UVU UTAH VALLEY UNIVERSITY™

Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Course Prefix: GEOG
Course Title: Introduction to GIS

Year: 2025
Course and Section #: 3600-002
Credits: 4

Course Description

Geographic Information Systems (GIS) technology has broad applications in the natural and social sciences. This course introduces major concepts and applications in GIS. GIS is a system for management, manipulation, analysis, and display of geographic information. In this course you will learn about spatial information, digital data, and how GIS is used to represent features, examine relationships, and display information. Much of class time will be devoted to learning how to navigate GIS software and analyzing data.

Course Attributes

This course has the following attributes:
☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☒ Elective Core Requirements in Program
☒ Open Elective
Other: *Click here to enter text.*

Instructor Information

Instructor Name: Dr. Matthew Olson

Student Learning Outcomes

Upon successful completion of this course, students will be able to:
- Describe the major concepts and applications of Geographic Information Systems (GIS).
- Use GIS software to solve spatial problems.
- Use GIS to address applied problems/research questions.
- Analyze data using GIS software.
- Troubleshoot to independently resolve GIS software problems.
- Create maps that effectively convey data and intended messages.

Course Materials and Texts

1. GIS Fundamentals: A First Text on GIS, Seventh Edition. Paul Bolstad and Steven Manson
2. Getting to Know ArcGIS Pro 3.2., Law and Collins

3. ArcGIS Online License

Course Requirements

Course Assignments, Assessments, and Grading Policy

Map Mastery (10%): Several map design assignments will help students build a Final Portfolio, showcasing a selection of maps by the end of the semester. Students will also provide two Map of the Week presentations.

Labs (30%): Students will complete 10 standard labs from Getting to Know ArcGIS Pro, covering standard workflows and techniques in the industry-leading standard GIS software.

Activities, Quizzes, and Participation (20%): A variety of assignments will build critical thinking and problem-solving using GIS, including in-class tasks and group activities. Regular reading quizzes and attendance will also contribute to the final score

Exam (15%): Students will complete one written and one practical exam.

Class Project (25%): The final course deliverable will be an original GIS project, presented in a Story Map format. Students will present their story map at the end of the course.

Required or Recommended Reading Assignments

Getting to Know ArcGIS Pro 3.2: Chapters 1-10

Bolstad and Manson text: Chapters 1-11

See Canvas modules for specific weekly reading assignments

General Description of the Subject Matter of Each Lecture or Discussion

1. Introduction to GIS
2. Data Models
3. 3D Data on a 2D Surface
4. Geospatial Relationships
5. Managing Digital Data
6. Workflows and Lying with Maps
7. Incorporating GPS/GNSS
8. Spatial Analysis I
9. Spatial and Temporal Relationships
10. Raster Analysis and Modules
11. Exams
12. Aerial and Satellite Imagery
13. Project Work and Building a Story Map
14. Project Work
15. Project Work

Required Course Syllabus Statements

Generative AI

Generative AI tools present new ways to brainstorm, fine-tune, and add additional information to your work. These programs are not meant to replace you or your effort when completing a course. Using AI responsibly is important for the modern student and human. Ultimately you are responsible for your assignment submissions in this course and should use personal knowledge, critical thinking, and good judgement with the aid of resources (such as generative AI) to complete assignments. Student work submitted with the help of an AI query should be explicitly stated. No more than 25% of the work can be generated by AI.

Using Remote Testing Software

☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities
Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity
At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: *Student Code of Conduct*](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation
UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.
To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.