

# GEOG 5201 Geovisualization – Spring 2020

## Syllabus

**Meeting Times:** MW section 11:10am – 12:30pm, 135 Derby Hall  
TR section 11:10am – 12:30pm, 140 Derby Hall

**Instructor Name and Email:** Dr. Yang Song, [song.630@osu.edu](mailto:song.630@osu.edu)

- Office Hours and Location: By appointment only. 1120 Derby Hall.

### Teaching Associates:

- TA: Yue Lin, [lin.3326@buckeyemail.osu.edu](mailto:lin.3326@buckeyemail.osu.edu)  
Office Hours and Location:  
MW section: M 1:00-2:00pm W 9:30-10:30am  
TR section: T: 9:30-10:30am and 3:30-4:30pm  
Or by appointment. 1131 Derby Hall
- Grader: Jian Wang, [wang.12679@buckeyemail.osu.edu](mailto:wang.12679@buckeyemail.osu.edu)

**Course Description:** This is a theme-oriented course, which focuses on the examination of techniques, issues and applications of analytic cartography, interactive mapping and scientific visualization of geographic data.

### Materials:

- Textbook:
  - No textbook is required for this course. All reading materials will be provided via the course website.
- Portable Memory Device:
  - A portable memory device (with 16GB or larger storage), such as a portable hard drive or flash drive, is required. Please bring it with you to every lab session as all your work needs to be saved to this device.

### 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 usually due **one week after the lab session (6:00pm of the due day)**. Some of them will be granted longer time to finish due to complexity or holidays. 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.
  - Do not expect to finish all lab work during the scheduled lab time. You will need to work outside of class to complete your labs.
- Exams – 30%
  - There will be two non-cumulative exams. Both of them will be administered using the course website. Exams will be online using Carmen, but will occur during normal class times using the computers in our normal classroom.

- Exams will not be returned to you. If you want to review exams, please schedule a meeting with the instructor.
- Participation – 20%
  - Discussion Sessions – 10 points
    - There will be 4 discussion sessions of recent papers focusing on the themes of 3D, LiDAR, Time, and Web.
    - You are required to attend all of them but will only lead the group discussion for one of them.
    - After each discussion session, you will need to submit a focused critical analysis of the geovisualization method covered by the readings of the theme via the course website. This is always due **the next day (6:00pm) of the discussion.**
  - Attendance – 10 points
    - Attendance is required and will be recorded at all class meetings (lectures and labs). An attendance sheet will be passed around the classroom, and you are responsible for remembering to sign it. If you forget to sign the attendance sheet during the scheduled class time, you will be marked absent (unexcused).
    - Unexcused Absences:
      - You may miss 2 class meetings (include lectures and labs) without penalty. Additional unexcused absences will result in a 1 point deduction from your attendance grade. No more than 10 points can be deducted from attendance.
    - Excused Absences:
      - Please email the instructor or TA for excused absences (e.g. due to illness, car trouble, conference attendance, required job training, passing away of a loved one, etc.) Proper documentation (e.g. doctor's note, bill from a mechanic, proof of conference registration, email from a supervisor, obituary, etc.) must be provided.
- Grading Scale (OSU standard 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.
- You may find that it helps to update your notifications. You can do this by going to Account > Notifications. There are four notification options, and I suggest that you turn on “Notify me right away” or at least “Send daily summary” for everything until you figure out which notifications are most beneficial to you.
- There is a Canvas app available for [iPhone](#) and [Android](#), which you may find beneficial for keeping up with the course website.
- Lab questions policy
  - If you have any questions on lab content (can’t finish specific steps, tools are not working etc.), please meet your TA during his office hours or via email.
  - If you have concerns on lab grades, please contact your grader via email.
- Late submission policy
  - Focused critical analysis will not be accepted late.
  - Lab assignments will be penalized 10% for each day late.
  - 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, 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.
  - You are expected to arrive to all exams on time. Students who arrive late to the exam will be permitted to begin the exam, until the first student leaves. After a student completes the exam and leaves, students who arrive late will not be permitted to begin the exam, will be asked to leave, and will be considered absent. Your absence will be considered unexcused, except in the case of emergency.
  - You are expected to finish all exams on time. Exams begin when schedule class time begins, and exams end when the scheduled class time ends. At the end of the scheduled class time, you are to stop working and turn in your exam. You may not continue working on your exam after the scheduled class time.
- 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. The Office for Disability Services is located in 098 Baker Hall, 113 W. 12th Ave, Columbus, OH 43210; telephone 614-292-3307; <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](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.
- Do NOT leave any of your work saved on the lab computers, as this presents data security and academic integrity concerns.
- 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.

### **Classrooms:**

If you need to return to the computer lab outside of class time, please be aware that the building maybe locked at night, over weekends, and on holidays, so be sure to plan accordingly. When you do return to the computer lab outside of class time, there may be a class in session. Please attempt to avoid interrupting classes that are in session, and if there is a class in session, check the computer lab across the hall in Derby 140. It has the same software as Derby 135, and it is usually available.

If you would like to check the schedules for Derby 135 and 140, you can check the Room Matrix:

[https://delegated.osu.edu/psp/csosuda\\_1/EMPLOYEE/CAMP/c/OSR\\_CUSTOM\\_MENU.OSR\\_ROOM\\_MATRIX.GBL](https://delegated.osu.edu/psp/csosuda_1/EMPLOYEE/CAMP/c/OSR_CUSTOM_MENU.OSR_ROOM_MATRIX.GBL)

- Enter DB0135 for Derby 135 or DB0140 for Derby 140.
- Select the date under "Show Week of".
- Click "Refresh Calendar".

