

AG17 Introduction to Soil Science

Course Information

Semester & Year: Spring 2025

Course ID and Section number: AG-17-E7616 (057616)

Instructor's name: Luke A. Besmer

Day and time of required meetings: Tuesday & Thursday, 9:00-11:35

Location: AT108

Number of proctored exams: 4

Course units: 3

Recommended Textbook: **Elements of the Nature and Properties of Soils 4th Edition**

by Weil, Raymond R. / Brady, Nyle C. ISBN:9780133254594 (Older Editions are acceptable)

Instructor Contact Information

Office location: AT108

Office hours: By Appointment

Phone number: 707-342-7354

Email address: luke-besmer@redwoods.edu

Catalog Description

The study of soil physical, chemical, and biological properties. Soil classification, derivation, use, function and management including erosion, moisture retention, structure, cultivation, organic matter, and microbiology. Laboratory topics include soil type,

classification, soil reaction, soil fertility, and physical properties of soil. Laboratory required.

Course Student Learning Outcomes

- Evaluate parent material, minerals and rocks, and other soil forming processes on local and global scales.
- Discuss and understand the importance of essential plant nutrients.
- Demonstrate and determine the physical properties of soil.
- Analyze a soil's water holding capacity, water availability in relation to plant growth, properties and movement of water in soil.
- Understand soil testing procedures and interpret results.
- Understand the composition and use of various soil amendments and fertilizers.

Course Organization

The course will be organized using weekly Modules found in Canvas. Each weeks Module will have an Agenda, a homework assignment, and a Laboratory exercise. The weekly Agenda will outline learning objectives and required reading. Quizzes will be given in class and will be based on the weeks required reading.

Grading

Grading will be based on the following:

Item	Points	#	Total Points
Homework	10	13	130
Lab Exercises	30	13	390
Quizzes	10	13	130

Exams	50	3	150
Final Exam	100	1	100
Presentation/Paper	100	1	100
		Total	1000

Evaluation & Grading Policy

Late Assignments: All assignments are due by the date noted on Canvas. Exceptions may be made for reasonable circumstances.

Exams: Exams will take place in person during the scheduled time unless otherwise specified by your instructor. Accommodations can be made as necessary.

Homework: Assignments will be applicable to topics or questions posed in class. We will discuss them the following class period.

Reports/Presentations: Students will identify a location where they would like to cultivate the land and produce an agricultural crop. Students will write a 3-5 page report on the soil, water, climate, and growing conditions otherwise. Students will present their “Dream Farm” to the class at the end of the semester.

Course Schedule

Week	Date	Module
Week 0	21-Jan	Introduction to Soil Science
	23-Jan	
Week 1	28-Jan	Elements, Minerals, Rocks, & Soil
	30-Jan	
Week 2	4-Feb	Parent Material & Soil Formation
	6-Feb	
Week 3	11-Feb	Soil Horizons

	13-Feb	
Week 4	18-Feb	Soil Taxonomy
	20-Feb	Exam 1
Week 5	25-Feb	Soil Texture, Structure, & CEC
	27-Feb	
Week 6	4-Mar	Bulk Density
	6-Mar	
Week 7	11-Mar	Soil Water
	13-Mar	
Spring Break	18-Mar	Spring Break
	20-Mar	Spring Break
Week 8	25-Mar	Soil Biology
	27-Mar	Exam 2
Week 9	1-Apr	Soil pH & Liming
	3-Apr	
Week 10	8-Apr	Fertilizers & Soil Conditioners
	10-Apr	
Week 11	15-Apr	Soil Testing
	17-Apr	
Week 12	22-Apr	Fertility Management
	24-Apr	
Week 13	29-Apr	Exam 3
	1-May	Final Review

Week 14 6-May Presentations

8-May Presentations

Week 15 TBD Final Exam

Prerequisites/corequisites/ recommended preparation

None

Educational Accessibility & Support

College of the Redwoods is committed to providing reasonable accommodations for qualified students who could benefit from additional educational support and services. You may qualify if you have a physical, mental, sensory, or intellectual condition which causes you to struggle academically, including but not limited to:

- Mental health conditions such as depression, anxiety, PTSD, or bipolar disorder
- Common ailments such as arthritis, asthma, diabetes, autoimmune disorders, and diseases
- Temporary impairments such as a broken bone, recovery from significant surgery, or a pregnancy-related disability
- Neurodevelopmental disorders such as a learning disability, intellectual disability, autism, acquired brain injury, or ADHD
- Vision, hearing, or mobility conditions

Available services include extended test time, quiet testing environments, academic assistance and tutoring through the [LIGHT Center](#)

[Links to an external site.](#), counseling and advising, alternate formats of course materials (e.g., audio books, braille, E-texts), assistive technology, learning disability assessments,

approval for personal attendants, interpreters, priority registration, on-campus transportation, adaptive physical education and living skills courses, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact [Student Accessibility Support Services \(SASS\)](#)

[Links to an external site.](#) If you are unsure whether you qualify, please contact Student Accessibility Support Services (SASS) for a consultation: sass@redwoods.edu.

