JOU 3121: Data Viz and Mapping

Spring 2026 | 3 p.m. to 6 p.m. Thursdays | Weimer 2050

Lecturer Gavin Off
Email: gavin.off@ufl.edu
Office hours: Wednesdays and Thursdays in room 1200A. No appointment or any day via Zoom

MY EXPERIENCE:

I landed my first newspaper job in 2002. It was with a small paper in southwest Florida. I covered traffic accidents, local governments, police and everything in between. But by 2006, I was ready to move on and applied for a reporter position at the Louisville Courier-Journal in Kentucky. Two weeks later, I called and asked the editor if he received my resume. He said he got my resume and 200 others. Needless to say, I did not get the job.

Geez, I thought. What could I do to separate myself from other future job applicants?

Later that year, I enrolled at the University of Missouri's master's program. Missouri is home to Investigative Reporters and Editors and the National Association for Computer-Assisted Reporting – two nonprofits. That's where I learned data journalism.

I've worked in three newsrooms since graduating from Missouri in 2008. All three had mass layoffs. But my name was never called. Why not? I'm convinced it's because I know data journalism. I had a skill that no one else in the newsroom had and that brought value to the paper, which – at least as far as I'm concerned – saved my job.

COURSE DESCRIPTION

Many datasets contain information that can be mapped – the names of states or counties, ZIP codes or geographic coordinates. And in some cases, the best, or perhaps the only way to find stories in these datasets is to create a map or visualization. In this course, you'll learn how to do just that. Students will use mapping and visualization software to discover stories other reporters would miss. Students will also learn how to obtain and critically evaluate geographic data and manipulate it to lay the foundation for one-of-a-kind stories.

COURSE OBJECTIVES

You'll be asked to learn QGIS functions and tools to analyze maps and find stories in them. You'll also be asked to learn Flourish and Datawrapper, code-free tools for creating interactive maps, charts and tables. The ultimate goal: To become a better reporter.

LEARNING OBJECTIVES

In this class you are reporters. The objective is to become better ones. To do that, you'll be asked to:
- Understand how to find and request geographic data
- Learn to prepare the mapping file and its data for analysis
- Master joining geographic records
- Develop one- and multi-layer maps that tell compelling stories
- Find out how to drill deeper into maps with buffers, intersections and mergers

- Create visualizations that aid your reporting
- Find out how to weave data into storytelling
- Produce an accurate, fair, engaging publishable story based on geographic data

OTHER (IMPORTANT) NOTES
- It is up to you to stay on pace, learn the material and do the work. I'll help every way I can, but you need to put in the effort.
- Pay attention to Canvas. This is a must.
- These classes build on each other. If you do not understand a concept, let me know. I want to catch you up to speed before you get too far behind.
- The more you use the skills that you learn in this class, the better data journalists you'll become. Practice, practice, practice.

BOOKS/MATERIALS
- A laptop
- QGIS
- Excel. This is part of the Microsoft Office package available to students for free.
- "Mapping for Stories" by David Herzog, Jennifer LaFleur and Charles Minshew (Available by e-edition at ire.org)
- Recommended: An 8-gb flash drive to store files.

GRADING
Your grade will be determined on the following scale:

A	93 – 100	B-	80 – 82.9	D+	67 – 69.9
A-	90 – 92.9	C+	77 – 77.9	D	63 – 66.9
B+	87 – 89.9	C	73 – 76.9	D-	60 – 62.9
B	83 – 86.9	C-	70 – 72.9		

A – Superior. This work shows a superior understanding of the concepts, research, and analysis required by the assignment with few, if any, data-related errors. All answers must be supported by work that is clear, accurate and reproducible.
B – Above Average. This work shows a very good understanding of the concepts, research, and analysis required by the assignment with minimal data-related errors. Answers must be supported by work that is clear, accurate and reproducible.
C – Average. This work demonstrates a basic understanding of the concepts but is deficient in the research and analysis required by the assignment and includes many data-related errors. Some of the work needed to produce the answers is unclear, inaccurate or not reproducible.
D – Below Average. This work does not demonstrate an understanding of the concepts, is seriously deficient in the research and analysis required by the assignment, and includes excessive data-related errors. Little or no work is shown.
F – Deficient. This work is deficient on almost all counts.

EARNING THE GRADE YOU WANT
- Participation – 10%
- Homework – 25%
- Tests – 25%
- Final story – 40%

PARTICIPATION

Participation, what does that mean? It means to show up to class and show up to class on time. It means to ask questions and volunteer to answer them.

HOMEWORK ASSIGNMENTS

There are a few of them. Some homework assignments will be geared toward stories about maps and graphics and your final project. Did you obtain geographic data. Did you analyze the data? Did you find a compelling story in it? Did you talk to sources. Etc. These assignments are to make sure you're on track to finish a final story that is worthy of being published.

TESTS

QGIS test:

These will test your skills on importing, manipulating and analyzing data in QGIS. You'll be given raw mapping file analyze using the skills learned in class. The tests is open notes and will show how well you understand QGIS' tools for finding stories in maps.

Datawrapper/Flourish test (possible):

This will test your skills on producing an interactive chart in Datawrapper or Flourish. You'll also be asked to use either program – and possibly Excel – to find a story angle that would produce a compelling visualization. This visualization could be a map, chart or table.

FINAL STORY

This is a GIS-centered story that you – or a group of you – complete specifically for this class. The goal is to write a publishable story by the end of the semester. I will likely choose the dataset for you but please offer suggestions if there is good, available data on a topic that you're passionate about.

Keep in mind that although this story is based on geographic data, it is still a news story. It is meant to inform, educate or shine light on an issue.

