



Syllabus for Physical Geology with Lab (GEOL-1)

Course Information – THIS IS A HYBRID COURSE

Fall, 2021

GEOL-1-E2524 and GEOL-1-E2525

David Bazard, Ph.D.

Online lecture. Face to Face Lab on either Monday or Wednesday, 10:00am-1:10pm

Lab Classroom: HU-125 (Eureka Campus, Humanities Building)

4.0 units (3.0 lecture, 1.0 lab)

Instructor Contact Information

Office location: HU108I

Office hours: MW 1:15-2pm (online); and TBD

Phone number: 707-476-4224

Email address: Canvas Messaging preferred. Office: dave-bazard@redwoods.edu

Catalog Description

An introductory study of physical geology with an emphasis on geologic principles and processes. The course explores the internal structure, processes, and origin of the Earth, and the processes of water, wind, gravity, and plate tectonics that contribute to the formation of the Earth's surface. The laboratory component focuses on the identification of rocks and minerals, the reading and interpretation of topographic and geologic maps, and field studies. Students will explore principles of mineral and rock formation, landform development, plate tectonics, volcanism, folding and faulting, and related topics. Note: Field Trips are required for this course. The college does not provide transportation.

Course Student Learning Outcomes

1. Describe how the scientific method is used to understand natural phenomena.
2. Describe the basic elements of plate tectonic theory, including how internal processes help shape the Earth.
3. Apply classification systems to organize and identify igneous, sedimentary, and metamorphic rock specimens and mineral specimens, and demonstrate how these classification systems are used to understand Earth processes.
4. Apply geologic principles to describe how earth materials and landscapes change over time, including description of how interaction of Earth systems result in geologic change.

Prerequisites/co-requisites/ recommended preparation: No prerequisites

Course Materials (text book)

Required: *Essentials of Geology*, Sixth Edition (Marshak; published by W.W. Norton), ISBN: 978-0393667523. You may use an electronic or rented version, or you may buy a used text since you do NOT need an access code. Older editions of this text will work for the course, but it will require extra work on your part to correlate the assigned readings to what is in these older editions. I will be referencing page numbers and figures from the 6th Ed. throughout the course.

Course/Lab Packet: This is for sale through the bookstore. I'll also be posting a modified version of this on Canvas. Students will need copies of this to complete and submit work. **NOTE:** I will be making modifications to the bookstore version (*Wright and Bazard authors*) of this packet. I will provide handouts of any portion that are modified, so purchasing the bookstore version will not be a problem. I'll also be posting a weekly update about what portions of the packet we'll be using that week, and what additional handouts I'll be providing.

Weekly Schedule (*subject to change with notification*)

Week	Weekly Topics	Reading and PowerPoint (for both lab and lecture)	Lab Topics Either Monday or Wednesday Lab
1 (Aug 23)	<i>Introduction Scientific Methods Earth's Interior</i>	Prelude: p. 3-11 Chap 1: p. 24-30, 36-41 Chap 8 (p. 255-257 only) Interlude D (p. 287-293) <i>Online Assignment, (includes course packet p. 3, 5-14.)</i>	Scientific Method Seismic Waves Plate Tectonics, Part I
2 (Aug 30)	<i>Plate Tectonics</i>	Chap 2: 45-81 Minerals section in Course Packet <i>Online Assignment (includes course packet p. 15-19, 25-30)</i>	<u>Plate Tectonics, Part II</u> <u>Minerals Lab – Part I</u> (packet p. 25-30)
3 (Sept 8)* Labor Day 9/6	<i>Prepare for Test 1, Introduction to Minerals</i>	Online Study Guide Review: Readings, Class/Lab Activities, Quizzes. , Chap. 3	<u>Field Trip</u> (WED ONLY. Combined labs for Field Trip – outdoor meeting.
4 (Sept 13)	<i>Test1 (online timed test) Minerals Lesson Review for Minerals Quiz</i>	Minerals: Chap. 3: 85-100 Online Assignment: Course packet p. 21-24	<u>Minerals Lab – Part II</u> (packet p. 25-30) Review for Mineral Quiz (packet p. 31)
5 (Sept 20)	<i>Igneous Rocks</i>	Interlude A: p. 107-112 Chap. 4: 115-134 Online materials (also provide in lab. Only includes 33-36 and 48- 50 of course packet)	Minerals Quiz <u>Igneous Rocks Lab</u> (packet p. 33-36, 48- 50)
6 (Sept 27)	<i>Volcanism Review for Igneous Rock Quiz Sedimentary Rocks</i>	Chap 5: 139-167 Packet p. 40-42, 44. And materials provided online and in lab. Review of Igneous Rocks (p. 51)	<u>Sedimentary Rock Lab, Part I</u> (packet p. 55, 65, 66-67) Igneous Rock Review
7 (Oct 4)	<i>Preparing for Test 2 Introduction to Sedimentary Rocks</i>	Online Study Guide Questions, Review Activities and Quizzes. Interlude B: p. 173-179 Chapter 6: p. 189-213	Igneous Rock Quiz (in lab – first 30 minutes) <u>Field Trip (for each lab):</u> Sedimentary Rocks