SASS office locations and phone numbers

Eureka campus

- Phone: 707-476-4280
- Location: Student Services building, first floor SS113

Del Norte campus

- Phone: 707-465-2353
- Location: main building, near the Library

Klamath-Trinity campus

- Phone: 707-476-4280

Student Support Services

Good information and clear communication about your needs will help you be successful. Please let your instructor know about any specific challenges or technology limitations that might affect your participation in class. College of the Redwoods wants every student to be successful.

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

[CR Online Learning Support](#)

[Links to an external site.](#)

Tech support, laptop loans, guides to using Canvas, installing Office 365 for free, and more.

[Library Articles & Databases](#)

[Links to an external site.](#)

Find the best library databases for your research.

[Online Tutoring Resources](#)

[Links to an external site.](#)

Participate in tutoring over Zoom.

To learn more about the resources available to you, click on a title bar below, or click the down arrow to expand them all.

Klamath-Trinity students can contact the CR Klamath-Trinity Office for specific information about student support services at 530-625-4821.

Community College Student Health and Wellness

National Suicide Prevention Lifeline

If you are in distress or are with someone at risk right now, call or text the National Suicide Prevention Lifeline.

Call the National Suicide Prevention Lifeline

1-800-273-TALK (8255)

Text the National Suicide Prevention Lifeline

741-741

Timely Care

When you're not feeling well physically or distressed mentally, Timely Care can offer the help you're looking for in just a few quick taps. Students can schedule an appointment anytime via phone, video, and chat. [Log in or set up an account with Timely Care](#)

[Links to an external site..](#)

Mental Health Counseling

Students should text, email, or fax Shawna Bell directly for scheduling and/or services.

- Text: 707-496-2856
- Email: shawnabmft@gmail.com
- Fax and voicemail: 707-237-2318

Wellness Central

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 [Wellness Central](#)

[Links to an external site..](#)

Counseling

[Counseling and Advising](#)

[Links to an external site.](#) can assist students in need of academic advising and professional counseling services. Call, email or stop by one of our offices to make an appointment!

Counseling and Advising office locations and contact info

Eureka campus

- Phone: 707-476-4150
- Location: Student Services Building, first floor
- Email: counseling@redwood.edu
- Hours: Monday through Friday, 9am to 4pm. Summer hours may vary

Del Norte campus

- Phone: 707-476-2300
- Location: Main Building, next to the library
- Hours: Summer hours may vary

Klamath-Trinity campus

- Phone: 530-625-4821
- Email: KT-staff@redwoods.edu
- Hours: Summer hours may vary

Basic Needs Center

[Basic Needs Center](#)

[Links to an external site.](#) provides for the health and safety of students by providing access to healthy food, financial resources, and referrals to safe and secure housing. [Submit a request for services and information](#)

[Links to an external site.](#).

Basic Needs Center contact info

- Phone: 707-476-4153
- Email: the-grove@redwoods.edu

Learning Resource Center

The Learning Resource Center includes the following resources for students:

Library Services

[Introduction - Library Services for Students - LibGuides at College of the Redwoods](#)

[Links to an external site.](#) promotes information literacy and provides organized information resources.

Multicultural and Equity Center (MCE)

The [Multicultural and Equity Center](#)

[Links to an external site.](#) is a dynamic and inclusive place that supports all students in their academic and personal journeys at the college. We do this by creating community, home away from home, and a safe place for cultural expression, cross-cultural learning, access to college and dignity resources, and social justice work opportunities. The MEC is committed to retention and student success by offering activities related to leadership

development, student connectedness and student equity. We are a student-centered program that fosters respect for all people.

Academic Support Center

The [Academic Support Center](#)

[Links to an external site.](#) offers tutoring and test proctoring for CR students.

Student Tech Help

Technical [Support](#)

[Links to an external site.](#) provides students with assistance around a variety of tech problems.

Extended Opportunity Programs and Services (EOPS)

[EOPS/CARE](#)

[Links to an external site.](#) (EOPS) provides services to eligible income disadvantaged students including: textbook awards, grants, career academic and personal counseling, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!

TRiO Student Success Program

The TRiO Student Support Services Program provides eligible students with a variety of services including academic advising, career assessments, assistance with transfer, and peer mentoring. Students can apply for the program with the [Eureka TRiO office](#)

[Links to an external site.](#) or the [Del Norte TRiO office](#)

[Links to an external site.](#)

Veterans Resource Center

The [Veterans Resource Center](#)

[Links to an external site.](#) 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.