To make sure you're on pace to complete the story, we'll have periodic check-ins, where you'll update me – and sometimes the entire class – on where your data analysis and reporting stands. These check-ins are to make sure that you're working on the story throughout the semester. This is not an assignment that you can complete in the final few weeks.

To do well, your story needs to include all the necessary components of a strong GIS-centered story. These components include findings from the data, interviews with experts and people affected, terrific writing, concise storytelling and possibly additional documents.

CLASS POLICIES

Attendance is imperative. These classes build on each other. What you learn today will help you understand the skills I'll teach in the next class.

We are all expected to attend each scheduled class and arrive on time prepared to participate. This includes coming to class with a computer and the necessary software loaded onto your machine.

Missing class does not change the deadline. All assignments are due when specified regardless of whether you expect to be in class, unless I've approved an alternate deadline in advance. If there are special circumstances that prevent you from making arrangements for work missed because of an absence, please contact me or have a family member contact me as soon as possible, and I will do my best to work with you. I may require documentation.

This is a hands-on class that requires your participation. Part of that participation means asking questions, especially if you do not understand or cannot replicate a data query. Please speak up. If you have questions about a code that we're writing, chances are other students have the same questions. I need to know so I can help.

Behavior policies:
- Do not have conversation in class. This is disruptive.
- Do not arrive late or leave early. This is disruptive.
- Silence and keep your personal devices out of site. They are disruptive.
- Think twice about bringing food to class.

SUBMISSION OF ASSIGNMENTS
All written assignments must be submitted on the day they are due according to the guidelines outlined above and per the assignment description. Typically, assignments will be due at 11:59 p.m. on the day they are due. Please note that I will try to give you feedback as quickly as possible, but I too can get busy as the semester progresses.

All grades will be posted on Canvas.

You may turn in an assignment late once without penalty. After that, I will not accept late assignments.

ACADEMIC INTEGRITY
UF students must adhere to The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code."

On all student work at UF, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://sccr.dso.ufl.edu/process/student-conduct-code) specifies a number of behaviors that are in violation of this code and the possible sanctions. Also, students are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with me. Violations can result in a failing grade for the course and referral to the dean of students.

STUDENTS WITH DISABILITIES
Students with disabilities who experience learning barriers and would like to request academic accommodation should connect with the Disability Resource Center. It is important to share any accommodation letter with me and discuss access needs as early as possible in the semester.

COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at **https://gatorevals.aa.ufl.edu/students/.** Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via **https://ufl.bluera.com/ufl/**. Summaries of course evaluation results are available to students at **https://gatorevals.aa.ufl.edu/public-results/**.

IN-CLASS RECORDING
The official UF policy regarding in-class recording, to comply with a 2021 Florida law can be found here.

HEALTH AND WELNESS
- 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 to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.
- 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 911 for emergencies).
- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville. Visit the UF Health Emergency Room and Trauma Center website.

ACADEMIC RESOURCES
- E-learning technical support: Contact the UF Computing Help Desk website, or phone 24/7 at 352-392-4357, or email helpdesk@ufl.edu.
- Career Connections Center: Career assistance and counseling services. Visit the website. Reitz Union Suite 1300, 352-392-1601.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Visit the website.
- Teaching Center: General study skills and tutoring. Visit the website. Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420.
- On-Campus Student Complaints: Details are available through the Student Honor Code and Student Conduct Code, also known as the Orange Book.

COURSE SCHEDULE
*(Please note: The course schedule may change depending how well students are grasping the techniques described in class. **Pay attention to Canvas for any changes.**)*

Week 1 – 1/15: A crash-course in spreadsheets
- Before we map data, let's learn the basics: Sorting, filtering, doing math, creating pivot tables and cleaning records.

Week 2 – 1/22: Stories, maps and QGIS

- Maps are powerful storytellers. Here is how to obtain GIS data, understand its components and view it in QGIS.
- Guest speaker: Eben Broadbent is an Associate Professor with Spatial Ecology and Conservation Lab. He's the creator of [Alachua-Wild](#)

Week 3 – 1/29: One-layer maps, data and projections
- One-layer maps are simple and powerful. Adding data makes them more powerful but be careful about datum and projections.

Week 4 – 2/5: Layering and slicing maps
- The real storytelling power of maps comes with combining them. Sometimes that includes turning addresses into geographic coordinates.

Week 5 – 2/12: Digging deeper with maps
- Spatial joins let you combine maps by location while tools such as clipping and buffering let you home in on your story.

Week 6 – 2/19: Measuring and styling maps
- Measuring distances and areas can be important for your investigation.

Week 7 – 2/26: Creating maps from PDFs
- Sometimes you're given a custom map as a PDF file. QGIS can turn it into a shapefile with the plugin QuickMapServices.
- Final story discussion

Week 8 – 3/5: NICAR Conference (No class)
- QGIS take-home test:

Week 9 – 3/12: What makes a good data viz and guest speaker
- What are the dos and don'ts of a good data visualization
- Guest speaker: Susan Merriam is a data and visual journalist at McClatchy. She's worked on some of the company's biggest investigations in recent years.

Week 10 – 3/26: Graphics in Datawrapper
- Datawrapper can turn your custom QGIS file into an interactive map. It also has built-in maps and charts that you can add data to.

Week 11 – 4/2: Graphics in Flourish
- Flourish can create graphics, too

Week 12 – 4/9: How AI can help create graphics
- Claude, an AI LLM, can comb through your data and suggest what graphics are possible.

Week 13 – 4/16: Final test or final project discussion
- This is an open notes test that will cover creating graphics
- Or, we might just discuss the final project