8 (Oct 11)	<i>Test 2 (online)</i> <i>Weathering and Sedimentary Rocks</i>	Weathering portion of Interlude B: p. 173-179 Chapter 6: p. 189-213	<u>Sedimentary Rock lab Part II (packet p. 55, 65, 66-67, and additional handouts available online.</u>
9 (Oct 18)	<i>Metamorphic Rocks</i> <i>Review of Sedimentary and Metamorphic Rocks for Quiz (packet p. 79-80)</i>	Chap 7: 217-235 Interlude C – The Rock Cycle: p. 239-244	<u>Metamorphic Rock Lab</u> (packet p. 71-72, 76-78) Sedimentary and Metamorphic Rock Review (packet 79-80)
10 (Oct 25)	<i>Deformation of Rocks (Part I)</i> <i>Moonstone Field Trip/Project. Saturday October 30th (12pm-2pm). Both Lab classes</i>	Chap 9: p. 301-327	Metamorphic and Sedimentary Rock Quiz. Prepare for Saturday <u>Field Trip</u> . (packet 91-94) (Short Lab to compensate for 2 hours Saturday Trip.)
11 (Nov 1)	<i>Preparing for Test 3</i> <i>Deformation of Rocks (Part II)</i> <i>Moonstone Project</i>	Chap 9: p. 301-327 (Course packet 95-100) Online Study Guide Questions, Class/Lab, Activities, Quizzes.	<u>Geologic Maps and structures Lab (to be provided)</u> Moonstone Project work–mapping
12 (Nov 8)	<i>Test 3 (Online)</i> <i>Moonstone Project</i> <i>Geologic Time (part I)</i>	Project Details and Requirements Chapter 10: p. 343-365 Packet p. 82-89	<u>Geologic Time Lab, Part I</u> (packet p. 86-89) Moonstone Project Work – discuss report
13 (Nov15)	<i>Geologic Time (part II)</i> <i>Introduction to landforms (time permitting)</i>	Chapter 10: p. 343-365	Report due (due date and any changes announced in class) <u>Geologic Time Lab, part II</u> (packet p. 86-89)
(Nov 22)	<i>Thanksgiving</i>	<i>No Class Nov 22-Nov 28</i>	
14 (Nov29)	<i>Landforms: Mass Movement and Rivers</i>	Interlude F: p. 435-438 Chapter 13: p.447-464 Chapter 14: p. 469-487	<u>Geologic Maps and Landforms Lab:</u> California Map (packet p. 90); Landslide Maps

15 (Dec 6)	<i>Continuation of Landforms</i> <i>Preparing for the Final Exam.</i>	Online Study Guide Questions and Review	<u>Landforms Field Trip</u>
16 (Dec 13)	<i>Final Test (during Finals Week)</i>		

Note: Dates and material covered may change; any changes will be announced in class.

What To Expect: The topics to be covered each week and the corresponding reading assignments are listed on the following calendar pages. Each week you will be expected to read the assigned material, take an online quiz, and engage in online and lab activities.

Some of the labs include field trips, and you are expected to arrange your own transportation. You may complete some labs prior to the ending time, but I expect you to be available for the entire period if additional work is required. There is one Saturday Field Trip. There will be an optional replacement activity if you absolutely can't make the trip. However, you should try to plan in advance for this one trip that is part of a project.

