



GEOG 5201 Geovisualization Syllabus Autumn 2022

Course Information

- **Course times and location:**
 - Tuesdays and Thursdays, 11:10 AM – 12:30 PM, Derby Hall 135
- **Credit hours:** 3.0
- **Mode of delivery:** In-person

Instructor

- **Name:** Dr. Chayanika Singh
- **Email:** singh.1883@osu.edu
- **Office location:** 1085 Derby Hall
- **Office hours:** Thursdays 1:00 pm – 4:00 pm in-person or via 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:** Lingyu Ouyang
- **Email:** ouyang.193@osu.edu
- **Office location:** 1131 Derby Hall
- **Office hours:** Tuesdays 10:00 AM – 11:00 AM, or via Zoom by appointment (send me an email for setting zoom meeting).
- **Recitation/Lab times:** 11:10 AM – 12:30 PM see course schedule on the last page



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 Geovisualization. Six major topics will be discussed in this course:

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

The course is divided into weekly modules based on the above topics. Classes will be held in-person at the scheduled time. Approximately half of the course will be lectures introducing concepts and theories of Geovisualization. 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](http://go.osu.edu/credit) (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.



Course Materials and Technologies

Required Materials and/or Technologies

Textbook: Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. H. (2014). *Thematic Cartography and Geovisualization, 3rd Edition*. Pearson.

Reading material (such as pdf book chapters and articles) will be uploaded on CarmenCanvas..

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](#).



CarmenCanvas Access

You will need to use [BuckeyePass](https://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](https://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](https://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](https://go.osu.edu/canvasstudent) (go.osu.edu/canvasstudent)

[CarmenZoom virtual meetings](https://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	Points
Syllabus quiz & ESRI web course	2%
Labs (9)	45%
Essay writing (4)	8%
Exam (2)	25%
Final Project	15%
Attendance	5%
Total	100%

Descriptions of Major Course Assignments

Syllabus Quiz & ESRI web-course

Description: 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 syllabus quiz to be taken after the first class to make sure you know the syllabus.

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 done by you prior to starting the labs. More information will be provided in the first lecture class.

Labs

Description: 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.**



Attendance

Description: Attendance in both lectures and labs is **mandatory** and 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 lab presence and productivity, attendance is made worth up to 5% of your final grades in this course. However, 2 unexcused absences will not be counted in the attendance grade 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.

Essays

Description: There will be 4 short essay assignments focusing on the topics of 3D, Animation, Uncertainty, and Web mapping. Reading material will be available on CarmenCanvas. After reading papers related to each theme, you will choose one paper and submit an essay of the Geovisualization method covered by the readings, via the course website. Please refer to course schedule for due dates and keep a watch on announcements for more information.

Exams

Description: There will be 2 non-cumulative, open-book exams. They will contain multiple choices and blank filling questions related to only the lecture contents. Exams will be administered online using course website. More details will be provided later in class.

Exams must be taken at the scheduled times and places 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%.

Final Project

Description: Students will complete a final project that focuses on a particular question of interest. The project will consist of making a proposal, submitting a final report and maps, and presenting. More details will be provided later in class.

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.

Late Assignments

Please refer to Carmen for due dates. Assignments will be penalized 10% for each business day late. Thus, **assignments submitted 10 business 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 once mid-week and once at the end of the week.

Grading and feedback: For assignments submitted before the due date, I will try to provide feedback and grades within **7 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



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. 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)

Copyright for Instructional Materials

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.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.



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 reporting form at equity.osu.edu,

Call 614-247-5838 or TTY 614-688-8605,

Or email equity@osu.edu

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.

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.nationalsuicideline.org/) ([suicidepreventionlifeline.org](https://www.nationalsuicideline.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

Requesting Accommodations

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 \(SLDS\)](#). After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services.

Disability Services Contact Information

- Phone: [614-292-3307](tel:614-292-3307)
- Website: slds.osu.edu
- Email: slds@osu.edu
- In person: [Baker Hall 098, 113 W. 12th Avenue](#)

Accessibility of Course Technology

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations as early as possible.

[CarmenCanvas accessibility](http://go.osu.edu/canvas-accessibility) (go.osu.edu/canvas-accessibility)

Streaming audio and video

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



Course Schedule

Refer to the CarmenCanvas course for up-to-date due dates.

Week	Day	Date	Lecture	Readings	Lab	Due @ midnight
1	T	8/23	Course overview		Syllabus quiz, ESRI webcourse	
	R	8/25	Thematic cartography	Ch 1		
2	M					Syllabus quiz , ESRI webcourse
	T	8/30			Lab 1 (ArcPro tutorial and AGOL)	
	R	9/1	Bivariate mapping	Ch 18		
3	M	9/5	Labor Day			Lab 1
	T	9/6			Lab 2 (Bivariate)	
	R	9/8	Multivariate mapping	Ch 18		
4	M					Lab 2
	T	9/13			Lab 3 (Multivariate)	
	R	9/15	3D visualization	Ch 20		
5	M					Lab 3
	T	9/20			Lab 5 (3D raster)	Essay 1
	R	9/22	3D visualization cont. & final project overview			
6	M					Lab 5
	T	9/27			Lab 6 (3D vector)	
	R	9/29	Animation	Ch 21		
7	M					Lab 6
	T	10/4			Lab 7 (Animation vector)	Essay 2
	R	10/6	Animation cont. & project topic help			
8	M					Lab 7
	T	10/11			Lab 8 (Animation raster)	
	R	10/13	Autum Break No Class			
9	M					
	T	10/18	Exam 1 (online)		no new lab	
	R	10/20	Uncertainty	Ch 23		
10	M					Lab 8
	T	10/25			Lab 4 (uncertainty)	Essay 3
	R	10/27	visualizing uncertainty			
11	M					Project proposal
	T	11/1			Lab 4 (uncertainty)	
	R	11/3	Web Mapping	Ch 24		
12	M					Lab 4
	T	11/8			Lab 9 (story map)	Essay 4
	R	11/10	Basics Leaflet			
13	M					
	T	11/15			Lab 9 (story map)	
	R	11/17	Exam 2 (online)			
14	M					Lab 9
	T	11/22			Open lab for project help	
	R	11/24	Thanksgiving No Class			
15	M					
	T	11/29	Project Presentation (in class)			
	R	12/1	Project Presentation (in class)			
16	M					
	T	12/6	Project Report (online submission)			Final project report

Please note that the above schedule is a tentative outline of topics and content subjected to change by the instructor as the course progresses.