



Syllabus Autumn 2024

GEOG 5201: Geovisualizations

Course Overview

Class Information

- **Course times and location:**
 - Lecture /Lab: **Tuesday & Thursday, 11:10 AM – 12:30 PM**, Derby Hall 0135
- **Credit hours:** 3.0
- **Mode of delivery:** In-person

Instructor

- **Name:** Dr. Chayanika Singh
- **Email:** singh.1883@osu.edu
- **Office location:** 1123 Derby Hall
- **Office hours:**
 - **Thursday 1:00 pm – 2:00 pm** (in-person) or
 - Zoom by appointment (send me an email for setting zoom meeting)
- **Preferred means of communication:**
 - My preferred method of communication for questions is **email**. Please have the email subject as “**Geog5201_.....**”, to make sure it gets my attention.
 - My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your [notification preferences](https://go.osu.edu/canvas-notifications) (go.osu.edu/canvas-notifications) to be sure you receive these messages.

Teaching Assistant

- **Name:** Damon Mullen
- **Email:** mullen.289@osu.edu
- **Office location:** 1145 Derby Hall
- **Office hours:** **Tuesday 10:00-11:00 AM** in-person or via Zoom. All meetings are by appointment.



Course Prerequisites

GEOG 5200/5200S Cartography and Map Design

Course Description

This is a topic-oriented course focusing on the examination of concepts, techniques, issues, and applications in Geovisualizations. Six major topics will be discussed in this course:

- Bivariate mapping
- Multivariate mapping
- Visualizing uncertainty
- 3D visualization
- Map animation
- Web mapping

The course is divided into weekly modules based on the above topics. **Classes (lectures and labs) will be held in-person** at the scheduled time. Approximately half of the course will be lectures introducing concepts and theories of Geovisualizations. The rest of the course will provide hands-on experience as labs on interactive mapping and visualization of geographic data with ArcGIS Pro and other software.

Credit Hours and Work Expectations

This is a 3 credit-hour course. According to [Ohio State bylaws on instruction](https://go.osu.edu/credit-hours) (go.osu.edu/credit hours), students should expect around 3 hours per week 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.

Alternative to in-person class instructions

Should an in-person classes be canceled (due to any reason such as extreme weather, sickness etc.), I will notify you as to which alternative methods (**remote teaching, recorded video or homework assignment**) of teaching will be offered to ensure continuity of instruction for this class. Communication will be via Carmen Canvas.



Course Materials and Technologies

Required Materials

Textbook:

Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. H. (2014). *Thematic Cartography and Geovisualization, 3rd Edition*. Pearson. Available in pdf format on Carmen website.

Other reading material (such as readings/articles) will be uploaded on Carmen Canvas..

Data Storage: A portable memory device (with 16GB or larger) or access to cloud drive (Box, OneDrive, Dropbox etc.) is needed for data storage.

Required Equipment

Computer: current Mac (MacOS) or PC (Windows 10) with high-speed internet connection

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

If you do not have access to the technology you need to succeed in this class, review options for technology and internet access at go.osu.edu/student-tech-access.

Required Software

ArcGIS Pro

- Please refer to associated installation documents on Carmen for details ([Getting Started with ArcGIS Pro](#)). Privacy policies of Esri products can be found [here](#). System requirements of the ArcGIS Pro can be found [here](#).

ArcGIS Online

- Please refer to associated installation documents on Carmen for details ([Getting Started with ArcGIS Online](#)). Privacy policies of Esri products can be found [here](#). There is no specific system requirement for ArcGIS Online and you can use it as long as you have a web browser.

Microsoft Office 365

- All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad®, and Android™), and five phones.
- Office 365 is installed within the student's BuckeyeMail account. Full instructions for downloading and installation can be found [here](#).



Have Question regarding software installation?

- **Post your questions in the Software Installation Q&A discussion board BEFORE reaching out to the other technical support resources provided.**
- There are many installation-related questions that we can answer because they are common. We may have heard them in past semesters and already know how to respond. However, if we are unable to help, we'll let you know that, and we'll confirm which technical support contact is most appropriate for your problem. Be sure to include us on your email communication with technical support so that we can better understand your problem and help others experiencing the same.

Remote Lab Access

If you have any trouble with downloading, installing, or using the required software (see details in next section) on your own machine, you may access the computers in the Derby Hall 0135 and 0140 computer labs via remotelab.osu.edu.

- Instructions for using Remote Lab can be found at the course website in Carmen.
- Important: It is best if you can download, install, and use the required software (see details in next section) on your own machine, rather than via Remote Lab, because there are a limited number of computers available remotely, so please only use this option of absolutely needed.
- Email **Jens Blegvad** at belgvad.1@osu.edu for Remote Lab technical support.

