



Syllabus for Intro to Remote Sensing

Course Information

Semester & Year: Fall 2022

Course ID & Section #: FNR-33-V3743-2022F

Instructor's name: Ty McCarthy

Day/Time of required meetings: Mondays from 6:00-8:00pm via Zoom

Location: Online

Course units: 3.00

Instructor Contact Information

Office hours: Online – By Appointment Only

Phone number: (209)-454-9600

Email address: luke-mccarthy@redwoods.edu

Catalog Description

An introduction to the interpretation and use of aerial photographs, electronically generated imagery, and remote-sensing data. Students will learn the theory and practice of gathering and examining remote-sensing data, the classification of land areas, and the measurement of ground-based objects from aerial and space derived data.

Course Student Learning Outcomes

1. Discuss theory and application of remote sensing data in natural resource management.
2. Calculate, interpret, and analyze relevant data from aerial and space derived data.
3. Lab Specific Outcome: Develop analyses and maps from remotely sensed data sources.

Course Student Learning Objectives

- Describe the electromagnetic radiation spectrum and how this relates to remote sensing.
- Explain how various surfaces on the Earth's surface absorb, emit, and reflect shortwave and longwave radiation and how that is used in remote sensing.
- Determine how space derived and Earth derived remote sensing data is gathered, rendered, rectified, and displayed.
- Use current technologies to gather, display, manipulate, interpret, and present remotely sensing data (ArcGIS).
- Prepare a relevant cartographically correct map using remote sensing data.
- Know how to gather and apply different remote sensing systems: aerial photography (black and white, color, infrared, and color infrared), multispectral scanners, thermal, and other systems including Radar, and LiDAR systems.

Required Materials

Textbook title: Principles of Remote Sensing – An Introductory Book

Edition: Fourth Edition

Author: Various Authors

ISBN: 978-90-6164-270-1

Textbook title: Remote Sensing with ArcGIS Pro

Edition: Kindle Edition

Author: Tammy E. Parece (Author), John A. McGee (Author), James B. Campbell

ISBN: 9781797570983 1797570986

Prerequisites/co-requisites/ recommended preparation

FNR-31 Introduction to Geospatial Concepts

Technical Requirements

As this is an online course, you already know you need reliable internet access (broadband or DSL) and a browser installed on your computer. If you encounter problems with their internet connection while working on this course, it is their responsibility 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 that 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. The instructor 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 contact the professor during the first week of the course.***

Students working from personal computers that do not need the CR virtual lab are required 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.) YOU MUST EMAIL THE INSTRUCTOR OF THE COURSE WITHIN THE FIRST WEEK OF CLASS TO RECEIVE YOUR PERSONAL ACTIVATION CODE. This is extremely important because currently CR has an extremely limited virtual lab, and students will need to run the ArcGIS software from their personal computers to be able to participate in this course. IT IS REQUIRED.
- **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:

Operating System Windows 7, Windows 8/8.1, 10 or higher

Processor	2 GHz or higher
Memory	8 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

Because of the transition to online instruction, 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 your instructor about other methods for acquiring the requisite course software.

Computers on Campus

Because of the need for social distancing and safety, lab policies and access have changed. Watch for announcements on the canvas course page for updates. There is potential virtual lab access, and the instructor 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 contact the professor during the first week of the course.

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.

Student Support

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.

Evaluation & Grading Policy

Grades

Type	Percentage of final grade
Lab assignments	40%
Discussions	20%
Exams/Final Project	20%
Quizzes	10%
Participation/Professionalism	10%
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

All assignments will be submitted via Canvas by the date indicated on the assignment. Plan, as no excuse will be accepted for late assignments without penalty. This includes, but is not limited to, dogs/cats/humans eating assignments, computer dying, and forgetting to complete the assignment. You may turn in your assignment late up to 4 days late at 10% off per day. After this grace period no late assignments will be accepted.

Exception

You may arrange for an alternate testing environment if you registered with CR to do so. You may turn in assignments late without penalty with an acceptable absence as determined by your instructor. (Death in the family, hospitalization). Please see me immediately if something in the foreseeable future is approaching as well.

MISSING THREE CONSECUTIVE LABS - I reserve the right to drop you from the course if you miss three consecutive labs.

Admissions deadlines & enrollment policies

Fall 2022 Dates

- *Classes begin: 8/20/22*
- *Last day to add a class: 8/26/22*
- *Last day to drop without a W and receive a refund: 9/02/22*
- *Labor Day Holiday (all campuses closed): 09/05/22*
- *Census date: 9/06/22 or 20% into class duration*
- *Last day to petition to file P/NP option: 09/16/22*
- *Last day to petition to graduate or apply for certificate: 10/27/22*
- *Last day for student-initiated W (no refund): 10/28/22*
- *Last day for faculty-initiated W (no refund): 10/28/22*
- *Veteran's Day (all campuses closed): 11/11/22*
- *Fall Break (no classes): 11/21/22 – 11/25/22*
- *Thanksgiving Holiday (all campuses closed): 11/23/22 – 11/25/22*
- *Final examinations: 12/10/22 – 12/16/22*
- *Semester ends: 12/16/22*
- *Grades available for transcript release: approximately 01/06/23*

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](#).

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 \(instructure.com\)](#)

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.

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