; Soil Formation; Landscape Stability; Mass Movement	Chapter 14, 15
16	<u>REVIEW</u>	Readings &RS
18	<u>TEST# 2</u>	
23	Water and you: Oceans, Streams and Groundwater	Chapter 16, 17
25	Glaciers and Wind: Sculptures of Continents	Chapter 18, 20
30	Sea Level Change and Natural Climate Variability	Chapter 21
May 2	Global Warming & Climate Change: Anthropogenic Effects	Chapter 21
7	Yellowstone- Our neighboring super-volcano and you.	
9	<u>REVIEW</u>	Readings &RS
May 14	Final Exam: May 14th, 1:15PM-3:15 PM	