CalWORKS

California Work Opportunity & Responsibility to Kids ([CalWorks](#)

[Links to an external site.](#)) provides supportive services to student parents with children under the age of 18, who are receiving cash assistance (TANF benefits), to become self-sufficient. Services include: transportation assistance, basic student supplies, tutoring, priority registration, laptop and calculator loans, career, academic, and personal counseling, and more!

Spring 2025 Dates

Date	To Remember
January 17	Last day to register for classes (day before the first class meeting)
January 18	Classes begin
January 20	Martin Luther King's Birthday (All Campuses Closed)

January 24	Last Day to add a class
January 31	Last Day to Drop & Receive a Refund
February 2	Last Day to Drop w/out a “W”
February 3	Census Date (20% of class)
February 14	Lincoln’s Birthday (All Campuses Closed)
February 17	President’s Day (All Campuses Closed)
March 6	Last Day to Petition to Graduate & Petition for Certificate
March 17 - 22	Spring Break (No Classes)
March 28	Last Day for Student/Faculty Withdrawal
March 31	Cesar Chavez Day (All Campuses Closed)
May 10 - 16	Final Examinations
May 16	Last Day to File P/NP Option
May 16	Semester Ends
May 23	Grades Due
May 26	Memorial Day (All Campuses Closed)
May 30	Grades Available for Transcript Release

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](#))

[Links to an external site.](#)) 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 [2024-2025 College Catalog Links to an external site.](#) and [CR Board and Administrative Policies Links to an external site.](#).

AI Use Class Policy

Artificial Intelligence has its place, however this classroom is not one of them. Do not copy and paste information. Do not expect AI is correct or accurate, especially with scientific and technical information. All writing should be in your words. I would rather you submit a “decent” paper/answer that you wrote instead of a great one produced by a machine. Agricultural Sciences require that you understand and utilize concepts in the field. Taking shortcuts by using AI not only hurts your future ability to succeed, but also will hurt your grade. If you are suspected of copy-pasting AI generated information, you may be asked to produce proof that the work is your own.

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. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [2024-2025 College Catalog](#)

[Links to an external site.](#) and [CR Board and Administrative Policies](#)

[Links to an external site.](#).

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.

Canvas Information

- Log into Canvas at [My CR Portal](#)
- [Links to an external site.](#)
- For help logging in to Canvas and general tech help, visit [Canvas Support Home](#)
- [Links to an external site.](#)
- Once you're logged in to Canvas, you click on the Help icon on the left menu
- Canvas online orientation workshop: [Canvas Student Orientation Course](#)

Setting Your Preferred Name and Pronouns in Canvas

Students have the ability to display personal pronouns and an alternate first name in Canvas. Students may change their pronouns on their own in Canvas (Account :: Settings :: Edit Settings). To request a change to your preferred list name, contact [Admissions and Records](#)

[Links to an external site.](#) 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-2022.pdf](#)

[Links to an external site.](#)

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](#) [Links to an external site.](#) and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or campus-safety@redwoods.edu if you have any questions. For more information visit [Campus Safety](#)

[Links to an external site.](#). Please review the [EurekaEmergencyMap_S24.pdf](#)

[Links to an external site.](#) for campus evacuation sites, including the closet site to this classroom (posted by the exit of each room).

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.

To learn more about campus-specific Emergency Procedures, click on a title bar below, or click the down arrow to expand them all.

Del Norte Campus Emergency Procedures

Please review the [Crescent City campus emergency map](#)

[Links to an external site.](#) for campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information, visit [Campus Safety](#)

[Links to an external site.](#)

Klamath-Trinity Campus Emergency Procedures

Please review the responsibilities of, and procedures used by, the College of the Redwoods, Klamath Trinity Instructional Site (KTIS) to communicate to faculty, staff, students and the general public during an emergency. It is the responsibility of College of the Redwoods, Klamath-Trinity Instructional Site (KTIS) to protect life and property from the effects of emergency situations within its own jurisdiction.

In the event of an emergency, communication shall be the responsibility of the district employees on scene:

1. Dial 911, to notify local agency support such as law enforcement or fire services.
2. If safe to do so, notify key administrators, departments, and personnel.
3. If safe to do so, personnel shall relay threat information, warnings, to ensure the school community is notified.
4. Contact 530-625-4821 to notify of situation.
5. Contact Hoopa Tribal Education Administration office 530-625-4413
6. Notify Public Safety 707-476-4111.

In the event of an emergency, the responsible district employee on the scene will:

1. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet.

2. Lock all doors and turn off lights if in lockdown due to an active shooter or similar emergency.
3. Close all window curtains.
4. Get all inside to safe location Kitchen area is best internal location.
5. If a police officer or higher official arrives, they will assume command.
6. Wait until notice of all is clear before unlocking doors.
7. If safe to do so, move to the nearest evacuation point outside building (Pooky's Park), directly behind the Hoopa Tribal Education Building.
8. Do not leave site, unless it has been deemed safe by the person in command.