What I Expect: I expect you to read the text material related to each topic prior to the class sessions. I expect you to attend each class session, participate in discussions and ask questions if the material or instructions are unclear. I expect you to be responsible for your own learning and let me know if you need help or clarification.

Online Quizzes: Online quizzes (through Canvas) will be assigned during non-test weeks. These questions are related to the assigned readings.

Lab Tests: The lab tests consist of specimen identification questions, classification questions, and classification-related concept questions. Study guides are included in the course packet.

Lab Report: The lab report combines field observations with lab analysis and written presentation. Field and lab work will be a group effort, but each student will be responsible for compiling data and presenting their own findings in a written lab report.

Tests: The tests will include questions very similar to the online quiz questions and class activities. They will cover material presented in lecture and, sometimes, lab. A study guide for each test will be provided through Canvas. Students who study the activity and quiz questions typically do well on the tests.

Advice about the readings:

1. Begin by taking a quick look through the entire section being assigned and focus on the figures and captions.
2. Then carefully read through the entire section. Make sure you have an undistracted period (hour) to read through the section.
3. Read through the Chapter Summary section (as it relates to the assigned sections) and evaluate if you understand these summary statements. If not, go back to any confusing sections and read them again.
4. Reread any sections that apply to activity or class questions that you do not understand.
5. Email the instructor with questions (or ask in class) about material that is not clear, or if you have a question about a related topic.

Evaluation & Grading Policy

Grading (any changes to the amounts shown below will be announced in class):

- | | |
|---|-------|
| • Online Quizzes (10 @ 10 pts each): 100 pts | 10% |
| • Labs and Activities (9 @ 25 pts each): 225 pts | 22.5% |
| • Lab Tests: (3@40pt each): 120 pts | 12% |
| • Three term exams (100 pts each, 3 tests): 300 pts | 30% |
| • Field/Lab Investigation(s) and Trips: 100 pts | 10% |
| • Final exam: 155 pts | 15.5% |

Total pts: 1000 pts

Letter grades for the course are assigned based on the percentage of the total:

A: 100%–91%; A-: 89.5%-90.9% (The college does not allow for a A+ grade)

B+: 89.4% - 88%; B: 87.9% - 81%; B-: 80.9%-79.5%

C+: 79.4% - 78%; C: 77.9% - 69.5% (The college does not allow for a C- grade)

D: 69.4%-60%; F: <60%

I reserve the right to change the exact point value of an assignment and the “cutoffs” for plus and minus grades (for all students).

Missed Class and Make Up:

Each student is expected to be responsible for their absences by:

- 1) notifying the instructor as soon as possible if you miss, or will miss, class.
- 2) determine the material and instructions missed (by contacting the instructor), and
- 3) obtaining and completing missed material.

The following is provided to compensate for the possibility of missing class:

- You are allowed to submit **two day's worth** of activities and labs late without penalty, if the late assignment is submitted during the following class (or when you return).
- I will accept a third late lab/activity with a point deduction. Late work beyond the third late assignment may not be accepted or will have a substantial point deduction.
- Missed lecture exams will be handled on a case-by-case basis. There is no guarantee that a makeup will be provided. Informing me in advance of missing an exam (or soon after) will increase the likelihood that a makeup will be provided.
- Lab exams are difficult to makeup and **MUST** be made up within a few days of the missed exam.

I consider missing more than four class sessions in a semester as excessive absences. School policy allows me to drop a student who has excessive absences as defined in the course syllabus. It is your responsibility to attend class on a regular basis.

