

FNR 52 Intro to Surveying

Course Information

Semester & Year: Fall 2024

Course ID and Section number: FNR52-E8127

Instructor's name: Dr. Tim Baker

Day and time of required meetings: T/TH 10:05-11:10 and T 1:15-4:25

Location: AT 127

Course units: 3

Instructor Contact Information

Office location or Online: N/A

Office hours: By appt.

Phone number: 707-497-7126

Email address: Timothy-Baker@redwoods.edu

Communication notes: You can use Canvas or my regular email to contact me. I don't use Pronto much because of my computer setup so can easily miss questions on it.

Catalog Description

An introduction to the various techniques for planning and conducting land surveys. Lab exercises progress from compass and pacing through the use of Total Stations. Basic mapping exercises are conducted using field data. Discussions cover the theory of surveying, associated math principles, and the various methods of legal property description.

Course Student Learning Outcomes

- Read and use various kinds of maps and boundary descriptions and be able to calculate the appropriate parameters for specific surveying problems.
- Lab specific outcome: Use common surveying equipment to gather appropriate field data.
- Lab specific outcome: Analyze field data and generate appropriate maps and reports.
- Solve basic land surveying problems using critical thinking to arrive at appropriate answers.

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, bipolar disorder, and ADHD
- 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
- A learning disability (such as dyslexia, reading comprehension), intellectual disability, autism, or acquired brain injury
- Vision, hearing, or mobility challenges

Available services include extended test time, quiet testing environments, tutoring, counseling and advising, alternate formats of materials (such as audio books or E-texts), assistive technology, on-campus transportation, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact [Disability Services and Programs for Students \(DSPS\)](#). If you are unsure whether you qualify, please contact DSPS for a consultation: dsp@redwoods.edu.

DSPS office locations and phone numbers

Eureka campus

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

Del Norte campus

- Phone: 707-465-2324
- Location: Main Building, next to the library

Klamath-Trinity campus

- Phone: 707-476-4280

Learning Resource Center

The Learning Resource Center includes the following resources for students:

Library Services

[Library Services](#) promotes information literacy and provides organized information resources.

Multicultural and Equity Center (MCE)

The [Multicultural and Equity Center](#) 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](#) offers tutoring and test proctoring for CR students.

Student Tech Help

[Student Tech Help](#) provides students with assistance around a variety of tech problems.

Evaluation & Grading Policy

Module quizzes 20%

Problem sets 20%

Final Exam 10%

Lab assignments 35%

Final field project 15%

Late assignments will be penalized. Module quizzes will have deadlines after which the quiz can't be taken, typically this will be 1 week after the quiz is assigned.

Fall 2024 Dates

Date	To Remember
August 23	Last day to register for classes (day before the first class meeting)
August 24	Classes begin
August 30	Last day to add a class
September 2	Labor Day Holiday (district wide closure)
September 6	Last Day to Drop & Receive a Refund
September 8	Last Day to Drop w/out a "W"
September 9	Census Date (20% of class)
October 31	Last Day to Petition to Graduate & Petition for Certificate
November 1	Last Day for Student/Faculty Withdrawal
November 11	Veteran's Day Holiday (District Wide Closure)
November 25-26	Fall Break (No Classes)
November 27-29	Thanksgiving Holiday (District Wide Closure)
December 14-20	Final Examinations
December 20	Last Day to File P/NP Option
December 20	Semester Ends
December 27	Grades Due
January 3	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](#)) 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 [2023-2024 College Catalog](#) and [CR Board and Administrative Policies](#).

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 [2023-2024 College Catalog](#) and [CR Board and Administrative Policies](#).

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](#)
- For help logging in to Canvas and general tech help, visit [Student Technical Support](#)
- 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 & Records](#). 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 \(pdf\)](#).

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](#) 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 visit [Redwoods Public Safety](#).

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.

General Course Information:

Course structure: The Fall 2024 course is based on 2 in-person lectures and 1 in-person lab each week with online quizzes and lab submissions through Canvas.

Drop Policy: You may be dropped from the class if you miss 3 or more labs or fail to complete 2 or more Module quizzes before the 10th week of the semester.

Field Equipment: You will need appropriate clothing and closed-toe footwear for the conditions. A field notebook (Rite-n-Rain Transit field book), and whatever miscellaneous items you need (e.g. sunscreen, bug repellent, water, etc.). You will also need various drafting supplies including 8x8 or 10x10 graph paper, pencils, rules or straight edges, drawing compass, and guides. **A calculator with trig functions is essential.**

Texts: There are several recommended options for texts as well as a free online PDF file that can support the lecture pages but there is no required text this semester.

Course objective: You will be introduced to the basic concepts of surveying and mapping through a combination of classroom discussions and field exercises. The major concepts include the use of trigonometry, compass, levels, transits, tapes, and Total Stations. The dominant surveying and mapping systems will be introduced but we will not cover all the legal aspects of boundary surveys.

Topics should include:

- History and background of surveying
- Surveying units, terms, and definitions
- Plane vs. geodetic surveys
- Topographic surveys
- Leveling
- Coordinate systems
- Using trigonometry and geometry to solve surveying problems (traverse calculations)
- Boundary descriptions including the Public Land Survey System
- Geographic Information Systems and Global Positioning System overview
- Deeds and records searches

Final Project:

During the last 4 weeks of the semester (depending on weather), each student will participate in a small-group surveying project. This semester teams of 2 or 3 will choose a project location on campus in consultation with the instructor to conduct a comprehensive survey using the techniques covered in class. The final project has multiple products: 1) Executive Summary (3-5 pages) which provides the details of the project as well as the methods and equipment, data analyses, and any problems encountered; 2) a large (approximately 24" x 36") map of the project with appropriate labels and legends, 3) complete data analysis of precision, area enclosed, with a goal of exceeding 1:10,000 precision, and 4) field data notebook and sketch map.