THE OHIO STATE UNIVERSITY

GEOG 2200

Spatial Literacy: Visualizing our World through Mapping Space & Place (26144) Autumn 2026

Syllabus - Instructor Information

Tammy Parece

Professional Qualifications

- BS in Interdisciplinary Studies (Virginia Commonwealth University)
- Graduate Certificate in GIS (Virginia Commonwealth University)
- MS in Geography (Virginia Tech)
- PhD in Geospatial and Environmental Analysis (Virginia Tech).
- She has been teaching since 2004 (at Universities since 2011).

Syllabus - Required or Recommended Readings

1. Manson, Steven. Mapping, Society, and Technology. University of Minnesota Libraries Publishing. This is an open access educational resource and there is a link in Carmen Canvas to the book.
2. Fang. Y., V. Shandas & E.A. Cordero. Spatial Thinking in Planning Practice: An Introduction to GIS. Available as an open-source book in Carmen Canvas.
3. Watts, Valerie. Introduction to Statistics: An Excel-Based Approach. Available as an open-source book in Carmen Canvas.

Syllabus - Course Schedule

Topics covered in this class

Week	Topics Covered	
1	Introduction to Course, Geospatial Technologies and Cartography	
2	AI Discussion	
3	Scale, Coordinate Systems & Projections	
4	Thematic Maps	
5	GNSS & Observational Data	
6	Modified Area Unit Problem	
7	Exam	
8	Descriptive Statistics	
9	Probability, Distributions, Central Limit Theorem, Z Test	
10	Hypothesis Testing, T Test	

Week	Topics Covered	
11	Hypothesis Testing continued	
12 & 13	Correlation, Interpolation, Density Analysis	
14 - 16	Final Lab Work Time	

Course Details - Instructor Contact Details

email: parece.1@osu.edu

Office Location: Derby Hall Room 1189 (westside of the building, across the hall from the elevator)

If you are ill or have symptoms, please do not visit us in our offices, please email us and we can set up a zoom link for your participation during our office hours. To request an appointment outside of the above times, please send both the instructor and the TA an email with your availability up to a week ahead.

Course Details - Office Hours

Dr. Parece Office Hours:

Open Office Hours (no appointment needed)

- Tuesday 11 - Noon
- Wednesday 2 - 3 p.m.

- Friday 9 - 10 a.m.

I am available for meetings in person or via zoom, during this time or, upon request and my availability, outside of those hours.

Please email and include GEOG 2200 - Appointment request. Include several options for your availability. We will arrange to meet at our earliest convenience (including through zoom).

Excuses, emergencies (including, but not limited to personal/family health, military service, jury duty, employment, homelessness) that interfere with your ability to complete coursework/assignments: please email us as soon as you can.

Discussion boards: You can generally expect a reply to Q&A posts within 48 hours on business days. Although you might receive replies outside of those hours, please do not expect this. The determination of urgency is ultimately at the discretion of the instructor. If you wait until the day an assignment is due to post a question, a reply by the due date is not guaranteed.

Course Details - Class Meeting Details

Class Meeting Details: 10:20 AM-11:15 AM - Derby Hall 140 - MWF

Course Details - Course Description

This course introduces students to the power of maps in spatial representation and spatial literacy through the creation of thematic maps and analysis of descriptive statistics, probabilities, and hypothesis testing. students will utilize geographic information technology to create a variety of thematic maps which aid in critically evaluating issues present in our global society. Prereq: Not open to students with credit for 2200.01.

Course Details - More About This Course

General education approved course

This course provides 3-credits of the required 4-6 credits in the General Education Theme: Lived Environments. For those students who are following the New General Education curriculum, Geography 2200 is an approved course in the GEN Theme: Lived Environments category.

GE Goals:

- Goal 1: Successful students will analyze an important topic or idea at a more advanced and in-depth level than the foundations. In this context, “advanced” refers to courses that are e.g., synthetic, rely on research or cutting-edge findings, or deeply engage with the subject matter, among other possibilities.
- Goal 2: Successful students will integrate approaches to the theme by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.
- Goal 3: Successful students will explore a range of perspectives on the interactions and impacts between humans and one or more types of environment (e.g. agricultural, built, cultural, economic, intellectual, natural) in which humans live.
- Goal 4: Successful students will analyze a variety of perceptions, representations and/or discourses about environments and humans within them.

GE Expected Learning Outcomes:

- ELO 1.1 Engage in critical and logical thinking.
- ELO 1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or ideas within this theme.
- ELO 2.1 Identify, describe, and synthesize approaches or experiences.