Carmen Canvas Access

You will need to use [BuckeyePass](http://buckeyepass.osu.edu) (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you do each of the following:

Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](http://go.osu.edu/add-device) (go.osu.edu/add-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.

[Install the Duo Mobile application](http://go.osu.edu/install-duo) (go.osu.edu/install-duo) on all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

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

Technology Skills Needed for This Course

Basic computer and web-browsing skills

[Navigating CarmenCanvas](http://go.osu.edu/canvasstudent) (go.osu.edu/canvasstudent)

[CarmenZoom virtual meetings](http://go.osu.edu/zoom-meetings) (go.osu.edu/zoom-meetings)



[Recording a slide presentation with audio narration and recording, editing and uploading video](https://go.osu.edu/video-assignment-guide) (go.osu.edu/video-assignment-guide)

Technology Support

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

- **Self Service and Chat:** go.osu.edu/it
- **Phone:** [614-688-4357 \(HELP\)](tel:614-688-4357)
- **Email:** servicedesk@osu.edu



Grading and Faculty Response

Your Grades will be calculated based on the following assignment weightage.

Assignment Category	Point %
Syllabus quiz	1%
Labs (9)	45%
Readings (5)	15%
Exam	20%
Project	19%
Total	100%
Attendance (Extra credits)	5%

Descriptions of Major Course Assignments

Syllabus Quiz

The first class will be a detailed explanation of course expectations, policies, deliverables, schedule of classes etc. You are expected to read the syllabus before and after the class to get yourself familiar with all the requirements in this course. It is highly encouraged to be prepared to ask questions about course content in the very first lecture. There will be a syllabus quiz to be taken after the first class to make sure you know the syllabus.

Labs

All the labs in this course require you to work on ESRI ArcPro software. Some of you may not be very familiar with the software because either you may not have taken any GIS courses in recent past or have used other versions of GIS software (such as ArcMap, QGIS etc). To brush up your Arc Pro skills, there is a mandatory refresher ESRI web-course to be completed by you. More information will be provided in the first lab class.

There will be 9 labs during this class, and each lab will have an assignment. For each assignment, you will need to answer several questions and may be asked to upload your maps. Assignment questions will be provided to you in advance at the end of each lab's instruction. The lab may consist of both guided and unguided exercises. More information will be provided by your lab TA in the first lab meeting.

Lab questions: If you have any questions on lab contents and/or grades (can't finish specific steps, tools are not working, etc.), **please contact your TA via email.**



Reading Assignment

There will be various assigned readings (articles/ papers/ web content) focusing on the five main topics (bi/multivariate maps, 3D, Animation, Uncertainty, and Web mapping). Reading material will be available on Carmen Canvas in the specific week of related lecture topic.

For each topic, you need to write a reflection paper including two tasks:

- 1) read the assigned readings and write a reflection of your understanding from the content, and
- 2) find an additional paper/article from web, related to the topic which motivates you to use similar technique for your own project and write a brief note.

Project

You would need to create a final project to showcase your skills learnt in lab and knowledge acquired from the lectures. You can choose topic of your own interest. Deliverable will include a proposal, a presentation, and a report. More information will be provided later in class.

Exam

There will be only ONE Final Exam based on all the topics discussed in the lecture. Exam will be:

- *Online.* administered using course canvas website.
- *Timed.* If you are registered with SLDS for extended time accommodations, please confirm that extended time has been granted before you begin the exam.
- *Open note.* This means that you can use the lecture slides, your notes, the textbook, etc.
- *Completed independently.* You should complete the exam by yourself. Collaboration with one or more other persons will be considered academic misconduct.
- *Allowed only one attempt.* Be sure that you are ready to complete the exam in one sitting before you begin.

No make-up exams will be given unless legitimate documents for medical or personal emergency are presented **in advance**. Exam must be taken at the scheduled time unless you have informed your instructor *before* the exam with proper reasons and documents and got approved by the instructor. **Please contact your instructor in advance of the scheduled exam to schedule a make-up exam**, except in the case of emergency. Make-up exams for excused absences will not be penalized. Make-up exams for unexcused absences will be penalized 15%.

Q: What happens if I lose internet connection while taking the Exam?

A: If you lose connection momentarily, you should be able to resume the exam. If you lose connection for longer than the exam is available, the exam will automatically submit with the time is up.

- *Tip 1:* If you have a smartphone with a web browser, you should be able to use your cellular network (even if the WiFi connection is unavailable) to log in to Carmen on your cell phone's web browser and resume the exam, as long as the time isn't up. It's not ideal



since you probably won't be able to access any notes efficiently, but at least you can still access the exam and enter answers.

