



Syllabus for Intro to GIS

Course Information

Semester & Year: Spring 2022

Course ID & Section #: FNR-32-V3115

Instructor's name: Mr. Luke (Ty) McCarthy

Day/Time of optional meetings: W 5:30PM-8:30PM

Location: Online via ConferZoom in Canvas

Course units: 3.00

Instructor Contact Information

Office hours: Online via ConferZoom – Appointments Only

Phone number: (209)-454-9600

Email address: Luke-McCarthy@redwoods.edu

Required Materials

Textbook title: [Essentials of Geographic Information Systems](#)

Edition: Open-source, available online via link above

Author: Campbell/Shin

ISBN: 9781453321966

Other required texts: All other reading assignments will be made available via Canvas

Catalog Description

(GIS). Students will learn the basic theory and application of spatial data and develop skills with computer software to analyze and display locational data. After completion of this course students will be able to answer complex spatial and aspatial questions.

Course Student Learning Outcomes *(from course outline of record)*

1. Explain fundamental GIS concepts, principles, and define technical terms.
2. Acquire, import, reference, and analyze geographic data and communicate findings via maps.
3. Discuss application of GIS techniques to solve natural resource problems.
4. Lab specific outcome: Utilize specific software tools to manage and analyze spatial data and develop map products.

Prerequisites/co-requisites/ recommended preparation

FNR-31 Geospatial Concepts

The students must have a basic grasp of geospatial concepts and relevant software before attempting the FNR-32 course. Ability to understand and apply different map projections. Basic familiarity with ESRI's ArcGIS software. Ability to interpret and apply metadata.

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

During COVID19—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.

CONTINUE



Evaluation & Grading Policy

Grades

| Type | Percentage of final grade |
|--------------------|---------------------------|
| Activities (Labs) | 40% |
| Discussions | 10% |
| Quizzes & Exams | 25% |
| Final Exam | 5% |
| Project | 20% |
| 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

Most assignments will be submitted via Canvas by the date indicated on the assignment. All exams must be completed within 1.5 hours. Final quiz must be completed within two hours. 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

Spring 2021 Dates

| | |
|---|------------------------|
| <i>Flex days</i> | <i>Jan 13 & 14</i> |
| <i>Classes begin</i> | <i>Jan 15</i> |
| <i>District-wide closure (Martin Luther King, Jr.'s Birthday)</i> . | <i>Jan 17</i> |
| <i>Census Day</i> | <i>Jan 31</i> |
| <i>Census Roster Due Date</i> | <i>Feb 7</i> |
| <i>Flex goals for Associate Faculty Due</i> | <i>Feb 10</i> |
| <i>District-wide closure (Lincoln's Birthday)</i> | <i>Feb 18</i> |
| <i>District-wide closure (President's Day)</i> | <i>Feb 21</i> |
| <i>No classes (Spring Break)</i> | <i>Mar 14 – 19</i> |
| <i>Flex forms due for Full Time Faculty</i> | <i>April 29</i> |
| <i>Flex activities due for Associate Faculty</i> | <i>May 6</i> |
| <i>Final exams</i> | <i>May 7 – 13</i> |
| <i>Classes end</i> | <i>May 13</i> |
| <i>Commencement</i> | <i>May 13 & 14</i> |
| <i>Grades Due</i> | <i>May 23</i> |
| <i>District-wide closure (Memorial Day)</i> | <i>May 30</i> |

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 can 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](#).

Policies for this Class

Online Etiquette and Electronic Communication

Communicating online is different than communicating face-to-face because many of the social cues are absent. Communicate with your classmates, as this will help you feel connected to the class, even in an online setting. Online interaction will help increase your motivation and retention and your classmates can offer additional perspectives and suggestions that you may have not otherwise considered. Video (12 min.): [Communication Skills for Online Learning](#) Use extra caution in the way you word things online and be polite and respectful to your classmates and instructor. This is important for avoiding misunderstandings and creating a positive and supportive learning environment.