- ELO 2.2 Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts.
- ELO 3.1 Engage with the complexity and uncertainty of human-environment interactions.
- ELO 3.2 Describe examples of human interaction with and impact on environmental change and transformation over time and across space.
- ELO 4.1 Analyze how humans' interactions with their environments shape or have shaped attitudes, beliefs, values and behaviors.
- ELO 4.2 Describe how humans perceive and represent the environments with which they interact.
- ELO 4.3 Analyze and critique conventions, theories, and ideologies that influence discourses around environments.

This course enables you (the student) an opportunity to explore the two-way interactions between humans and their different environments (built, cultural, economic, and natural). You will gather, present, and interpret data in the context of the space that humans occupy and use through mapping and statistical analyses.

Legacy General education: data analysis

This course meets the requirements of the Legacy General Education category Data Analysis. The intent of the Data Analysis GE is to enable students to deal with problems of data gathering, presentation, and interpretation. Students should develop an understanding of problems of measurement, be able to deal critically with numerical and graphical arguments, gain an understanding of the impact of statistical ideas in daily life and specific areas of study, and recognize the uses and misuses of statistics and related quantitative arguments.

GE Goals for Data Analysis: Students develop skills in drawing conclusions and critically evaluating results based on data.

Expected Learning Outcomes: Students understand basic concepts of statistics and probability, comprehend methods needed to analyze and

critically evaluate statistical arguments, and recognize the importance of statistical ideas.

This course meets these goals and objectives by exposing students to the problems of data gathering, presentation, and interpretation, in the context of spatial, statistical maps.

Course Details - Course Learning Outcomes

Upon successful completion of this course, students should be able to:

1. employ basic methods of spatial data-gathering, presentation, and interpretation;
2. interpret map symbology in order to analyze and critically evaluate the spatial structure of and relationships among spatial phenomena;
3. interpret and use basic statistical concepts, including descriptive statistics (mean, mode, median, range, standard deviation and variance), inferential statistics (probability and hypothesis testing), and spatial statistics (spatial correlation, hot spots, and interpolation);
4. apply statistical methods to explain spatial patterns on maps; and
5. evaluate the impact of spatial data sampling, uncertainty and scale on map use.

Course Details - Course Supplies

Access to the following Software:

- Excel
- Word Processing
- QGIS
- ArcGIS Online

All listed software is available to all students at The Ohio State University without an additional charge.

Course Details - Detailed Course Schedule

Detailed Course Schedule with Learning Objectives

Week	Topics and Readings	GE Themed Goals/Objectives
1	Introduction to Course and Geospatial technologies & Introduction to Cartography Friday: Introduction to Lab 1 Required Readings: Household Food Security in the US, 2022 Manson, Chapter 1.	ELO 1.1 Goal Statement: Students will define GIS and Cartography. Students explain how these technologies assist in identifying, explaining, and analyzing the different environments that people live in and utilize.
2	Monday: AI Lecture & Assignment Wednesday: Scale & Coordinate Systems Friday: Lab time Lab 1: Detroit Schools Required Reading: Manson Chapters 2 & 3	ELO 1.1 Goal Statement: Students will explain the complexities involved when measuring the Earth and then mapping location and demonstrate how the decisions made when creating maps can alter mapping results.

Week	Topics and Readings	GE Themed Goals/Objectives
3	Monday: Labor Day, No Class Wednesday: Projections Friday: Lab Time – Lab 2 Lab 2: Wind Farm Suitability Analysis Required Reading: Manson Chapters 1 - 3	ELO 1.1 Goal Statement: Students will explain the complexities involved when measuring the Earth and then mapping location and demonstrate how the decisions made when creating maps can alter mapping results.ELO 1.1, ELO 1.2, ELO 2.1, ELO 2.2, ELO 3.1 Goal Statement: Students demonstrate the ability to read thematic maps, identify missing elements, identify when a map is being misread, and critique how the theme of the map represents the environment for the people in that place.