- *Tip 2:* To make your internet connection a little more stable, make sure nothing is streaming like video or online games. If you have roommates that are watching Netflix or gaming, you might want to ask them to take a break while you take your exam so that your WiFi access can be prioritized.

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. If you do completely lose access, cannot resume, and the exam submits before you can reestablish connection and submit answers, be sure to let me know. There may not be much that I can do, in the interest of fairness to all students, but I certainly want to hear about the situation to investigate it, etc.

Attendance

Attendance (in lectures and labs) will be recorded at all class meetings. Presence during classes help students to understand and work in a coherent way. Our prior experience shows that those students who regularly show up in the lectures & labs learn more from their peers and instructors than those who prefer to work/study on their own (skipping class attendance). To encourage class presence and productivity, **attendance is made worth up to 5% of EXTRA CREDITS** counted towards the final grades in this course. However, 2 unexcused absences are allowed to cover any emergency or unexpected event that may prevent you coming to the labs. **In case of any health emergency such as COVID19 related absences, please make sure to inform your Lab TA and me as soon as possible to get special arrangements as per policies.** Documented proof may be required to get your attendance excused.

Late Assignments

Please refer to Carmen for due dates. Assignments will be **penalized 10% for each day late**. Thus, **assignments submitted 10 days after the deadline will be graded 0. Extensions will not be granted due to lost work;** be sure you back up and keep all your work.

Instructor Feedback and Response Time

I am providing the following list to give you an idea of my intended availability throughout the course. Remember that you can call [614-688-4357 \(HELP\)](tel:614-688-4357) at any time if you have a technical problem.

Preferred contact method: If you have a question, please contact me first through my Ohio State email address. I usually reply to emails within **24 to 48 hours on school days**. If you do not get a response within 2 days, you should send a follow up email. To make sure your email does not go in my junk folder, **start the subject line as "GEOG_5201"**.



Class announcements: I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check [your notification preferences](https://go.osu.edu/canvas-notifications) (go.osu.edu/canvas-notifications) to ensure you receive these messages.

Discussion board: I will check and reply to messages in the discussion boards periodically.

Carmen Inbox: if you send me an email via carmen inbox, it does not automatically send notification to my email. So, be patient if you are waiting for my reply on carmen inbox (I might not have seen it) or better send me an email on OSU email id.

Grading and feedback: For assignments submitted before the due date, I will try to provide feedback and grades within **14 days after the due date**. Assignments submitted after the due date may have reduced feedback, and grades may take longer to be posted.

Grading Scale

93–100: A

90–92.9: A-

87–89.9: B+

83–86.9: B

80–82.9: B-

77–79.9: C+

73–76.9: C

70–72.9: C-

67–69.9: D+

60–66.9: D

Below 60: E

Academic integrity and collaboration: Your written assignments, including discussion posts, should be your own original work. In formal assignments, you should follow APA style to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in but no one else should revise or rewrite your work.



Other Course Policies

Discussion and Communication Guidelines

The following are my expectations for how we should communicate as a class. Above all, 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. A more conversational tone is fine for non-academic topics.

Tone and civility: Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online. I will provide specific guidance for discussions on controversial or personal topics.

Citing your sources: When we have academic discussions, please cite your sources to back up what you say. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.

Backing up your work: Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Synchronous sessions: During our Zoom sessions I ask you to use your real name and a clear photo of your face in your Carmen profile. During our full-group lecture time, you may turn your camera off if you choose. When in breakout rooms or other small-group discussions, having cameras and mics on as often as possible will help you get the most out of activities. You are always welcome to use the [free, Ohio State-themed virtual backgrounds](https://go.osu.edu/zoom-backgrounds) (go.osu.edu/zoom-backgrounds). Remember that Zoom and the Zoom chat are our classroom space where respectful interactions are expected.]

Academic Integrity Policy

See [Descriptions of Major Course Assignments](#) for specific guidelines about collaboration and academic integrity in the context of this class.

Ohio State's Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the university's [Code of Student Conduct](https://studentconduct.osu.edu) (studentconduct.osu.edu), and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the university's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."



