Syllabus for
Intro to Geospatial Concepts

Course Information

Semester & Year: Spring 2024
Course ID & Section #: FNR-31-E6179
Instructor's name: Madeleine Lopez
Location: AT 107 and Online
Day/Time of required meetings: Tuesday 5:35- 8:05 pm
Course units: 3.00

Instructor Contact Information

Office location: AT 123 or *Online: ZOOM*
Office hours: Tues. 4:25 – 5:30 pm, Fri. 2:10- 3:30 pm, by appointment
Phone number: (707) 476-4131
Email address: Madeleine-lopez@redwoods.edu

Catalog Description

An introduction to geospatial concepts. Students will learn the theory and application of GPS technology, cartography, GIS software, and remote sensing techniques.

Course Student Learning Outcomes

1. Discuss acquisition and utilization of geospatial data from various sources and integration into geographic information systems.
2. Discuss common geospatial characteristics of maps including projection systems, landmarks and features, scales, and frame of reference.
3. Analyze strengths and weaknesses of global positioning system (GPS) data and discuss basic operational parameters of the various systems in current use.
4. Lab Specific Outcome: Use software to develop maps from data acquired from various sources.

Required Materials

Textbook title: Geospatial Concepts: The Fundamentals of Geospatial Science
Edition: Second Edition
Author: Nicholas Malloy and Amy Rock
ISBN: 979-8577591878
*Other required readings will be made available via Canvas

USB flash drive: minimum of 12 GB storage space, but I recommend a 32 GB flash drive to hold all of your lab information as you go from class computers to your personal computer.

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Technical Requirements

To work from home, you will you need reliable internet access (broadband or DSL) and a browser installed on your computer. Should problems with the internet connection arise while working on this course, it is the responsibility of the student to find an alternative internet access point, such as a public library. The **Chrome** browser is the recommended browser for interacting with the course. Note: Cookies and JavaScript must be enabled. Pop-up blockers should be configured to permit new windows from the Geospatial Institute and CR websites. Other browsers, such as Safari, Edge, and Microsoft Explorer are **not recommended for** this course.

If you do not have a personal computer, please refer to the College of the redwoods online support page. Additionally, if your computer is not compatible with the GIS software there is potential virtual lab access. I will announce how to access the virtual lab for those students who require it. The virtual lab has limited space and will be reserved for students who do not have access to a personal computer that is capable of handling course software and materials. ***If you think that you may need access to the CR virtual lab, please sign up using the link provided in Canvas.***

Students working from personal computers that do not need the CR virtual lab are encouraged to install or have access to the following software:

- **ArcGIS Desktop Student Edition** (ArcGIS student licenses are available for all students currently enrolled in a geospatial class.) If your computer is capable of running the software, please download it. College of the Redwoods also has virtual lab access for those that cannot run the software.
- **7-Zip** (7-Zip (Links to an external site.) is a free, open-source file compression/decompression utility) Installing 7zip on Windows 10 (Links to an external site.)
- Microsoft Office (Links to an external site.)
- Adobe Acrobat Reader (Links to an external site.)
- Zoom (Links to an external site.)

Additional requirements if you are using your own computer: (See this link from ESRI)

Operating System	Windows 10, Windows 11, Pro and Enterprise (64 bit)
Processor	2 GHz or higher
Memory	Recommended 32 GB of RAM
Graphics Card	NVIDIA or AMD is required to work properly with some of the ESRI ArcGIS extensions.
Hard Drive Space	60GB free disk space
Plug-ins	Adobe Reader [Download from Adobe]

Additional Software	Java 1.7 or later (https://java.com/en/download/), Adobe Acrobat Reader
Speakers	Required (or headphones)
Monitor	Capable of at least 1024 x 768 resolution

Accessing the Software

Access to software is the responsibility of individual students. If you will be working in the field, or other environment with intermittent internet access, please contact me about other methods for acquiring the requisite course software.

Computers on Campus

There are computers with ArcGIS software available to use in the library on campus. If your computer is not able to run ArcGIS PRO please plan to use the computers available in the library.