Week	Topics and Readings	GE Themed Goals/Objectives
4	Monday: Thematic Map types, variables, and measurements Wednesday – Thematic Map exercise Friday – Lab 2: Wind Farm Suitability Analysis Manson Chapters 4 through 7	ELO 1.1 Engage in critical and logical thinking. Goal Statement: Students locate locations for a new wind farm, describe the environment for the location, and explain how it will support people living within this region.
5	Monday: Lecture GPS, observational data. Wednesday Group Formation for Lab 3 Friday – Data Collection Time for Lab 3 – must check in to the classroom first. Required Reading: Manson: pages 28 – 39, Fang, et al. Chapter 4	

Week	Topics and Readings	GE Themed Goals/Objectives
6	Monday: Modified Area Unit Problem Wednesday & Friday: Lab 3 Manson Pages 20 – 25, additional website readings are in Carmen Canvas.	ELO 1.1 & ELO 3.1 Goal Statement: Students demonstrate the ability to work in a group and execute a group assignment within the confines of the university environment.
7	Monday – Exam review Wednesday: Mapping Exam in-class Friday: Start Lab 4, Earthquake Probabilities	ELO 1.1 & ELO 3.1 Goal Statement: Students select, identify, and map related places on OSU Campus, compare the locations to each other, and defend their choices by explaining the value of the locations to other OSU students.

Week	Topics and Readings	GE Themed Goals/Objectives
8	Monday: Descriptive Statistics Wednesday: Descriptive Statistics Practice Problems Friday: Fall Break, no class Lab 4: Earthquake Probabilities Readings: Watts, Sections 1.1 through 1.4 and Sections 2.1 through 2.4	ELO 1.1, ELO 1.2, ELO 2.1, ELO 2.2, ELO 3.1 Goal Statement: Students will differentiate between different descriptive statistics, execute their use, and interpret the varying results when using different statistical measures.
9	Monday: Quiz on Descriptive Statistics Probability, Distributions, Central Limit theorem Friday: Probability Practice Problems Reading: Watts Chapter 3	ELO 1.1 & ELO 2.1 Goal Statement: Students will discuss how statistical variables help identify different living conditions between types of environments

Week	Topics and Readings	GE Themed Goals/Objectives
10	Monday: Hypothesis testing, gathering data, testing hypotheses Wednesday: Quiz on Probability, Z Table & Hypothesis Formation Friday: Lab time - Lab 5: Health Disparities in US Metropolitan Regions Readings: Watts Chapter 8, Sections 8.1 through 8.7	ELO 1.1, ELO 1.2, ELO 2.1, ELO 3.1 Goal Statement: Students appraise how inferential statistics can predict/explain outcomes/impacts for different peoples. Students solve statistical equations to examine the impact of a natural disaster on people and the environments that they use.
11	Monday: Hypothesis testing examples 2nd AI assignment Friday: Lab time Readings: Watts, Chapter 12, Sections 12.1 through 12.4	ELO 1.1 & ELO 2.1 Goal Statement: Students compare and contrast different spatial correlation/autocorrelation methods and results. Students will distinguish how the methods provide information on the environment in which people live.

Week	Topics and Readings	GE Themed Goals/Objectives
12 & 13	Monday: Correlation, Interpolation & Density Analysis Wednesday: Veteran's Day - no class Friday: Final Stats Quiz: T table, Correlation, Density & Interpolation Lab 6: Analyzing Patterns of Traffic Crashes & Volumes around Public Schools	ELO 1.1, ELO 1.2, ELO 2.1, ELO 2.2. & ELO 3.1 Goal Statement: Students construct maps using statistical interpolation to explain traffic patterns in an urban environment and determine the relationship to vehicle/bicycle/pedestrian accidents in public school zones. Students investigate the patterns to recommend changes to local authorities to prevent future accidents in these locales.

Week	Topics and Readings	GE Themed Goals/Objectives
14 - 16	Final Lab Work Time	All ELOs Final Project Goal Statement: Students will synthesize the knowledge gained over the semester through analyzing data over time. Students formulate a hypothesis and defend their hypothesis utilizing results from data analysis and ancillary information.

Course Details - Canvas Assignment Schedule

Date	Name	Assignment Type	Points
	Q&A About General Course Matters	Discussion	0
9/5/26	AI Assignment 1	Quiz	5
9/5/26	Lab 1 Detroit Schools	Assignment	100

Date	Name	Assignment Type	Points
9/20/26	Assignment 2 Wind Farm Suitability Analysis	Assignment	100
10/4/26	Lab Assignment 3 Telling a Story about OSU	Assignment	100
10/7/26	Exam 1 - Mapping	Quiz	50
10/19/26	Statistics Quiz 1	Quiz	20
10/25/26	Assignment 4 Earthquakes Dashboard	Assignment	100
10/28/26	Statistics Quiz 2	Quiz	20
11/7/26	AI Assignment 2	Quiz	7
11/8/26	Assignment 5 US Health Disparities between Urban/Suburban	Assignment	100

