THE OHIO STATE UNIVERSITY

Department of Geography

SYLLABUS - GEOG 5200
Cartography & Map Design

Course overview

3 Credit Hours, Spring 2026
Lecture –Online
Lab Sections: Derby Hall 0135, W or F 9:35 – 10:55 a.m.
Lab – MGIST Students (online)

Instructor and Teaching Assistant (TA)

Primary instructor: Dr. Tammy E. Parece
Email: parece.1@osu.edu Office Location: Derby Hall 1189

Dr. Parece holds a BS in Interdisciplinary Studies, a Graduate Certificate in GIS, an MS in Geography, and a PhD in Geospatial and Environmental Analysis.

Open Office hours: Monday and Wednesday 2 – 3 p.m., Tuesdays 1 - 2 p.m. in person. Please watch the announcements area in Canvas for any changes related to office hours.

You can generally expect a reply to e-mails within **48 hours on school days.**

TA: See Carmen Canvas for details

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

Course description

A study of the cartographic techniques of map compilation and design including generalization, symbolization, reproduction, and GIS-based mapping with an emphasis on thematic mapping.

Course Learning Outcomes

By the end of this course, students should successfully be able to:

- Explain the relevance of cartography in the present day.
- Tailor a cartographic representation according to purpose, audience, and medium.
- Differentiate between types of maps, especially thematic map forms.
- Prepare geospatial data and corresponding text and visuals for cartographic representation.

- Demonstrate familiarity with coordinate systems and projections, making appropriate choices based on scale, location, and extent.
- Communicate geospatial information using evidence-based cartographic principles.
- Critically examine cartographic presentations for strengths and weaknesses, providing specific suggestions for improvement.

How This Course Works

Mode of delivery

All learning materials will be uploaded onto Carmen Canvas. Additional components:

- General lectures – pre-recorded and online
- Labs – in-person Wednesdays or Fridays (attendance is taken)
- Exams and Online Discussion Posts
- Office hours in-person with Teams option.

Credit hours and work expectations

This is a 3-credit-hour course. According to Ohio State policy, an average student should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Do not expect to complete entire lab assignments during the scheduled lab time. Lab sessions are 80 minutes, and it takes longer than 80 minutes to complete a lab. Therefore, you will need to either 1) finish the lab using software installed on your own computer, or 2) return to the computer lab when it is not being used for other classes.

Course materials

- All required reading materials are available with direct links in Carmen Canvas
- Optional reading materials/videos are also on Canvas.

Course technology

For help with your password, university e-mail, Carmen, Buckeye Pass authorization, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Support for urgent issues is available 24x7.

Baseline technical skills required

- Computer Literacy
- Navigating Carmen: see the Canvas Student Guide.

IMPORTANT: The next two sections indicate equipment and software that you must be able to access to complete lab assignments for this course. You have access to these items in Derby 0135.

Hardware

- Computer: available in Derby Hall 0135. You may use your own PC if it is compatible with the software

- USB Drive
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

Software

You are NOT required to purchase any software for this class. You will use a word processing program, a spreadsheet program, Adobe Reader, QGIS, and ArcGIS Suite of Programs. If you need assistance with installing ArcGIS Pro on your PC, do not contact IT, contact Dr. Parece. Geography has a GIS Administrator.

Computer Lab Access

BuckID access is required for DH 0135. The instructor and/or TA will be present during scheduled class times. You will need to use your BuckID outside of normal class times. Derby Hall doors are locked on the weekends and after 7 p.m. on scheduled class days. If you are the last person to exit the computer lab, please be sure that the door to the lab closes behind you.

Assignment information

Failure to follow the instructions on any assignment will result in a grade reduction for that specific answer (it might result in an incorrect answer). Any assignment includes quizzes, labs, and the final project. Examples include: the directions state round to 1 decimal place, and you give no decimal points or provide 2 or more.

2 Exams (10% each for a total of 20%)

Each exam will be…

- *Available for more than 1 day.* You may take the exam any time during the week it is open. Late exams are not accepted.
- *Timed* at 55 minutes. The timer starts to run as soon as you open the exam. If you wait and open it 30 minutes before it is due, the exam will close and submit at the due date time. Exception on time (but not due date) – SLDS registered extended time accommodations.
- *Open-note* - lecture slides, handouts, your notes, the textbook, etc. No assistance from another student, the instructor, or the TA. You cannot copy and paste any answers from any medium nor can you use AI to complete the exam. Such actions can result in academic misconduct report.
- *Completed independently*. You should complete the exam by yourself. Collaboration with one or more other persons is considered academic misconduct.
- *Allowed only one attempt*. The exam must be completed in one sitting.
- Do your best to ensure that you have a reliable internet connection and a reliable device (desktop, laptop, tablet, or phone) for accessing the exam *before* you get started.
- Exams are cumulative.
- If it is learned/discovered that AI was used for any portion of an exam, by any one or more students, the exams will be given in-person during lab/recitation sessions only.

