

Introduction to Geology - GEOL 101

Spring 2018

Lecture Section 01, Webster Hall, Room 16 Monday, Wednesday, and Friday – 10:10-11:00 am
Lecture Section 02, Webster Hall, Room 16 Monday, Wednesday, and Friday – 1:10-2:00 pm

Instructor: Kurt Wilkie
Office: Webster 1027
Office Hours: Monday and Wednesday 11:10-12:00, 2:10-3:00 and by appointment
Phone, Email: 509-335-2261, geology.101@wsu.edu
Lecture home page: <http://www.wsu.edu/~geology101/sec1> or <https://learn.wsu.edu>
Lab home page: <https://learn.wsu.edu>
Iclicker registration: access the lecture web page or lecture area in the Blackboard page then click on the iclicker registration link and follow directions
Lecture Text: *Essentials of Geology* 5th ed., by Stephen Marshak *
Lab Text: *Laboratory Manual for Introductory Geology* (new WSU Custom 2017 edition required), by Ludman and Marshak*
PRS: Iclicker (Personal Response System (PRS))*
***Textbook, lab manual and iclicker are available at the Bookie and Crimson and Gray**
Lab Teaching Assistant: _____ (fill in)
TA office, phone, email: _____ (fill in)

What is Geology 101?

Have you ever wondered why Washington has more volcanoes than Kansas? Why does the western United States suffer from intense earthquakes while Florida seems almost earthquake free? If you were to build a new home, would it be safer near Mt. Rainier (Washington) or Mt. Rushmore (South Dakota)? This course addresses these types of questions by examining the Earth and its processes: how it formed, how it has changed, and the materials of which it is composed. Learning about the Earth's processes and materials allows geologists and students to address concerns about geologic issues and hazards all around us.

Course Information

Geology 101 fulfills a 4 credit UCORE physical science (PSCI) requirement at Washington State University. There are no course prerequisites. This course consists of three 50-minute lectures and one 3-hour lab session each week. You **must** be enrolled in both a lecture section and a lab section or you will not receive credit for this course. All scheduling changes must be completed by the 5th day of class.

Instructional Approach

My instructional approach to this course is founded on principles of learning. Research shows that people retain very little information that they passively listen to in lecture; even fascinating material is soon forgotten. No matter how good the instructor, for deep learning to take place, students have to actively engage with concepts and examples: ask questions, discuss & justify choices, apply concepts, and consider alternatives.

Consequently, inside and outside the classroom, I may ask you to engage with concepts in geology and essential information, finding examples, applying ideas, raising questions that are part of scientific thinking in this discipline. The more you participate, the richer our class will be and the more you will learn.

Course Objectives and Student Learning Outcomes

LG1: Scientific literacy – ability to identify real world geological features and understand how they were created

- Core course materials (lecture and lab)
- Assessment via quizzes, exams, homework, photo essay, and presentation portions of the research project

LG2: Critical and creative thinking - applying new knowledge to real world setting via the project area

- Core course materials (lecture and lab)

- Assessment via photo portion of quizzes and exams, homework, writing assignments and project presentation

LG3: Information literacy – learn how to conduct information research using library and internet sources and to determine the source reliability

- Core course materials and individualized research project area assignments
- Assessment via on-line modules in collaboration with Betty Galbraith (Holland/Terrell and Owen Science Libraries) and writing assignments

LG4: Quantitative Reasoning – map literacy and earth material (mineral and rock) identification

- Laboratory exercises on minerals, igneous, sedimentary and metamorphic rocks, campus rock tour (weeks of Jan. 22-Feb. 12), topographic, geologic map and applications associated with surface processes (weeks of Feb. 19- Apr. 2)
- Assessment via laboratory exercises, quizzes, campus rock tour, individual project area assignments

Student Responsibilities

You are expected to attend all classes and arrive on time. Read the text before class so that the lecture will make sense. Refrain from disruptive behavior such as excessive talking in class, using your computer for activities other than taking notes, or the use of cell phones during lecture. A basic set of lecture notes is available online if you would like to use them, but add your own notes so that you understand the material. **Bring your i-clicker to every class.** Approximately 8% of your lecture grade is based on i-clicker questions. Participate in classroom activities and ask questions if you do not understand.

Lab

Attendance in lab: Lab begins during the week of **January 8th (1st week of classes)**. Attendance in your assigned lab section is mandatory. You may **only** attend the lab section in which you are registered. **Your third lab absence will result in a failing grade for the GEOL 101 course. There are NO lab make-ups. See Attendance and Make-up policy section for specific rules.** It is important that you arrive at your scheduled lab room on time, start and complete the lab in the time allotted and turn in your lab to your TA before you leave. Labs will be graded and returned to you in a timely manner.