Admissions deadlines & enrollment policies

Fall 2021 Dates

- Classes begin: 8/21/21 (Saturday for online; Monday 8/23/21 for face to face)
- Last day to add a class: 8/27/21
- Last day to drop without a W and receive a refund: 9/3/21
- Labor Day (all-college holiday): 9/6/21
- Census date: 9/7/21 or 20% into class duration
- Last day to petition to file P/NP option: 12/17/21 (extended by Chancellor's office Order)
- Last day to petition to graduate or apply for certificate: 10/28/21
- Last day for student-initiated W (no refund): 10/29/21
- Last day for faculty initiated W (no refund): 10/29/21
- Veteran's Day (all-college holiday): 11/11/21
- Fall break (no classes): 11/22/21-11/26/21
- Thanksgiving (all-college holiday): 11/24/21-11/26/21
- Final examinations: 12/11/21-12/17/21
- Semester ends: 12/17/21
- Grades available for transcript release: approximately 1/7/22

Accessibility

College of the Redwoods is committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or [Disability Services and Programs for Students](#) (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1st floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

If you are taking online classes DSPS will email approved accommodations for distance education classes to your instructor. In the case of face-to-face instruction, please present your written accommodation request to your instructor at least one week before the needed accommodation so that necessary arrangements can be made. Last minute arrangements or post-test adjustments usually cannot be accommodated.

Canvas Information

If using Canvas, include navigation instructions, tech support information, what Canvas is used for, and your expectation for how regularly students should check Canvas for your class.

Log into Canvas at <https://redwoods.instructure.com>

Password is your 8 digit birth date

For tech help, email its@redwoods.edu or call 707-476-4160

Canvas Help for students: <https://webapps.redwoods.edu/tutorial/>

Canvas online orientation workshop: [Canvas Student Orientation Course \(instructure.com\)](#)

Academic dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Disruptive behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Inclusive Language in the Classroom

College of the Redwoods aspires to create a learning environment in which all people feel comfortable in contributing their perspectives to classroom discussions. It therefore encourages instructors and students to use language that is inclusive and respectful.

Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. This does not change your legal name in our records. See the [Student Information Update form](#).

Community College Student Health and Wellness

Resources, tools, and trainings regarding health, mental health, wellness, basic needs and more designed for California community college students, faculty and staff are available on the California Community Colleges [Health & Wellness website](#).

[Wellness Central](#) is a free online health and wellness resource that is available 24/7 in your space at your pace.

Students seeking to request a counseling appointment for academic advising or general counseling can email counseling@redwoods.edu.

Emergency procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones. Registration is not necessary in order to receive emergency alerts. Check to make sure your contact information is up-to-date by logging into WebAdvisor <https://webadvisor.redwoods.edu> and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions. For more information see the [Redwoods Public Safety Page](#).

In an emergency that requires an evacuation of the building anywhere in the District:

- Be aware of all marked exits from your area and building
- Once outside, move to the nearest evacuation point outside your building
- Keep streets and walkways clear for emergency vehicles and personnel

Do not leave campus, unless it has been deemed safe by the campus authorities.

Eureka Campus Emergency Procedures

Please review the [campus emergency map](#) for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the [Redwoods Public Safety Page](#). It is the responsibility of College of the Redwoods to protect life and property from the effects of emergencies within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency has on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Notify Public Safety 707-476-4111 and inform them of the situation, with as much relevant information as possible.
4. Public Safety shall relay threat information, warnings, and alerts through the Everbridge emergency alert system, Public address system, and when possible, updates on the college website, to ensure the school community is notified.
5. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet, (evacuation to a safe zone, shelter in place, lockdown, assist others if possible, cooperate with First Responders, etc.).
6. If safe to do so, notify key administrators, departments, and personnel.
7. Do not leave campus, unless it is necessary to preserve life and/or has been deemed safe by the person in command.

Student Support Services

The following online resources are available to support your success as a student:

- [CR-Online](#) (Comprehensive information for online students)
- [Library Articles & Databases](#)
- [Canvas help and tutorials](#)
- [Online Student Handbook](#)

[Counseling](#) offers assistance to students in need of professional counseling services such as crisis counseling.

Learning Resource Center includes the following resources for students

- [Academic Support Center](#) for instructional support, tutoring, learning resources, and proctored exams. Includes the Math Lab & Drop-in Writing Center
- [Library Services](#) to promote information literacy and provide organized information resources.
- [Multicultural & Diversity Center](#)

Special programs are also available for eligible students include

- [Extended Opportunity Programs & Services \(EOPS\)](#) provides services to eligible income disadvantaged students including: textbook award, career academic and personal counseling, school supplies, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!
- The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in [Eureka](#) or in [Del Norte](#)
- The [Veteran's Resource Center](#) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821