CONTINUE



Class schedule

Final Project: The final project is due at **6:05 pm Sunday May 8th!** Any projects turned in after that time until 6:05 pm on Wednesday May 11th may receive up to half credit. No credit will be given for projects turned in after Monday May 11th 6:05 pm.

Tentative Schedule (to be changed by the instructor if needed)

| <i>Week</i> | <i>Module</i> | <i>Topic</i> | <i>Text Chapters & Activities</i> | <i>Assignments/Due Dates</i> | |
|-------------|---------------|---|---|--|---------|
| 1 | 1 | Orientation | Campbell/Shin chp.1 | Geospatial Analysis: Review and Self-Assessment due 1/27 | |
| 2 | 1 | Working with Data | C/S chp. 3 | | |
| 3 | 2 | Tables and External Data | Dent/Longley (Canvas) | QAQC/Hygiene/XY data due 2/12 | |
| 4 | 2 | Queries | C/S chp. 6 | | |
| 5 | 2 | Presenting Data | C/S chp. 9 | Queries: SQL/GUI + Spatial due 2/26 | Nate |
| 6 | 3 | Projections, Datum, Spatial Reference | Online Module | Exploring Uncertainty in Datums and Projections Using ArcGIS due 3/5 | |
| 7 | 3 | Error and Uncertainty/Spatial Joins (Exam 1) | Price chp.6 (Canvas) | MIDTERM (Exam 1) | |
| 8 | 4 | Vector Analysis | C/S Chp. 7 | Music II Due 13-Mar | |
| | | SPRING BREAK | SPRING BREAK | SPRING BREAK | |
| 9 | 4 | Creating Spatial Data | Price chp. 12 (Canvas) | Editing/Georeferencing | |
| 10 | 5 | Raster Analysis | C/S chp. 8 | Forest Cover Analysis | Connor |
| 11 | 5 | Terrain Analysis | TBA | Viewshed | Melissa |
| 12 | 6 | Disseminating GIS (Exam 2) | TBA | AGOL/Story Map (Exam 2) | Jeff |
| 13 | 6 | Geocoding/3D Visualization | Shellito (Canvas) – Project Proposal Due | No Lab – Final Project Work | Maria |
| 14 | 7 | GIS + Career | C/S chp.10 | No Lab – Final Project Work | |
| 15 | 7 | Spatial Thinking | Project Presentations | Final Project due 5/9 | |
| 16 | Final | Final Exam | Final Exam | FINAL EXAM | |

Required Hardware and Software

Students working from personal computers that choose not to use the College of the Redwoods machines are required to install or have access to the following software:

- 7-Zip ([7-Zip \(Links to an external site.\)](#)) is a free, open-source file compression/decompression utility)



[Installing 7zip on Windows 10 \(Links to an external site.\)](#)

- ArcGIS Desktop Student Edition (ArcGIS student licenses are available for all students currently enrolled in a geospatial class.) The instructor will provide registered students with activation codes upon request.
- [Microsoft Office \(Links to an external site.\)](#)
- Adobe Acrobat Reader

Additional requirements:

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

Browser The **Chrome** browser is the recommended choice. Note: Cookies and JavaScript must be enabled. Other browsers, such as Safari, Edge, and Microsoft Explorer are **not recommended** for this course.

Plug-ins [Adobe Reader \[Download from Adobe\] \(Links to an external site.\)](#)

Additional Software Microsoft Office (2010 or later). Java 1.7 or later (<https://java.com/en/download/> ([Links to an external site.](#))), [Adobe Acrobat Reader \(Links to an external site.\)](#)

| | |
|----------------------------|--|
| Internet Connection | Broadband (cable or DSL) connection required |
| Speakers | Required |
| Monitor | Capable of at least 1024 x 768 resolution |

Internet Connection

Access to a reliable internet connection is required.

Problems with internet access are not valid excuses for late, missing, or incomplete coursework.

If students 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.

Course Format

Modules

Course modules group together a series of related lessons, activities, assignments, and quizzes. You will see course modules organized this way in the College of the Redwoods Canvas learning management system. **IMPORTANT NOTE: Modules will be unlocked the Sunday before the beginning of the first week of that Module.** See calendar to determine when modules will be unlocked.

