GEOG 5201 Geovisualization – Spring 2021
Syllabus (Online)

Instructor Information

- Dr. Yang Song, song.630@osu.edu
- Office Hours and Location: Synchronous Zoom meetings by appointment.

Teaching Associates

- TA: Jian Wang, wang.12679@buckeyemail.osu.edu
  Office Hours and Location: Synchronous Zoom meetings by appointment.

Course Description

This is a topic-oriented course focusing on the examination of concepts, techniques, issues and applications of analytical cartography, interactive mapping, and scientific visualization of geographic data. Approximately half of the course will be lectures introducing concepts and theories of geovisualization. The rest of the course will provide hands-on experience on interactive mapping and visualization of geographic data with ArcGIS and other software.

This course is 100% online, and there is no required log-in to Carmen at a scheduled time. The course is divided into weekly modules which are released weekly. All course materials (slides, lecture videos, lab data and exam study guide etc.) will be provided online via Carmen. Each online lecture (may include multiple videos) will take approximately 80 minutes to finish while time to finish a lab may be longer than a regular lab session (80 minutes). Students are expected to watch lecture videos weekly and keep up with weekly deadlines for lab assignments, exams, and short essays. This is a 3-credit hour class. For each week, students should expect approximately 3 hours spent on online lectures and labs, and 6 hours of independent study such as textbook reading, online quizzes, lab assignments and preparation for the exam to earn a C grade.

Materials

- Textbook and reading materials:
  - No textbook is required for this course. All reading materials (each one with a pdf file) will be provided via Carmen.
  - Each week's reading materials, including lecture and essay readings, are organized in two modules on Carmen. All content in each module is required for reading.
- Data storage:
  - A cloud drive (Box, Dropbox etc.) is needed for data storage.

Evaluation

- Labs – 50%
  - There will be 12 labs, each with an assignment. All lab assignments will count toward your final grade of the course.
  - Lab assignments are due ***one week after a lab is assigned.*** Please refer to the course schedule for detailed information.
  - All lab assignments will be submitted via the course website in a quiz-like format. For each assignment, you need to answer several questions and may be asked to upload your work and/or data. Assignment questions will be provided to you in advance at the end of each lab's instruction.
- Exams – 30%
  - There will be two non-cumulative open-book exams. Both will be administered using the course website. Exams contains multiple choices and blank filling questions relate to only lecture content (50 questions for exam 1 and 40 questions for exam 2).
  - Both exams will be published 12am and closed 11:59pm on exam days. You have one attempt to finish an exam any time on an exam day.
  - Exams cannot be opened in Carmen once finished. If you want to review exams, please schedule a meeting with the instructor.
- Short Essays – 20%
  - There will be 4 short essay assignments focusing on the themes of 3D, LiDAR, Time, and Web. After reading papers related to each theme, you will need to submit an essay of the geovisualization method covered by the readings of the theme via the course website. Please refer to course schedule for more information on when to read papers of different themes and dues of essays.
- Grading Scale

A	93-100%	B-	80-82%	D+	67-69%
A-	90-92%	C+	77-79%	D	60-66%
B+	87-89%	C	73-76%	E	0-59%
B	83-86%	C-	70-72%		

  - Your final grade as seen on the course website will be rounded to the nearest whole number (e.g. an 89.49 is a B+ while an 89.50 is an A-) before being submitted to the University Registrar at the end of the semester.

Course Policies

- Email correspondence policy
  - You are responsible for all course related emails, so be sure to check your inbox on a daily basis.
  - When emailing your instructor, TA or grader, please always begin the subject of the email with the course number (GEOG5201) and your name (first name followed by last name). This is important as your instructor and TA teach multiple classes and need to know to which class you are referring. A proper email subject should be like this:

    GEOG5201_John Smith_Questions on Lab 3

- Course website policy
  - You are responsible for all announcements, additional readings, assignments and other material posted on the course website. Be sure to check it frequently.
- Lab questions policy
  - If you have any questions on lab content (can't finish specific steps, tools are not working etc.), please contact your TA via email.
  - Carmen discussion boards will be created for all labs. You can also communicate with classmates, instructor and TA via discussion boards.
  - If you have concerns on lab grades, please contact your grader via email.
- Late submission policy
  - Short essays will not be accepted late.
  - Lab assignments will be penalized 10% for each day late. ***However, the last day to submit a lab assignment is April 25th.***
  - Extensions will not be granted due to lost work; be sure you back up and keep all your work.
- Exam policy
  - Exams must be taken at the scheduled time (detailed information can be found in Carmen), 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.
- Disability services policy
  - Students with disabilities that have been certified by the Office for Disability Services (SLDS) will be appropriately accommodated and should inform the instructor as soon as possible of their needs.
    - Address: 098 Baker Hall, 113 W. 12th Ave, Columbus, OH 43210
    - Telephone: 614-292-3307
    - Website: http://slds.osu.edu/
  - Registration with SLDS does not grant accommodations automatically. You need to bring the accommodation form provided by SLDS to the instructor to work out a plan for accommodations. Please contact the instructor as soon as you are registered with SLDS for attendance, assignment and/or exam accommodations.
- Academic Misconduct policy
  - It is the responsibility of the Committee on Academic Misconduct (COAM) 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 3335-5-487). For additional information, see the Code of Student Conduct: http://studentlife.osu.edu/pdfs/csc_12-31-07.pdf.
  - Collaboration for the purposes of troubleshooting is highly encouraged in this course, but everyone is expected to submit their own unique work. For

example, asking a classmate how to resolve an unexpected error message is OK, but using another classmate's work (e.g. screen captures, etc.) as your own is NOT ok, regardless of whether or not they provide consent for the use of their materials. (Note: There are many other acceptable/unacceptable actions than those exemplified here.) If you have any questions or concerns about acceptable/unacceptable actions, ask your instructor for clarification/permission.
    - All open-ended responses to questions, prompts, etc. must be written entirely, nearly entirely, or at least in majority using your own words. Use credible sources, and cite all sources, including those only referenced, those indirectly paraphrased, and those directly quoted, being sure to use quotation marks to identify excerpts from these credible sources. This expectation to cite all of your sources also extends to the textbook, the lab instructions, lecture slides, other course materials, online resources, etc. Please contact Center for the Study and Teaching of Writing (CSTW, https://cstw.osu.edu/writing-center) or the instructor if you have difficulties organizing language for assignments.
- Other Course Policy
    - Please refer to Student Academic Services for more academic services provided by OSU.
    - Other student services can be accessed here.