Graded Discussions (5% of total grade)

You have four required discussion posts.

- 1st Post: Introductions – introduce yourself to the class and post replies to other students. Find

something in common with others, you may find a study partner. (1% of grade)
- 2nd Post – Datums, Projections and Coordinate Systems (1% of grade)
- 3rd Post - Thematic Maps (1% of grade)
- 4th Post - Practical Applications of GIS (2% of grade)

Labs (60% of total grade)

You will have 9 lab assignments. Remember that completing any lab may not go as smoothly, plan for unexpected challenges. Set a goal to submit each lab before the deadline. Some labs are written documents; some are submitted in a quiz-like format. These are not timed quizzes, just a mechanism to easily submit your answers. Some questions are graded automatically, and some require manual grading. Read the Carmen Canvas instructions carefully for the deliverables

Lab assignments can be submitted as many times as you want up to the due date and time. Resubmissions (or redos) after the due date to get a better grade are not accepted. Again, please do not place any comments in Carmen on a graded assignment. Carmen does not provide notice when such comments are placed.

Final Project (15% of total grade)

You have a final project. No late submissions. Watch due dates – there are 2 for the final project -- a proposal and a project. You create and design a series of maps for a tourism brochure. More information about the project is available on Carmen. No late submissions are accepted.

Attendance

Attendance will be taken for all in-person sessions.

Late assignments

Late submissions for any assignments are not accepted in this course.

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, the specific assignment, and the number of days requested in the extension.

In case of personal and family emergencies, please notify us as soon as possible so that we can work out a submission timeline. Such extensions may or may not be granted, it is decided on a case-by-case basis. Extensions are not granted after the fact, e.g., you cannot 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 (cc the TA) and the email must address the reason for the extension, the specific assignment and the number of days requested.

Grading

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: 89.99 does not round up to 90%. For an A/A-, you must achieve 90% or better.

Incompletes:

If an emergency prevents you from finishing a course, you may request an "Incomplete" from the instructor. (https://advising.osu.edu/grades-and-grade-forgiveness)

Grade Breakdown

Assignment category	Percentage
Labs	60
Final Project	15
Exams (2)	20
Discussion Participation (5 discussion posts)	05
Total	100

Grades and feedback

You can expect grades and feedback to be returned within 1 week once the assignment 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 the posting of that grade. For quizzes that are automatically graded, answers will be posted after the due date and available for 1 week only.

Do not post comments in Carmen on an assignment after the due date and after grades have been completed. We do not get any type of notice from Carmen when you post such a comment. These comments should be sent to Dr. Parece via email.

Course Academic Integrity Policy

Turnitin is enabled for all written assignments. Please note that any assignments with significant scores may result in reporting a code of conduct violation to OSU's Committee on Academic Misconduct.

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

Use of any other course materials/assignments in this class must be previously approved by both Dr. Parece and the instructor for the other course.

Instructor feedback and response time

Discussion board Q&A

There are two additional discussion boards for course questions. One is for general questions, and the other is for questions on Lab Assignments. You can expect a reply to these Q&A posts within **48 hours during normal business hours**. 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/TA. If you wait until the day an assignment is due to post a question, we cannot guarantee an immediate reply.

Student participation requirements

The following is a summary of student's expected participation:

- All work in this class must be your own. There are no joint assignment submissions for this class for any assignment!
- *In-person attendance at labs/recitation is strongly recommended, attendance is taken*.
- Logging in: Be sure you are logging in to the course in Carmen each week. During most weeks you will log in many times. If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible.*
- Confidential Questions: Don't post questions online that may indicate answers to graded assignments and questions regarding your own grades. The former is an academic integrity concern, and the latter is a privacy concern.

Discussion and communication guidelines

The following are expectations for how we should communicate as a class. Please remember to be respectful and thoughtful.

- **Writing style**: When writing lab reports, you need to write these as if you were writing a formal essay. Use good grammar, spelling, and punctuation.
- **Tone and civility**: Maintain a supportive learning community where everyone feels safe and people can disagree amicably. Sarcasm is not appropriate in the classroom or in emails.
- **Citing your sources**: Please cite your sources. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link as part of the correct and full citation. Not citing sources can result in a violation of The Ohio State University academic integrity policies.