Date	Name	Assignment Type	Points
11/13/26	Statistics Quiz 3	Quiz	20
11/21/26	Assignment 6 Analyzing Patterns of Traffic Crashes and Volume	Assignment	100
12/10/26	Lab 7 Comparative Analysis for Franklin County, Ohio	Assignment	100

Course Details - Grading Policy

Breakdown of Assignments

Assignment Category	Percent of Final Grade
Lab 1	5%
Lab 2	10%
Lab 3	10%
Lab 4	15%
Lab 5	15%
Lab 6	5%
Lab 7	15%
Total of all Lab Assignments	75%
AI Assignments (2)	5%

Assignment Category	Percent of Final Grade
Mapping Exam	10%
Statistics Quizzes (3)	10%
Total	100%

Instructor feedback and response time

Grades and feedback

You can generally expect grades and feedback to be returned within 1 week once the assignment's deadline has passed, depending on the complexity of the assignment. If you have questions about your grade, you must address them to Dr. Parece within 48 hours of posting of that grade. For quizzes that are automatically graded, answers will be posted after the due date and available for 1 week only.

Course Details - Grading Scale

Grading scale:

This course adheres to The Ohio State University Grading Scale

- 92.5–100: A
- 90.0–92.49: A-
- 86.5–89.99: B+
- 82.5–86.49: B
- 80.0–82.49: B-
- 76.5–79.99: C+
- 72.5–76.49: C
- 70.0 –72.49: C-
- 66.5 –69.99: D+
- 60.0 –66.49: D
- Below 59.99: E

Note – I do not round up. An 89.99 does not round up to a 90%. If you want an A/A-, then you must achieve 90% or better.

Course Details - Instructor Policies

LATE WORK POLICY

Due to the rapid nature of this course, late submissions for any assignments are not accepted. Accommodation for religious holidays will be considered. A request must be submitted prior to any assignment due date that conflicts with such holidays. Please provide information on the holiday and its date and the number of days requested in the extension.

Additionally, in case of personal and family emergencies, please notify me as soon as possible so that we can work out a submission timeline. Extensions are not granted after the fact, e.g., you can't ask for an extension on an assignment that was due two weeks before or wait until the end of the semester to submit assignments you missed.

To request an extension for one of these emergency conditions, you must put the request in writing to Dr. Parece and the email must contain the following information:

- Course Name and Code (GEOG 2200)
- Reason for the extension request:
- The specific assignment:
- Specific extension requested:
- Attach documentation of the reason for the extension

Any emails requesting extensions without this information will be returned with a request to provide this information. Such extensions may or may not be granted, it is decided on a case-by-case basis.

Course Academic Integrity Policy

Turnitin (https://www.turnitin.com/Links to an external site.) is a plagiarism and AI verification platform. This check is set to automatically review any written documents submitted in an assignment folder. Please note that any assignments with a score of 25% or more may result in reporting a code of conduct violation to OSU's Committee on Academic Misconduct

(please see the Academic Integrity Policy below). Please note that when you use quotes or repeat the assignment instructions within a written report, it increases the Turnitin and AI score. Avoid these when at all possible.

To maintain a culture of integrity and respect, generative AI tools should not be used in the completion of course assignments, quizzes, discussion posts, and exams unless specifically authorized by Dr. Parece.

Course Details - AI Use Policy

Study Assistance Only

GenAI can fabricate information (for example, creating citations to sources that do not exist) or omit key information. You are ultimately responsible for the accuracy and integrity of your submitted work. Unless explicitly permitted below, representing AI-generated content as your own work is a violation of the Code of Student Conduct. Please check with your instructor if you have questions.

These levels may apply to the entire course or specific assignments, as indicated by the instructor:

- Permitted: You may use GenAI as a virtual tutor to explain concepts, quiz you on course topics, or summarize content you have personally authored (e.g., your own class notes).

- Prohibited: The materials in this course may be subject to copyright protection. Do not input or allow AI to access external or instructor-created course materials (e.g., assigned readings, slides) without explicit instructor permission. Do not use GenAI to outline, draft, translate, or write any part of an assignment this includes quizzes, maps, exams and discussion posts.

Syllabus - University Policies

Office of Undergraduate Education - Standard Syllabus Statements

- Academic Misconduct
- Religious Accommodations
- Accommodations for Disability and Illness
- Intellectual Diversity
- Grievances and Solving Problems
- Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct
- Copyrights
- Content Warnings
- Mental Health Support
- Resources for Military-Connected Students
- Campus-wide Class Cancellations