The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the university or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the university's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by university rules to report my suspicions to the Committee on Academic Misconduct. (Note that "warnings" are not given due to an offense being one's first offense, due to ignorance of what constitutes academic misconduct, or due to any other circumstances.). If COAM determines that you have violated the university's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the university.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

[Committee on Academic Misconduct](http://go.osu.edu/coam) (go.osu.edu/coam)

[Ten Suggestions for Preserving Academic Integrity](http://go.osu.edu/ten-suggestions) (go.osu.edu/ten-suggestions)

[Eight Cardinal Rules of Academic Integrity](http://go.osu.edu/cardinal-rules) (go.osu.edu/cardinal-rules)

Collaboration for the purposes of troubleshooting is highly encouraged in this course, but everyone is expected to complete all assignment tasks themselves and submit their own unique work. With this in mind, here are some examples of acceptable and unacceptable behavior:

• **Acceptable:**

- o Asking a classmate how to resolve an unexpected error message, how to find a hidden setting in the software, or similar troubleshooting tasks.
- o Participating in a study group study the course material.
- o Asking a trusted person to proofread (without revising or rewriting) your assignments before you turn them in.

• **Unacceptable:**

- o Using another student's work (in part or in full) as your own.
- o Sharing files and/or using shared files that contain intermediate or final results.
- o Submitting the same work (even if modified) from a past semester or from another course.
- o Comparing and/or sharing answers before submitting a graded assignment.
- o Forgetting to cite sources, including the course materials, websites visited, etc.

There are many other acceptable/unacceptable actions than those exemplified here, so if you have any questions or concerns about acceptable/unacceptable actions or what constitutes academic misconduct in this course, ask your instructor for clarification/permission.



Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on title IX

All students and employees at Ohio State have the right to work and learn in an environment free from harassment and discrimination based on sex or gender, and the university can arrange interim measures, provide support resources, and explain investigation options, including referral to confidential resources.

If you or someone you know has been harassed or discriminated against based on your sex or gender, including sexual harassment, sexual assault, relationship violence, stalking, or sexual exploitation, you may find information about your rights and options at titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu. Title IX is part of the Office of Institutional Equity (OIE) at Ohio State, which responds to all bias-motivated incidents of harassment and discrimination, such as race, religion, national origin and disability.

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.

The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Statement on diversity

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.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity: Online at equity.osu.edu, or email at equity@osu.edu



Your Mental Health

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. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, [on-demand mental health resources](https://go.osu.edu/ccsondemand) (go.osu.edu/ccsondemand) are available. You can reach an on-call counselor when CCS is closed at [614- 292-5766](tel:614-292-5766). **24-hour emergency help** is available through the [National Suicide Prevention Lifeline website](https://www.suicideline.org) (suicideline.org) or by calling [1-800-273-8255\(TALK\)](tel:1-800-273-8255). [The Ohio State Wellness app](https://go.osu.edu/wellnessapp) (go.osu.edu/wellnessapp) is also a great resource.

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. 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. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Religious Accommodations

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system about examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit [odi.osu.edu/religious accommodations](https://odi.osu.edu/religious-accommodations).



Course Weekly Schedule:

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

		TR 11:10 am - 12:30 pm		
		Geo-visualization		
Week		5201		Due @11am
1	8/20/2024 T	Overview		
	8/22/2024 R	Cartograohy Basics		syllabus quiz
2	8/27/2024 T	Lab 1: getting started		
	8/29/2024 R	Bi-Multivariate		
3	9/3/2024 T	Lab 2: bi-variate		Lab 1
	9/5/2024 R	Readings & Project overview		
4	9/10/2024 T	Lab 3: multi-variate		Lab 2
	9/12/2024 R	Uncertainty		Readings 1
5	9/17/2024 T	Lab 4: uncertainty		Lab 3
	9/19/2024 R	Uncertainty cont. + data sources		
6	9/24/2024 T	Lab 4 cont.		
	9/26/2024 R	3D visualization		Readings 2
7	10/1/2024 T	Lab 5:3D (Raster)		Lab 4
	10/3/2024 R	3D cont. + proposal help		
8	10/8/2024 T	Lab 5/6		
	10/10/2024 R	No class (Autumn Break)		
9	10/15/2024 T	Lab 6: 3D (Vector)		Lab 5
	10/17/2024 R	Map Animations		Readings 3
10	10/22/2024 T	Lab 7: Animation (Vector)		Lab 6
	10/24/2024 R	Animation cont.+ Proposal due		
11	10/29/2024 T	Lab 8: Animations (Raster)		Lab 7
	10/31/2024 R	Web mapping		Readings 4
12	11/5/2024 T	Lab 9: Story Maps		Lab 8
	11/7/2024 R	Review & prep time		
13	11/12/2024 T	Lab 9 cont.		Readings 5
	11/14/2024 R	EXAM (online)		
14	11/19/2024 T	Open lab for project help		Lab 9
	11/21/2024 R	Open time for project help		
15	11/26/2024 T	Project presentations		due by midnight
	11/28/2024 R	No class (Thanksgiving Break)		
16	12/3/2024 T	Project report & peer reviews		due by midnight