Lab and Research Project: There will be **14 lab exercises** during the semester and a research project. The laboratory research project will involve building a portfolio of information on a project area of your choosing throughout the semester and then assembling it into a single final paper. You will also give a presentation on your project area during the final lab session. Research Project instructions and help documents are posted on the lab Blackboard site.

Lab Supplies: You will need the following items for every lab (including the 1st lab): laboratory manual, syllabus, writing paper, 180 or 360 degree protractor, ruler, pencils, eraser and a **laptop/tablet**. Lab meets each week and each lab activity will be up to **3 hours long**. All laboratory exercises (except certain project assignments) will be completed and turned in during the specified lab period.

Attendance and Make-up policy

It is the School of the Environment (SoE) policy that there are **NO** make-ups for quizzes and exams in lecture or lab. Late assignments are assessed a 50% per day penalty. Attendance in your lab section is mandatory. University approved absences (with signed Class Absence Request form) and/or certain medical or other emergencies **may** be accommodated when contact is made in advance, **and all work is completed within the assigned week**. You must contact your lecture instructor for lecture absences **and** your laboratory TA for lab absences. You must provide at least one-week advance notice for University approved absences. **Please note: leaving a message will not guarantee an excused absence.** You must receive a response from your lecture instructor or lab TA indicating approval and accommodation of absence. To receive credit for a make-up lab, you must contact your TA for permission and if approved your TA will schedule a make-up which must be completed before the next lab meeting.

Lecture Exams

Lecture exams will cover material from lectures, readings in the lecture textbook, and lecture assignments. Lecture exams are given during your assigned lecture section in your regular lecture room. Lecture exam format will be

multiple choice questions that are answered on a scantron sheet and graded by computer. Please bring pencils and your **WSU Student ID card** to each exam. There are **3** scheduled lecture exams including the final exam. There are **NO** make up exams unless you submit the proper University Excused absence form to the instructor at least 1 week in advance. Certain **medical** or other **emergencies** may also be accommodated if your **instructor** is contacted **prior** to the exam. Check the dates of exams carefully; early exams (including the final) will not be provided.

Assignments and Quizzes

i-clickers (personal response system) will be used in the class. To register your i-clicker access the link under the **Clicker On-Line Registration** section of the lecture web/blackboard page web page and follow the directions. You will need to enter your name, your network ID and your i-clicker ID number to complete the registration. Approximate 8% of your lecture grade is based on your in-class responses using your *i-clicker*. **If you are caught with or using multiple clickers in class this is considered cheating; the clickers will be taken, ID numbers recorded and returned to you when you meet at my office. You and the owner of the other clicker(s) will lose all possible i-clicker points (8% of your lecture grade) for the semester. You must be present to receive credit for iclicker questions.** An on-line homework system, SmartWork, will be used. 15 chapters will be covered and each has reading and concept question sets. Approximately 10% of your lecture points are based on satisfactory completion of all chapters. The first 50 points are for graded homework and the remaining points earned above 50 (up to 25pts) will be awarded as extra credit. Additional graded material includes assignments given throughout the semester. Please read the assigned chapters prior to lecture/lab so that you may participate in discussions. Homework will be due as specified in the lecture/lab and late assignments will not be accepted. Check the Geology 101 schedule for quiz dates. No make-ups will be offered for assignments. [See Attendance and Make-up policy section for specific rules.](#)

Academic Integrity

Academic integrity will be strongly enforced in this course. Throughout this course, you are expected to do your own written work even if you are collaborating with classmates during lecture/lab activities. You will have the opportunity to screen your papers for plagiarism before submitting them; you should do this for each writing assignment.

If you are caught copying another student's work or cheating in any form, you will be given a zero (0) for that assignment, lab activity, quiz or exam. The person who allows another to copy his/her work will also be given a zero (0) for that assignment, lab activity, quiz, or exam. If the infractions continue past that single instance the instructor reserves the right to assign an F for the final course grade. Any such incidents will be reported to the Office of Student Standards and Accountability. Refer to the following site for WSU Conduct Policies:

<https://conduct.wsu.edu/policies/>. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3).