Other Course Technology

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

- Phone: 614-688-HELP (4357)
- Email: 8help@osu.edu
- Self-Service and Chat support: http://ocio.osu.edu/selfservice

Basic technical skills necessary for this course

- Basic computer and web-browsing skills
- Navigating and utilizing Carmen

Equipment

- Computer: As ArcGIS Desktop/Pro software will be used, a Windows PC is needed. Specific system requirements can be found here.
- Webcam: built-in or external webcam, fully installed.
- Microphone: built-in laptop or tablet mic or external microphone.

Software

- ArcGIS Desktop
    - A tutorial on how to install ArcGIS Desktop from OCIO can be found on course website (How to download ArcGIS from OCIO Self-service.pdf).

    - Please note that ArcGIS for Desktop is NOT certified or supported on the Mac operating system. However, if you have an Apple computer running Windows, you can install ArcGIS for Desktop using VMWare, BootCamp, or Parallels. To learn more, please visit this link: http://gis.harvard.edu/services/blog/installing-arcgis-desktop-mac.
    - System requirements of ArcGIS desktop can be found here. Privacy policies of Esri products can be found here.
- ArcGIS Online and ArcGIS Pro
    - Please refer to associated installation documents on Carmen for details (Getting Started with ArcGIS Online.pdf and Getting Started with ArcGIS Pro.pdf). There is no specific system requirement for ArcGIS Online and you can use it as long as you have a web browser. System requirements of ArcGIS Pro can be found here. Privacy policies of Esri products can be found here.
- QGIS
    - This is free and open source and can be obtained by visiting https://www.qgis.org/en/site/. Unlike ArcGIS, QGIS can operate on the Mac operating system.
    - Please note that if you choose to install QGIS onto your personal machine, your instructor and TA are NOT responsible for answering your installation-related questions. You will need to troubleshoot such issues yourself.
    - There is no official documents regarding system requirements of QGIS, but you can find useful discussion on this topic here. There are no official privacy policies from developers of QGIS.
- 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 student's BuckeyeMail account. Full instructions for downloading and installation can be found here.
    - Proctorio: A software to monitor online exams. More details can be found here.
- Guacamole
    - You can also use Guacamole to remotely access lab PCs in Derby 135 and 140. A tutorial on how to use Guacamole can be found on course website (Connect to a Geography lab PC via Guacamole.docx). Besides, Guacamole is list based, which means your credential needs to be manually input to grant you access. Thus, although I have submitted class roster to the IT office of the department, you may want to let me know if you enrolled this course after Jan 11th so they can update the list and let you use Guacamole.

Tentative Schedule

*First and second row of each week are Tuesday and Thursday, respectively

Week*	Content	Readings	Note
1 (1/11-15)	Course Overview	Lecture readings: Geovisualization	
2 (1/18-22)	Lecture: Geovisualization - Part 1		
	Lecture: Geovisualization - Part 2	Lecture readings: 3D	
3 (1/25-29)	Lecture: Geovisualization - Part 3	Essay readings: 3D	
	Lecture: 3D - Part 1		
4 (2/1-5)	Lecture: 3D - Part 2		
	Lab 1: 3D ArcScene (guided)		Essay on 3D Due
5 (2/8-12)	Lab 2: 3D ArcScene (unguided)		
	Lab 3: 3D QGIS (guided & unguided)		Lab 1 Due
6 (2/15-19)	Lecture: LiDAR - Part 1	Essay readings: LiDAR	Lab 2 Due
	Lecture: LiDAR - Part 2		Lab 3 Due
7 (2/22-26)	Exam 1		Essay on LiDAR Due
	Lab 4: LiDAR (guided)	Lecture readings: Uncertainty	
8 (3/1-3/5)	Lecture: Uncertainty	Lecture readings: Animation	
	Lecture: Animation Lab 5: Animation (guided & unguided)	Lecture readings: Time	Lab 4 Due
9 (3/8-12)	Lecture: Time	Essay readings: Time	
	Lab 6: Time (guided)		Lab 5 Due
10 (3/15-19)	Lab 7: Time (unguided)	Lecture readings: Web	Essay on Time Due
	Lecture: Web – Part 1	Essay readings: Web	Lab 6 Due
11 (3/22-26)	Lecture: Web – Part 2		Lab 7 Due
	Exam 2		Essay on Web Due
12 (3/29-4/2)	Lab 8: Web 1 (guided & unguided)		
13 (4/5-4/9)	Lab 9: Web 2 (guided & unguided)		
	Lab 10 (guided & unguided)		Lab 8 Due
14 (4/12-16)	Lab 11 (guided)		Lab 9 Due
	Lab 12 (guided & unguided)		Lab 10 Due
15 (4/19-23)	Work on labs, no class		Lab 11 Due
			Lab 12 Due

This course schedule provides a general plan for the course. Any changes will be announced by the instructor with as much advance notice as possible.