OTHER COURSE AND UNIVERSITY POLICIES

Academic Misconduct:

Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-48.7 (B)). For additional information, see the Code of Student Conduct | Ohio State (osu.edu).

Disability Services:

This course follows restrictions according to the University Disability Services policies. **Disability Services (osu.edu).**

Religious Accommodations:

This course follows the University religious accommodations policy. See information under assignments and for more information on the University's policy, go to**: Religious Holidays, Holy Days and**

Observances | Office of Academic Affairs, The Ohio State University (osu.edu).

Mental Health Statement:

The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 **by dialing 988 to reach the Suicide and Crisis Lifeline**.

University Statement on Title IX:

http://titleix.osu.edu

Inclement Weather:

Should in-person classes be canceled by the University, we will be available during lab times via CarmenZoom Please be sure to check announcements in CarmenCanvas for updates.

Course Schedule – on the following pages

Disclaimer: This course syllabus provides a general plan for the course; deviations may be necessary. Any changes that affect the entire class will be announced by the instructor with as much advance notice as possible.

Week & Dates	Topics and Assignments	Weekly Learning Objectives
Week 1 January 11 - 17	Introduction to Course, Cartography & GIS Lab 1 Getting started with ArcGIS Pro due 1/20 Introductory discussion posts due 1/23	Compare and contrast cartography with geographic information systems
Week 2 January 18 - 24	Datums, Coordinate Systems & Projections Lab 2 Coordinate Systems and Projections due 1/30	Interpret and discuss different datums, coordinate systems and projections
Week 3 January 25 - 31	Mapping Concepts: Types of Maps, Scale, Qualitative vs Quantitative Data Discrete vs. Continuous Data Lab 3 Cartographic Creations due 2/13	Differentiate between types of scale in maps Identify data as qualitative or quantitative Identify different map types Describe thematic maps
Week 4 February 1 - 7	The Language of Maps & Map Elements Lab 3 Cartographic Creations due 2/13	Identify all map elements Demonstrate different scenarios where different map elements map or may not be required
Week 5 February 8 – 14	Types of Data, continued Locating Secondary Data Lab 4 Types of Data due 2/24 (2 components)	Differentiate between various types of data Identify specific data as discrete or continuous Locate data that can be used in a GIS
Week 6 February 15 – 21	Exam 1 due Monday, 2/23	
Week 7 February 22 - 28	Ethics in Mapping, Statistics in Mapping Datum, Projection & Coordinate System Discussion Post due 3/2 Lab 5 Downloading & using secondary data due 3/6	Describe ethics and identify ethical principles Demonstrate the use of ethics in the cartographic process Differentiate between methods of displaying descriptive statistics in maps
Week 8 March 1 - 7	Cartographic Design & Text and Typography Lab 5 Downloading & using secondary data due 3/6	Describe the communication process in the design of maps Recognize characteristics of successful maps. Explain visual and written hierarchy as it pertains to maps. Utilize guidelines for lettering to differentiate good/poor lettering choices.
Week 9 March 8 - 14	Color Thematic Maps – Choropleth Lab 6 Ethics due 3/24	Differentiate between color models. Identify the most appropriate color scheme for types of data (qualitative vs quantitative)
Spring Break March 15 - 21		

Week 10 March 22 - 28	Thematic Map Types – Cartogram, Dot Density, Proportional Symbols, Flow Lab 6 Ethics due 3/24 Lab 7 Introduction to QGIS due 3/31 Final Project Proposal due 4/1	Identify appropriate/inappropriate data for a specific type of thematic map. Recognize proper symbolization of enumeration units in a specific type of thematic map. Identify appropriate visual variables for bivariate and multivariate maps.
Week 11 March 29 – April 4	3D, Animated & Web Cartography; Scholarly Research Final Project Proposal due 4/1 Thematic Maps Discussion Post due 4/3 Lab 8 Creating a Multivariate Thematic Map due 4/10	Demonstrate how the mapping process changes when completing online maps
Week 12 April 5 - 11	Exam 2 due Monday, 4/13 Lab 9 Earthquakes Dashboard due 4/17	Demonstrate the use of constructing an online Dashboard that provides information on real time data
Week 13 April 12 - 18	Practical Applications Lab 9 Earthquakes Dashboard due 4/17 Practical Applications Discussion Post due 4/21	Identify and describe specific situations where GIS is used to help solve real world situations
Weeks 14, 15 & 16 April 19 – May 5	Practical Applications Discussion Post due 4/21 Final Project Work time Last day of classes 4/27 Final Projects are due 5/1	Demonstrate the ability to apply all GIS and cartographic techniques learned in this class