



# SYLLABUS

## GEOG 5200 Cartography & Map Design

3 Credit Hours

Lecture –Online

Lab Sections: Derby Hall 0135, W or F 8 – 9:20 a.m.

### Course overview

#### Instructor and Teaching Assistant (TA)

Primary instructor: Dr. Tammy E. Parece

Email: [parece.1@osu.edu](mailto:parece.1@osu.edu)

Office Location: Derby Hall 1189

Open Office hours: Monday & Tuesday 1 – 2 p.m.; Friday 10 – 11 a.m.

Zoom by appointment only.

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

Teaching Assistants: Brian Rakoczy, [rakoczy.4@osu.edu](mailto:rakoczy.4@osu.edu) – 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 zoom 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 on Carmen Canvas. Additional components:

- General lectures – online
- Labs – Wednesdays or Fridays
- Office hours in-person or zoom – see above.

**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

- Required Textbook: Anthamatten, Peter. 2021. How to Make Maps: An Introduction to Theory and Practice of Cartography. Routledge Publisher
- Additional required reading materials/videos will be provided within Canvas.

## Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** [8help@osu.edu](mailto:8help@osu.edu)
- **TDD:** 614-688-8743

## Baseline technical skills

- Basic computer and web-browsing skills
- Navigating Carmen: see the [Canvas Student Guide](#).
- [CarmenZoom virtual meetings](#)

*IMPORTANT: The next two sections indicate equipment and software that you must be able to access to complete lab assignments for this course. You can access these items in Derby 0135, but if you install the software on your own computer, you can finish lab assignments at home. Also, you can bring to lab meetings a laptop with the software already installed; this will provide a consistent working environment. However, ArcGIS Pro does not work on Mac Computers*

## Hardware

- Computer: current PC (Windows 7+) with high-speed internet connection. Please note that ArcGIS Pro only works on Windows PCs
- USB Drive
- Webcam: built-in or external webcam, fully installed and tested
- Microphone: built-in laptop or tablet mic or external microphone
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

## Software

Please remember you are NOT required to purchase any software for this class. You will use a word processing program, a spreadsheet program, Adobe reader and GIS. Please see the Carmen/Canvas document regarding access to these programs.

## Carmen Access

You will need to use [BuckeyePass](#) multi-factor authentication to access your courses in Carmen. To ensure that you can connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](#) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](#) to all of your registered devices for the ability to generate one-time codes.

If none of these options meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

## Computer Lab Access

BuckID access is required to 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. BuckID access is granted by request. Please email the following information to your instructor and TA to get access:

Your Name and .#:

Course Name:

The number from your BuckID:

We will forward the email to the correct party for granting access. During the first few weeks of the semester, access is not given until after the drop/add date.

## Grading scale

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

Note – I do not round up. An 89.99 does not round up to 90%. If you want 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>)

## Grades and feedback

You can expect grades and feedback to be returned within 1 week once the assignment's deadline has passed, depending on the complexity of the assignment.

## Grading

Assignment or category	Percentage
Labs	55
Project	15
Exams	24
Discussion Participation (5 discussion posts)	06
<b>Total</b>	<b>100</b>

## Assignment information

Failure to follow the instructions on any assignment will result in at least a 10% grade reduction for that specific answer (it might result in an incorrect answer). Any assignment includes exams, labs, and the final project. As examples, if the directions state you need to round to 1 decimal place and you give no decimal points or provide 2 or more; instructions state a screenshot of your login area, and you provide a screenshot of the entire ArcGIS Pro window.

### 2 Exams (12% of total grade each for a total of 24%)

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.* Exams are 55 minutes. This means the timer starts to run as soon as you open the exam. However, if you wait and open it 30 minutes before it is due, the exam will close and submit at the due date time. If you are registered with SLDS for extended time accommodations, please confirm that time has been granted before you begin the exam.
- *Open-note.* You can use the lecture slides, the handouts, your notes, the textbook, etc. But this does not mean you can get 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 an 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.
- 2<sup>nd</sup> exam is cumulative.