### **Software:**

You are NOT required to download the software we will be using in the course onto your own computer. However, information on obtaining ArcGIS and QGIS are provided here.

- ArcGIS. You may request a 1-year student trial license from your TA. Just email your TA, and your TA will send you an activation code. You will then need to activate the code and download the software here:  
[http://www.esri.com/software/landing\\_pages/arcgis/desktop-ed](http://www.esri.com/software/landing_pages/arcgis/desktop-ed).
- If you choose to go this route, there is a detailed document regarding the entire process of downloading and installing ArcGIS for Desktop and authorizing it using an authorization code available on the course website, entitled `ESRI_installation_tips.pdf`. If your installation-related questions are not answered

by this document, you will need to contact ESRI Customer Support at 1 (888) 377-4575.

- 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>.
- 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.
- ArcGIS Online and ArcGIS Pro. Please refer to associated installation documents in Carmen for detail.

# GEOG 5201 Geovisualization – Spring 2020

## Schedule

Week	Date	Content	Readings*	Note
1	M 1/6	Course Overview Discussion Groups (sign up)	Lecture readings: Geovisualization	
	T 1/7	Course Overview Discussion Groups (sign up)	Lecture readings: Geovisualization	
	W 1/8	Lecture: Geovisualization - Part 1		
	R 1/9	Lecture: Geovisualization - Part 1		
2	M 1/13	Lecture: Geovisualization - Part 2	Lecture readings: 3D	
	T 1/14	Lecture: Geovisualization - Part 2	Lecture readings: 3D	
	W 1/15	Lecture: Geovisualization - Part 3 3D - Part 1	Discussion group readings: 3D	
	R 1/16	Lecture: Geovisualization - Part 3 3D - Part 1	Discussion group readings: 3D	
3	M 1/20	Martin Luther King Day, no class		
	T 1/21	Lecture: 3D - Part 2 Discussion Groups (3D)		
	W 1/22	Lecture: 3D - Part 2 Discussion Groups (3D)		
	R 1/23	Lab 1: 3D - ArcScene (guided)		
4	M 1/27	Lab 1: 3D - ArcScene (guided)		
	T 1/28	Lab 2: 3D ArcScene (unguided)		
	W 1/29	Lab 2: 3D ArcScene (unguided)		
	R 1/30	Lab 3: 3D QGIS (guided & unguided)		Lab 1 Due
5	M 2/3	Lab 3: 3D QGIS (guided & unguided)		Lab 1 Due
	T 2/4	Lecture: LiDAR - Part 1	Discussion group readings: LiDAR	Lab 2 Due
	W 2/5	Lecture: LiDAR - Part 1	Discussion group readings: LiDAR	Lab 2 Due
	R 2/6	Lecture: LiDAR - Part 2 Discussion Groups (LiDAR)		Lab 3 Due
6	M 2/10	Lecture: LiDAR - Part 2 Discussion Groups (LiDAR)		Lab 3 Due
	T 2/11	Exam 1		
	W 2/12	Exam 1		
	R 2/13	Lab 4: LiDAR (guided)	Lecture readings: Uncertainty	
7	M 2/17	Lab 4: LiDAR (guided)	Lecture readings: Uncertainty	
	T 2/18	Lecture: Uncertainty	Lecture readings: Animation	
	W 2/19	Lecture: Uncertainty	Lecture readings: Animation	
	R 2/20	Lecture: Animation Lab 5: Animation (guided & unguided)	Lecture readings: Time	Lab 4 Due
8	M 2/24	Lecture: Animation Lab 5: Animation (guided & unguided)	Lecture readings: Time	Lab 4 Due
	T 2/25	Lecture: Time	Discussion group readings: Time	
	W 2/26	Lecture: Time	Discussion group readings: Time	
	R 2/27	Discussion Groups (Time) Lab 6: Time (guided)		Lab 5 Due
9	M 3/2	Discussion Groups (Time) Lab 6: Time (guided)		Lab 5 Due
	T 3/3	Lab 7: Time (unguided)	Lecture readings: Web Discussion group readings: Web	
	W 3/4	Lab 7: Time (unguided)	Lecture readings: Web	

			Discussion group readings: Web	
	R 3/5	Lecture: Web Discussion groups (Web)		Lab 6 Due
10	Spring Break, no class			
11	M 3/16	Lecture: Web Discussion groups (Web)		Lab 6 Due
	T 3/17	Exam 2		Lab 7 Due
	W 3/18	Exam 2		Lab 7 Due
	R 3/19	Lab 8: Web 1 (guided & unguided)		
12	M 3/23	Lab 8: Web 1 (guided & unguided)		
	T 3/24	Lab 9: Web 2 (guided & unguided)		
	W 3/25	Lab 9: Web 2 (guided & unguided)		
	R 3/26	Lab 10 (guided & unguided)		Lab 8 Due
13	M 3/30	Lab 10 (guided & unguided)		Lab 8 Due
	T 3/31	Lab 11 (guided)		Lab 9 Due
	W 4/1	Lab 11 (guided)		Lab 9 Due
	R 4/2	Lab 12 (guided & unguided)		Lab 10 Due
14	AAG Annual Meeting, no class			
15	M 4/13	Lab 12 (guided & unguided)		Lab 10 Due
	T 4/14	Work for labs, no class		Lab 11 Due
	W 4/15			Lab 11 Due
	R 4/16			Lab 12 Due
M 4/20	Lab 12 Due			

\*The assigned readings prepare you for the next class meeting.

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.