It is strongly suggested that you read and understand these definitions:

<http://apps.leg.wa.gov/wac/default.aspx?cite=504-26-010>

Classroom Conduct

Disruptions during lecture/lab will not be tolerated. Disruptive behavior including but not limited to: **ringing cell phones, talking, excessive noise, poor behavior towards other students or Instructors/TAs**, arriving late/leaving early, reading newspapers in class, or inappropriate language/comments in lecture/lab or online will result in being asked **to leave the class for that day** and all class points for that day will be forfeit. Continued disruption will result in a failing grade. It is to your benefit to arrive on time because most announcements and an iclicker/quiz question occur at the beginning of lecture/lab.

Computer Laptop and Cell Phone Policy

Computer laptops and tablets may be used in class but their use is restricted to the first 5 rows of seats in Webster 16. Electronic devices are to be used for Geology 101 academic purposes only and any non academic use not related to geology 101 will result in the loss of computer privileges and you will be asked to put your device away for that day. **Cell phones must be in the off position and put away completely.** Any use of cell phones during lecture will result in dismissal from the class for the day and all class points for that day will be forfeit. Repeated offences may result in a loss of additional points.

Accommodations for Students with Disabilities

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Access Center. All accommodations **MUST** be approved through the Access Center (Washington Building, Room 217). Please stop by or call 509-335-3417 to make an appointment with a disability specialist. After your accommodation has been approved by the Access Center, please meet with your instructor to have your form signed and to receive additional instructions.

Grades

Letter grades will be assigned based upon a percentage of the total points earned in both lecture and lab. You must receive a passing grade (60% or greater) in **both lecture and lab**, and you cannot have more than 2 unexcused lab absences to pass the course. There is no curve in this course. Lecture and lab grades will be posted on the Geology 101 Blackboard site, <https://learn.wsu.edu>.

Tentative Point Distribution	(subject to minor revisions)
Lecture i-clicker questions = up to 40 pts. Assignments = up to 25pts. SmartWork = 50pts +25pts extra credit GeoTour = 25pt Quizzes = 60 pts. 3 Exams 2 @ 100 pts; 1@130 = 330pts. Lecture Total = 530 points	Lab Weekly labs = 210 pts. Project = 100 pts (See schedule for point distribution) Lab Total = 310points
Combined Total = 840 points	

Grading	Scale (%)
A 93-100	D 60 ½
A- 90 ½	F <60
B+ 87 ½	Final grades are calculated to the nearest
B 83 ½	
B- 80 ½	
C+ 77 ½	
C 73 ½	
C- 70 ½	0.1%
D+ 67 ½	

Regular attendance in lecture is highly recommended and attendance will be taken. If you miss **5 or fewer lectures**, then consideration (0.5%) will be given when assigning the final course grade. Remember, just a 5 point difference in your lecture score amounts to a 1% change in your lecture grade. There are many opportunities for extra credit but the maximum number of points that can be earned is limited to 50pts.

Campus Safety

Campus safety is a shared responsibility and as such everyone should be familiar with the safety policies and practices at WSU. The Campus Safety Plan can be accessed at <https://safetyplan.wsu.edu>, the University emergency management web site can be accessed at <https://oem.wsu.edu>, please review the information contained in these sites. Lastly, weather warnings, safety alerts which affect WSU are posted at <https://alert.wsu.edu>. Urgent University wide warnings will be broad case via the Campus Outdoor Warning system (speakers located on the roofs of Holland Library and other buildings) and the Crisis Communication System which uses e-mail, phone and cell phone to distribute the message. You are encouraged to enter or update your contact information on the mywsu system at <https://my.wsu.edu>. Once logged in click on the link "Pullman Emergency Information" on the left and add/update your information.

Tutoring Office

The Tutoring Office (run by the Geology 101 Teaching Assistants) is located in Webster Hall room 152. The Tutoring Office schedule is posted on the door to all lab rooms and on the course webpage. Tutoring hours are open to all Geology 101 students, regardless of lab or lecture section. Tutoring begins the 2nd week of class. The tutoring office is closed on university holidays.

Final Note

I strongly encourage you to come and visit me in my office early and often if you find yourself struggling in the course. Appointments outside the scheduled office hours can be made to accommodate your schedule. If you are struggling in the course there are study methods we can talk about that may help you improve through the semester but it is best to start early.