### **Discussions (6% of total grade)**

You have five required discussion posts.

- 1<sup>st</sup> 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)
- 2<sup>nd</sup> Post about Datums (1% of grade)
- 3<sup>rd</sup> Post about Projections (1% of grade)
- 4<sup>th</sup> Post about Thematic Maps (1% of grade)
- 5<sup>th</sup> Post is Practical Applications of GIS (2% of grade)

### **Final Project (15% of total grade)**

You will 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.

### **Labs (55% of total grade)**

You will have multiple 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.

## **Late assignments**

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

You have 1 chance to extend your deadline for 1 calendar day during the semester, applied to your chosen lab assignment. No permission is required, use this opportunity wisely, it can only be used once.

Accommodations 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 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 contain the following information:

Course Name and Code (GEOG 5200 Cartography and Map Design)

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.

### **Attendance**

Attendance is not taken in this class.

### **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.

### **Course Academic Integrity Policy**

Turnitin (<https://www.turnitin.com/>) 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 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.*

## **Participation, discussions, and notifications**

### **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 on any assignment!
- *In-person attendance at labs is strongly recommended.*

- Participating in discussion forums: see requirements above.
- Logging in: Be sure you are logging in to the course in Carmen each week. During most weeks you will probably 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:** While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. (Note: Excessive grammar, spelling, or punctuation errors in discussions or any other assignment submissions will be penalized at the discretion of the instructor/TA.) A more conversational tone is fine for non-academic topics.
- **Tone and civility:** Maintain a supportive learning community where everyone feels safe, and people can disagree amicably. Remember that sarcasm doesn't always come across online. Be respectful to other students, the TAs and the instructor. Treat others as you would want yourself treated.
- **Citing your sources:** When we have academic discussions, please cite your sources. This is especially true when creating maps as you are using someone's data.
- **Backing up your work:** Backing up your work is good practice in any class, but especially with complex computer software such as a GIS. It is necessary if you are working in a shared computer lab as the data or your project could be deleted at anytime by the university.

## Managing notifications

### How can I manage notifications about course activity?

You can tailor your notifications by going to Account > Notifications. You can choose Email and/or Push notifications. You can choose what types of activity you want to follow.

If you are not receiving notifications of discussion board activity, you may need to subscribe to the discussion board itself. Open the discussion board and click Subscribe (near top right). Alternatively, make a reply, and you will be automatically subscribed.

If you want email notifications but you're not getting any at all, regardless of activating email notifications, then you may need to go Account > Settings and verify your email address.

## OTHER COURSE AND UNIVERSITY POLICIES

### Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. 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 \(osu.edu\)](#).

Turnitin has been enabled for the lab and final paper submissions (<https://www.turnitin.com/>). Turnitin is a plagiarism and AI verification platform. This check is set to automatically review your paper when you submit it on Canvas. Please note that any assignments with significant scores may result in reporting a code of conduct violation to OSU's Committee on Academic Misconduct. Please note that when you use quotes or repeat the assignment instructions within your written report, it increases the Turnitin and AI score. Avoid these when at all possible. Use of generative AI tools is prohibited in this course.

*There has been a significant increase in the popularity and availability of a variety of generative artificial intelligence (AI) tools, including ChatGPT, Sudowrite and others. These tools will help shape the future of work, research and technology but when used in the wrong way, they can stand in conflict with academic integrity at Ohio State.*

*All students have important obligations under the [Code of Student Conduct](#) to complete all academic and scholarly activities with fairness and honesty. Our professional students also have the responsibility to uphold the professional and ethical standards found in their respective academic honor codes. Specifically, students are not to use unauthorized assistance in the laboratory, on field work, in scholarship or on a course assignment unless such assistance has been authorized specifically by the course instructor. In addition, students are not to submit their work without acknowledging any word-for-word use and/or paraphrasing of writing, ideas or other work that is not your own. These requirements apply to all students undergraduate, graduate, and professional.*

*To maintain a culture of integrity and respect, these generative AI tools should not be used in the completion of course assignments unless an instructor for a given course specifically authorizes their use. Some instructors may approve of using generative AI tools in the academic setting for specific goals. However, these tools should be used only with the explicit and clear permission of each individual instructor, and then only in the ways allowed by the instructor.*

## **Disability Services**

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.



