



GIS 2114 - World and Big Data

SUMMER A 2025

University of Florida
Department of Geography
100% Online (Asynchronous)
GIS 2114 provides 3 Credit Hours

1. Course Overview

Objectives: This course will introduce relevant concepts (e.g., 5 V's) and techniques (e.g., cloud computing) of big (spatial) data as well as its applications in the real world, such as building smart cities as well as disaster management. The students will also have hands-on experiences.

Learning outcomes

After completing this course, the students are expected to:

- Understand the unique characteristics of big data
- Be familiar with the techniques used for collecting, storing, managing, processing, analyzing, and visualizing big data
- Know how big data can solve real-world problems
- Grasp basic skills to contribute, retrieve, and visualize big spatial datasets and be aware of issues in using big spatial data

2. Instructor Contact Information

Name: Joel Wixson

Main office: Department of Geography

3141 Turlington Hall, P.O. Box 117315, Gainesville, FL 32611-7315

Phone: 352-392-0494/352-392-8855 (fax)

Preferred Method of Communication: Canvas Inbox

Email: I am available via the Canvas Inbox. Response time is usually 24 - 48 hours

Office hours: By appointment, Zoom.

Please note that any inquiries about your grade can only be done through the Canvas messaging system, as per UF's guidelines.

3. Texts

Readings and other items will be posted in Canvas as needed in advance of weekly activities and assignments. Readings will include peer-reviewed journal articles and other documents (1-3 per week).

Optional: Thatcher J, Eckert J, and Shears A (Eds.). Thinking big data in geography: new regimes, new research. The University of Nebraska Press, 2018.

4. Assessments

Labs (20%) – Throughout the semester you will be completing several labs. Due dates and submission instructions can be found in Canvas.

Final Project/ Exam (20%) – Your final project which is your Final Exam requires you to complete an online course. This can be done in an assigned website. You will then exchange your final output with a classmate and will be tasked with reviewing your peer. For more details and due dates, please see Canvas.

Assignments (20%) and Quizzes (20%) – You will have various class activities throughout the semester that will be completed as individuals. This includes quizzes and assignments such as: reading questions, discussion posts, and Write What You Think activities (reflections on material). You are also expected to participate by posting questions or answering questions posted by your peers on the various discussion boards in Canvas. Questions concerning specific assignments can be posted for your classmates to answer in the **Lab Questions discussion board**. There is also a discussion board titled **Miscellaneous Interests**, which can be used to post links to articles/videos that you think may be of interest to other students. You are expected to post at least 2 times in these additional discussion boards during the semester (e.g., in addition to the regular module discussion boards).

Mid-term Exam (10%) – You will have a mid-term and final exam. The mid-term will cover weeks 1-4. The exam will not be proctored, so you can use your notes, but you should NOT take the exams with classmates. Additionally, your exams will be timed so you should not open the exam until you are prepared to complete it in its entirety (you will not have time to look up every question!).

Group Presentations (10%) – The students will be responsible for preparing and leading the group presentations throughout the semester. A 10-15-minute presentation on key concepts and terms related to the assigned module must be prepared and presented by each group. To promote class discussion and learning, presentations should summarize the readings and identify key points and debates. Group members will share responsibility for delivering these presentations. The group will be assessed as a whole, and each group member will receive the same grade on the assignment. Additionally, each team member will be evaluated individually based on peer evaluations.

5. Grading

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
100-93	92-90	89-87	86-83	82-80	79-77	76-70	69-67	66-63	62-60	59-57	<57

It is your responsibility to know how well you are doing in the class.

There will be a Grades tab in Canvas for following your progress. Please use it to keep track of your score and contact me if there is a discrepancy. If you are not satisfied with the score you receive on an assignment or feel an error has been made, you will be permitted **two weeks** from the time the score was posted for a review of the assessment. After this time the score will be entered as a permanent grade.

Please see the UF catalog grading policies for current guidelines not discussed here:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

6. Late Policy

Late assignments will only be accepted 48hrs after they are due (including weekends) and there will be a 10% penalty per day.