Advisory preparation

Experience and competence working with modern computers and navigating external software. Students may struggle to succeed without a basic understanding of computer technology and the internet.

Course information:

Course Format: Each week we will review concepts and labs from the required text. You will typically have a module quiz, a discussion (in class activity or online), and a lab assignment due each week. Please be sure to check the Canvas Modules for the most current due dates.

This semester FNR31 is a 'Hybrid' modality- which includes a synchronous 2.5-hour period and an asynchronous 2.5-hour period each week. My goal is to use our scheduled time together to cover the most important portions of the course, as such, the in-person sessions may vary in format by week. Check Canvas for the asynchronous portion, it will be completed online and may be in the format of flipped lecture, additional reading requirements, videos, or discussion. Always be sure to attend our in-person sessions, as well as complete the asynchronous portion of the class, both are imperative to your success in this course.

The expected workload for CR Courses is calculated at 3 hours per week for each unit in a standard 16-week course. For the combined lecture and lab, this amounts to nine hours per week. This may be more or less hours depending on your learning style and inevitable technical challenges with internet/software etc.

Lab activities: The course activities are designed to reinforce the class material using GIS software and intended to strengthen the concepts in the reading material. Each module has one or more associated lab activity.

Emails: Please reach out whenever you have questions, get stuck, or need to communicate with me directly. When sending an email, please be sure to **label the Subject line as "FNR 31 _additional info_"** to ensure your email gets flagged.

COLLEGE OF THE REDWOODS

Evaluation & Grading Policy

Grading

Type	Percentage of final grade
Lab assignments	40%
In-class activities/ Discussions	10%
Exams & Final Project	25%
Quizzes	20%
Participation/Professionalism	5%
Grand total	**100%**

Grading Scheme

A: 94-100, A-: 90-<94, B+: 87-<90, B: 84-<87, B-: 80-<84, C+: 77-<80, C: 70-<77, D: 60-<70, F: <60

Late/missing work policy: Assignments and quizzes are to be completed and turned in by the date indicated. Please plan ahead, as late assignments will be penalized and lose 5% for each day they are late up. Work submitted 10 or more days past the deadline will receive a 50% deduction. No late work is accepted after 20 days past the due date. If a serious and compelling issue should arise and prevent you from turning in an assignment on time (e.g. death in the family, hospitalization), please contact me in advance and we will work out an alternative plan. Please see me immediately if something in the foreseeable future is approaching. Deadline extensions are granted in the case of a legitimate excused absence, please reach out 48 hours before the deadline for an extension. My goal is to help every student effectively learn and grow in this course, as such, I will remain open and flexible.

Drop Policy: You may be dropped from the class if you miss 3 or more weeks of class participation, discussion, assignments or labs prior to the end of week 10.

Academic Dishonesty: All assignments must be completed individually and should represent your own effort and understanding. Instances where it is clear that work has been shared and copied, or

otherwise derived from other's work, will result in both students receiving a clear warning and a zero on the assignment. A second instance will result in failure of the class and reported to the University.

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 (e.g., 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 (e.g., audio books, 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: dsps@redwoods.edu.

- Eureka: 707-476-4280, Student Services Building, 1st floor
- Del Norte: 707-465-2324, Main Building, near the library
- Klamath-Trinity: 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 (Comprehensive information for online students)
- Library Articles & Databases
- Canvas help and tutorials
- Online Student Handbook
- Online Tutoring Resources

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 KT Office for specific information about student support services at 530-625-4821

COLLEGE OF THE REDWOODS

Admissions deadlines & enrollment policies

Spring 2024 Dates

January 12	Last day to register for classes (day before the first class meeting)
January 13	Classes begin
January 15	Martin Luther King, Jr.'s Birthday Holiday (District-wide closure)
January 19	Last day to add a class
January 26	Last day to drop without a "W" and receive a refund
January 29	Census Date (20% of class)
February 16	Lincoln's Birthday Holiday (District-wide closure)
February 19	President's Day Holiday (District-wide closure)
March 7	Last day to petition to graduate
March 29	Last day for student initiated withdrawal (62.5% of class)
March 29	Last day for faculty initiated withdrawal (62.5% of class)
March 11-16	Spring break (no classes)
April 1	District-wide closure (Cesar Chavez Day) .
May 4-10	Final Examinations
May 10	Last day to file for P/NP Option
May 10	Semester Ends
May 17	Grades due
May 24	Grades available

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. Please let me know your pronoun preference as well so I can be sure to respectfully address you in class!