Discussion Forums

Peer responses cannot be turned in after the assignment has been graded. Once you have received a grade for a discussion, that assignment is considered closed, and responses added after the assignment has been graded will not be regraded. See the discussion rubrics for specific details.

Lessons/Lectures

Course lessons introduce the concepts behind a selection of applied vector and raster analysis techniques. Other topics are presented in this course include a review of geospatial concepts, data collection methods, and developing a web-based portfolio. Additional topics may be introduced as opportunities or circumstances provide. The lesson's topics are presented using lectures, online reading assignments and videos, with links provided in the College of the Redwoods learning management system.

Activities (Labs and Tutorials)

Course activities are designed to reinforce the class material through a combination of tutorials, software labs, skill drills, and writing assignments. Each module has one or more associated lab or tutorial. These activities are intended to strengthen the reading material. Students should take notes on the main topics and procedures presented during tutorials or labs.

Quizzes

Each module will be concluded with a module quiz that will cover topics learned in tutorials, activities, readings, writing assignments, lessons, and labs.

Writing Assignments

Writing assignments often involves some level of research and reading. Some will require applying what students have learned during tutorial activities (see above). Writing assignments must be turned in as an MS Word document (.docx) file using College of the Redwoods Canvas system. Other file formats, such as .pages, Google docs, or PDFs, will not be accepted for credit. Lab activity reports must be turned in as an MS Word document (.docx) file using College of the Redwoods Canvas system. Other file formats, such as .pages, or Google docs will not be accepted for credit.

Meeting Minimum Word Count Requirements

Most writing assignments require a certain length and will include a minimum word count. The main body text of the document determines the word count calculation. Extra elements, such as a title page, name, date, headers, footers, a table of contents, bibliography, etc., do not count towards the final word count calculation. The instructor will make the final determination when calculating the word count for writing assignment submissions.

Writing assignments that do not meet the minimum word count will receive a 0 grade.

Students may be tempted to submit assignments that do not meet the minimum word count or present work that barely addresses the requirements by a narrow margin. By not meeting the requirements or by skimming the bottom edge of the word count, students risk not receiving credit for their work. To remedy this, students should always expand upon their thoughts and ideas to exceed the minimum by a large safety margin.

Final Exam and the Final Project cannot be turned in late.

Deadline extensions will only be granted in the event of legitimate excused absences. An excused absence means that you have a) notified me in advance and received confirmation from me that your notice has been accepted or b) provided a written medical excuse. You must still decide to take the test, and my willingness to be flexible improves with the amount of advance notice I receive. Plan your travel and personal events around your schoolwork, not vice versa. Failure to be aware of exam dates because of class absence does not constitute an excuse – any changes will be posted on Canvas.

All late work must be submitted by the Friday before final exams. No late work will be accepted after 11:55 pm on this day.

Student Work Samples

Below are some work samples completed by previous students. Reviewing work samples helps students to understand the scope, length, and quality of work related to written assignments.

Note: The examples below are not intended to represent the specific requirements or instructions. Requirements may change over time. Always refer to the instructions in Canvas when determining the requirements for any assignment.

- [Mapping Noise Pollution Data Using GPS 01 \(Links to an external site.\)](#)
- [Mapping Noise Pollution Data Using GPS 02 \(Links to an external site.\)](#)
- [Mapping Food Desserts in Southern California Counties \(Links to an external site.\)](#)
- [Food Deserts in Southern California \(Links to an external site.\)](#)

Final Project

The purpose of the final project is to synthesize the information learned in this course and demonstrate your skill in cartographic design. Students will carry out an original mapping project that may be focused on one or more geospatial sciences, including Cartography, Mobile Mapping, Remote Sensing, or GIS.

Visit the following page for more information: [FNR 32 Final Project Description](#)

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://www.redwoods.edu/online/Help-Student>

Canvas online orientation workshop: <https://www.redwoods.edu/online/Home/Student-Resources/Canvas-Resources>

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.

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