If you cannot complete an assignment or an exam because of an excused reason (illness, family emergency, etc.), please contact me as soon as possible. For the assignment to be excused, **official documentation** must be provided to either instructor. Instructions on how to send the documents will be handled at the time I am informed of the incident.

7. Academic Honesty

Accountability to Academic Honesty

You are all bound by the student academic honor code.

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

In the Assessments, Canvas will shuffle the order of the questions and the order of the possible answers, generating a nearly unique assessment per student. **Plagiarism or cheating of any variety on any assignment will not be tolerated.** If a student is suspected of cheating and there is sufficient evidence in support of the allegation, the student will be reported to the appropriate student body, according to the University's Student Conduct and Conflict Resolution system.

8. Special Accommodations

Students requesting disability-related academic accommodations must first register with the **Disability Resource Center**. <http://www.dso.ufl.edu/drc/>

- The Disability Resource Center will provide documentation to the student—each student requesting special accommodations must provide this documentation to the instructor. We do not automatically receive this information, so the student is responsible for providing the DSO request to the instructor.
- We will honor all requests. Please contact an instructor by e-mail to make an appointment so that we can go through these accommodations and sign the form.

9. Student Support Services

If you are a student in a distance learning course or program, you have access to the same student support services that on-campus students have. For course content questions contact your instructor(s).

- For any technical issues you encounter with your course please contact the UF Computing Help Desk at 342-392-4357. For Help Desk hours visit: <http://helpdesk.ufl.edu/>.
- U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website.

- [Counseling and Wellness Center](#): The center offers mental health support services for free to all UF students. Services include urgent care, consultation, and counseling. Please 3523921575 for information.
- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).
- *University Police Department*: [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).
- *UF Health Shads Emergency Room / Trauma Center*: For immediate medical care, call 352733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).
- In some special circumstances (when documentation is not available, for instance), we may ask you to contact the Dean of Students Office: **The Dean of Students Office**: 202 Peabody Hall, PO Box 114075, Phone: (352) 392-1261
The Dean of Students is a resource, available to all students when special circumstances arise that disrupt students' abilities to maintain their academic standing. We encourage students to use this resource if necessary.
- Useful Links: Student Support Services: <https://studentlife.ufl.edu/virtualstudentunion/support-services/>

10. Tentative Schedule

(Subject to change as the instructor deems necessary)

<u>Week</u>	<u>Module Title</u>	<u>Activities/Readings/Due Dates</u>
Week 1	<u>Introduction</u>	To Do: Review the <i>Getting Started</i> module
		HW: Pre-Quiz & Introduction Survey Questions
	<u>Geospatial Information & Big Data</u>	Readings & Videos
		HW: <u>Assignment 1</u> Write What You Think Activity (300-word reflection)
	<u>Types of Spatial Data</u>	Readings & Videos
		HW: Lab 1
Week 2	<u>Big Data & The 5 V's</u>	Readings & Videos
		HW: Assignment 2 Critical Thinking Activity
	<u>Sources of Big Spatial Data</u>	Readings & Videos
		HW: Lab 2 Citizen Science & Satellite Profile
Week 3		Readings & Videos

	<u>Geospatial Techniques with Big Data</u>	HW: Assignment 3 Write what you think
	<u>Programming and Coding for GIS</u>	Readings & Videos
		HW Quiz 1
Week 4	<u>Visualizing Big Data</u>	Readings & Videos
		HW None, use the time for Mid-term Exam Preparation
	<u>Mid-term</u>	Take Exam in Canvas (Not proctored, but timed) Due
Week 5	<u>Big Data Quality</u>	Readings & Videos
		HW: Lab 3 Critical Thinking Activity
	<u>Basics in (Spatial) Databases</u>	Readings & Videos
		HW: Quiz 2
Week 6	<u>The Future of AI & Geospatial Science</u>	Readings & Videos
		HW: Quiz 4
	<u>Geospatial Data & Privacy Rights</u>	Readings & Videos
		HW: Assignment 4 Geospatial Privacy Discussion
	<u>Final Exam</u>	Due June 17, 2025; Peer Review of Final Project Due June 18, 2025