If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; or [Disability Services \(osu.edu\)](https://disabilityservices.osu.edu).

## **Religious Accommodations**

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the **Office of Institutional Equity**. (Policy: [Religious Holidays, Holy Days and Observances | Office of Academic Affairs, The Ohio State University \(osu.edu\)](#)).

## **Mental Health Statement**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. 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](http://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.

### **Statement on Title IX**

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator at [titleix@osu.edu](mailto:titleix@osu.edu).

### **Diversity and Inclusion**

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, *race, religion, sex, sexual orientation, or veteran status, is prohibited.*

### **Inclement Weather**

Should in-person classes be canceled, 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.

## Course Schedule

Week & Dates	Topics and Assignments	Weekly Learning Objectives
Week 1 Chapters 1 & 11 January 6 - 11	Introduction to Course, Cartography & GIS Lab 1 Getting started with ArcGIS Pro due 1/14 Introductory discussion posts due 1/15	Compare and contrast cartography with geographic information systems
Week 2 Chapter 5 January 12 - 18	Datums, Coordinate Systems & Projections Lab 2 Coordinate Systems and Projections due 1/23 Datum Discussion Post due 1/22	Interpret and discuss different datums, coordinate systems and projections
Week 3 Chapter 2 January 19 - 25  No school Monday, 1/20	Mapping Concepts: Types of Maps, Scale, Qualitative vs Quantitative Data Discrete vs. Continuous Data Lab 3 Cartographic Creations due 2/4	Differentiate between types of scale in maps Identify data as qualitative or quantitative Identify different map types Describe thematic maps
Week 4 Chapter 3 January 26 – February 1	The Language of Maps & Map Elements Lab 3 Cartographic Creations due 2/4	Identify all map elements Demonstrate different scenarios where different map elements map or may not be required
Week 5 Chapter 10 February 2 - 8	Types of Data, continued Locating Secondary Data Lab 4 Types of Data due 2/14 (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 9 - 15	Exam 1 due by noon on Monday, 2/17	
Week 7 February 16 - 22	Ethics in Mapping, Statistics in Mapping Projections Discussion Post due 2/21 Lab 5 Downloading & using secondary data due 2/28	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 Chapters 4 & 6 February 23 – March 1	Cartographic Design & Text and Typography Lab 5 Downloading & using secondary data due 2/28	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 Chapters 7 & pages 204 - 210 March 2 - 8	Color Thematic Maps – Choropleth Lab 6 Ethics due 3/18	Differentiate between color models. Identify the most appropriate color scheme for types of data (qualitative vs quantitative)
Spring Break March 9 - 15		

Week 10 March 16 - 22	Thematic Map Types – Cartogram, Dot Density, Proportional Symbols, Flow Lab 7 Introduction to QGIS due 3/25	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 Chapters 8 & 9 March 23 - 29	3D, Animated & Web Cartography; Scholarly Research Lab 8 Creating a Multivariate Thematic Map due 4/3 Thematic Maps Discussion Post due 4/1	Demonstrate how the mapping process changes when completing online maps
Week 12 Chapter 12 March 30 – April 5	Project Proposal due 4/4 Exam 2 due by Noon on Monday, 4/7 Lab 9 Earthquakes Dashboard due 4/11	Demonstrate the use of constructing an online Dashboard that provides information on real time data
Week 13 April 6 - 12	Practical Applications Practical Applications Discussion Post due 4/15	Identify and describe specific situations where GIS is used to help solve real world situations
Week 14, 15 & 16 April 13 - 29	Final Project Work time Last Day of class 4/21 Final Projects are due 4/25	Demonstrate the ability to apply all GIS and cartographic techniques learned in this class