Geology 101 Schedule

Please read assigned chapters in () prior to scheduled lecture/lab. Each chapter will have 2 SmartWork (SW) assignments, a reading (R) assignment and a concept (C) assignment.* Point values for each laboratory exercise are in [] after each exercise. (Subject to change as necessary)

WEEK OF	LECTURE TOPICS (Readings are from <i>Essentials of Geology - Marshak</i>)	LAB TOPICS PLEASE READ EACH LAB IN ADVANCE.
Jan. 8-12	And Just What is Geology (Prelude), The Earth in Context (Chapter 1) *SW R&C; The Way the Earth Works: Plate Tectonics (Chapter 2), <i>Information Sheet assigned 1/8 due 1/12</i>	Chapter 1 – Intro Lab – Setting the Stage [15]
Jan. 15-19	No Lecture Jan. 15th, University Holiday Plate Tectonics (Chapter 2) *SW R&C	Chapter 2 – The Way the Earth Works: Examining Plate Tectonics [15]
Jan. 22-26	Patterns in Nature: Minerals (Chapter 3) and Mineral Resources (Chapter 12; 12.11-12.15) *SW R&C <i>Mineral Homework (HW) –assigned 1/22 due 1/29</i> Lecture Quiz #1 (Friday Jan. 26)	Chapter 3 – Minerals Chapter 4 – Rock Cycle [15] <i>Project: Proposal due [15]</i>
Jan. 29- Feb.2	Interlude A – Rock groups; Up from the Inferno: Magma and Igneous Rocks (Chapter 4) *SW R&C The Wrath of Vulcan: Volcanic Eruptions (Chapter 5)	Chapter 5 –Igneous Rocks and Volcanic Hazards [15]
Feb. 5-9	Volcanic Eruptions (Chapter 5) *SW R&C Lecture Exam #1 - Chapters 1- 5) (Fri. Feb. 9)	Chapter 6 – Sedimentary Rocks [15]
Feb. 12-16	Interlude B - A Surface Veneer: Sediments and Soil Pages of Earth’s Past :Sedimentary Rocks (Chapter 6) *SW R&C; Metamorphism: A Process of Change (Chapter 7) *SW R&C	Chapter 7 - Metamorphic Rocks and Campus Rock Tour [15]
Feb. 19-23	No Lecture Feb. 19th, University Holiday Metamorphic Rocks (Chapter 7) Deep Time: How Old is Old (Chapter 10) *SW R&C and Interlude E: Memories of Past Life Lecture Quiz #2 (Friday Feb. 23)	Chapter 8&9–Working with Topographic Maps [15] <i>Project: Rocks and Minerals due [5]</i>
Feb. 26- Mar.2	Geologic Time (Chapter 10) and Crustal Deformation and Mountain Building (Chapter 9) *SW R&C <i>Geo time-Structure HW assigned 3/2 due 3/9</i>	Chapter 10 – Interpreting Geologic History [15]
Mar. 5-9	Crustal Deformation (Chapter 9); Chapter 12 (12.1-12.10); Interlude F (Box F.1) *SW R&C Lecture Exam #2 - Interlude B, Chapters 6,7,9,10 (Friday Mar. 9)	Chapter 11 – Interpreting Geologic Structures [15]
Mar.12-16	No class - Spring Break	
Mar. 19-23	Mass Movements (Chapter 13) *SW R&C Interlude F.4 (390-393) Running Water (Chapter 14) *SW R&C	Review and Photo ID <i>Project: Maps & Bedrock Geology due [40]</i>
Mar. 26-30	The Hidden Reserve: Groundwater (Chapter 16) *SW R&C; Shorelines (Chapter 15) *SW R&C <i>GeoTours HW assigned 3/26 due 4/24 (online)</i>	Chapter 12 - Landscapes Formed by Streams [15]
Apr.2-6	Shorelines (Chapter 15) Glaciers and Ice Ages (Chapter 18) *SW R&C Lecture Quiz #3 (Friday Apr. 6)	Chapter 13 – Groundwater as Landscape Former and Resource [15]
Apr.9-13	Glaciers and Ice Ages (Chapter 18) *SW R&C	Chapter 14 &15 – Glaciers, Shorelines and Climate Change [15] <i>Project: Surface Processes due [15]</i>
Apr.16-20	Global Change (Chapter 19) Earthquakes (Chapter 8) *SW R&C	Chapter 16 –Earthquakes [15] <i>Final Paper due [30]</i>
Apr.23-27	Interlude D: Seeing Inside the Earth *SW R&C Remainder of week, the topic is “Connections”	<i>Project: Presentations [15]</i> Participation [5]
April 30- May 4	Lecture Final Exam (see below) (Chapters 1-7,9-10, 13-16,18, 8-Interlude D)	No lab during finals week.

Final Exam Dates: Sec 1, Friday May 4, 2018, 8:00 - 10:00 AM
Sec 2, Friday May 4, 2018, 3:10 - 5:10 PM