Canvas Information

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 My CR Portal
For help logging in to Canvas, visit My CR Portal.
For help with Canvas once you're logged in, click on the Help icon on the left menu.
For tech help, email its@redwoods.edu or call 707-476-4160

Canvas online orientation workshop: Canvas Student Orientation Course (instructure.com)

Community College Student Health and Wellness

If you are in distress or are with someone at risk right now, call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255) or TEXT 741-741

Timely Care

When you're feeling under the weather physically or distressed mentally, you can find the help you're looking for in just a few quick taps. Students can schedule an appointment anytime via phone, video, and chat. Visit TimelyCARE here

Mental Health Counseling

Students should text, email, or fax Shawna Bell directly for scheduling and/or services.
Contact info
Text: 707-496-2856
Email: shawnabmft@gmail.com
Fax: 707-237-2318 (voicemail can be left via fax)

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.

Counseling

Counseling & Advising can assist students in need of academic advising and professional counseling services. Visit the Welcome Center in the lower level of the student services building Monday –Friday 9am – 4pm (during the semester, summer hours may vary).

Basic Needs Center

The Basic Needs Center provides for the health and safety of students by providing access to healthy food, financial resources, and referrals to safe and secure housing. Students can submit a request for services and information here.

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

Learning Resource Center

Learning Resource Center includes the following resources for students

- Library Services to promote information literacy and provide organized information resources.
- Multicultural & Diversity Center
- Academic Support Center – offers tutoring and test proctoring for CR students.

- Student Tech Help – provides students with assistance around a variety of tech problems.

EOPS

Extended Opportunity Programs & Services (EOPS)Links to an external site. 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 in Eureka or in Del Norte.

Veterans Resource Center

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.

CalWORKS

CalWORKs – California Work Opportunity & Responsibility to Kids (CalWORKs). 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!

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 CR Police Department-Public Safety 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.

Course Outline and Objectives

Course Objectives

- Understanding the electromagnetic spectrum and its uses in remote sensing technology.
- Learning how to identify and measure features with image interpretation and photogrammetry.
- Design a cartographically correct map.
- Understand GPS technology by collecting, analyzing, and displaying data.
- Learn basic skills in the use of ArcGIS by gathering, loading, analyzing, and interpreting spatial data.

Course Outline for lecture and lab

CONCEPTS: What terms and ideas will students need to understand and be conversant with as they demonstrate course outcomes? 1. Basic features of a cartographically correct map. 2. Understand map projections and the use of various scales to investigate Earth surface features. 3. Understand the the technology of the global navigation satellite systems which include the global positioning system. 4. Determine the correct type of remotely sensed data to use for a particular application (aerial vs. space, true color vs. color-infrared). 5. Develop electronic file management skills to efficiently work with database management and spatial database management systems. THEMES & ISSUES: What motifs, if any, are threaded throughout the course? What primary tensions or problems inherent in the subject matter will students engage? 1. Rectifying positional and spatial data in different projection systems. 2. Disparity in quality of the remotely-sensed data can affect natural resource management. 3. Using technology appropriately for intelligent decision making in natural resources. 4. Using appropriate

colors, visuals, and text to clearly convey information via maps. SKILLS: What abilities must students use to demonstrate course outcomes? (e.g., use a scientific calculator, read college-level texts, safely use power tools, etc.) 1. Use of GPS units to gather data. 2. Transfer and manage positional data with software. 3. Stereoscopy of aerial photographs. 4. Obtaining measurements and interpretations from remotely sensed data. 5. Using a calculator to determine scales and measurements. 6. Use software to access and analyze data. 7. Develop maps and reports. 8. Using the internet to gather spatial data.