

ENVR / GEOG 215: Introduction to Mapping and GIS

Instructor:	Dr. Drew Gower	Term:	Spring Semester 2025
Lecture Day/Time:	TTh 9:55am to 11:10am	Lecture Location:	MSB 220
Email:	drew.gower@fmarion.edu	Cell:	864-420-3318 ¹
Office Hours:	TTh 11:30am to 1:30pm	Office Location:	MSB 301A

Course Description

Maps are a common feature of modern life. They can be found in bus stations, classrooms, hotel lobbies, car dashboards, and even your phone. Maps are also powerful tools in their ability to impose a particular interpretation of the physical world on a whoever interacts with them. Depending on the intention and skills of the mapmaker, a map may be used to instruct, direct, mislead, or even subjugate others. For these reasons, proficiency with geographic information systems - digital tools that allow users to manipulate and visualize spatial data - has become a sought-after skill among employers in many fields. Students in this course will learn fundamental mapping concepts and gain hands-on experience working with ArcGIS, one of the most popular GIS platforms.

Learning Objectives

At the end of the semester, students should be able to:

- Understand basic GIS terminology and concepts
- Interpret map features, scales, coordinate systems, and projections
- Describe the different data models used in GIS
- Load, project, and display data in ArcGIS Pro
- Conduct common spatial analysis operations in ArcGIS Pro
- Write clear, thorough, and appropriately-formatted project reports

Textbook

We will be using an online, open-source textbook in this course: **Essentials of Geographical Information Systems** by Jonathan Campbell and Michael Shin. I may occasionally post supplemental readings to Blackboard as well. In these cases, I will alert you to their presence and the date by which I expect you to review them.

Grading

Your course grades will be the weighted average of your grades on three midterm exams and a final exam (30%), three project reports (45%), and participation (25%). I will then assign letter grades based on the following ranges:

Letter Grade	Percentage Range
A	90 to 100%
B ⁺	87 to 89%
B	80 to 86%
C ⁺	77 to 79%
C	70 to 76%
D ⁺	67 to 69%
D	60 to 66%
F	below 60%

¹Please use sparingly, no texting

Exams

All exam questions will multiple choice, matching, or true/false. The first three exams will only cover material since the previous exam, while the final exam will cover material from the entire course. Exams will be given during regular class time, and must be completed on the assigned day. Exceptions will only be made with proper documentation (e.g. doctor's excuse). I will drop your lowest exam grade, either one of the midterms or the final.

Project Reports

We will work through three in-class projects over the course of the semester. At the conclusion of the project, you will submit a report summarizing your work and findings on Blackboard. I will describe my expectations and evaluation criteria for these reports in a document available on Blackboard.

Participation

Attendance is required in this course. I will take attendance at the beginning of each class and note down your participation in class discussion and activities. These two components will form the basis for your participation grade. To have an absence excused, you must have a valid reason and inform me ahead of time or the same day at the latest.

Extra Credit

You may turn in one two-page, single-spaced summary and evaluation of a scientific article for extra credit worth up to an additional 2% on your final grade. The article should be published in a peer-reviewed journal, relevant to the topic of G.I.S or remote sensing, and approved by me ahead of time. You may hand in your review any time before the beginning of our last class period, Monday April 21st.

Cell Phones

I do not allow cell phone use during class time. If you need to have your phone on for some reason (say you are responsible for a family member), please set it to vibrate and take any relevant calls outside the classroom. You may use a laptop or tablet for notetaking or to complete assignments but you will need a pen or pencil to take exams.

Accommodations

I am happy to make accommodations for students with special needs. Please notify me of your needs as soon as possible and provide documentation from the Office of Counseling and Testing.

Academic Dishonesty

I take acts of academic dishonesty (as defined in the University student handbook) very seriously. The first violation of the academic integrity policy will result in a grade of 0 on the item in question. You will also be reported to the appropriate university office. University policy is that a second violation will result in suspension from the University for a term of no less than one fall or spring semester while a third offense will result in permanent expulsion from the University.

Tentative Course Outline²

Date	Topics	Readings	Due
01/07	Course Introduction	Syllabus	
01/09	Spatial Thinking	E.G.I.S. Ch. 1	
01/14	What is a Map Anyway?	E.G.I.S. Ch. 2	
01/16	Coordinate Systems & Projections		
01/21	Data & Metadata	E.G.I.S. Ch. 3	
01/23	No class: Snow Day		
01/28	Exam 1		
01/30	Raster & Vector Data Models	E.G.I.S. Ch. 4	
02/04	Satellite Imagery		
02/06	Geospatial Data Management	E.G.I.S. Ch. 5	
02/11	Exam 2		
02/13	File Types & Data Characteristics	E.G.I.S. Ch. 6	
02/18	Vector Operations	E.G.I.S. Ch. 7	
02/20	Raster Operations	E.G.I.S. Ch. 8	
02/25	Cartographic Principles	E.G.I.S. Ch. 9	
02/27	Exam 3		
03/04	ArcGIS Pro Visualization Tutorial		
03/06	ArcGIS Pro Layout Tutorial		
03/11	No class: Spring Break		
03/13	No class: Spring Break		
03/18	Climate Change Project		
03/20	Climate Change Project		
03/25	Climate Change Project		
03/27	Climate Change Project		
04/01	Internet Cafe Project		
04/03	Internet Cafe Project		Climate Change Project Report
04/08	Internet Cafe Project		
04/10	Fire Tower Project		
04/15	Fire Tower Project		Internet Cafe Project Report
04/17	Fire Tower Project		
04/24	Final Exam, 3:00pm		Fire Tower Project Report

²Subject to change according to instructor discretion