

JOU 3121 Dataviz & Mapping

Spring 2024 | Class 19303, section DVIZ | Periods 8-10 Thursdays | Weimer 2050 | 3 credits



Associate Professor Norman P. Lewis, Ph.D.

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Contact: Email nplewis@ufl.edu or message through Canvas

Office hours: Mondays 4:00 to 5:30 pm and Thursdays 1:00 to 2:30 pm

Office hours are in-person (in my office) and drop-in (no appointment).

If those hours conflict with your schedule, contact me and we will find a time that works.

PART 1: ABOUT THE COURSE

Course Description

This course equips you to (1) create mobile-first, visual data stories and (2) conduct geospatial analysis involving location data. Data newbies welcome.

Objectives

By the end of the course, you will be able to:

- Create mobile-friendly visual data stories and find stories in geospatial data.
- Find reliable numerical data sources and assess their provenance.
- Use spreadsheets to analyze and summarize data.
- Design visual data stories optimized for mobile.
- Apply best practices for visual grammar in chart and map design.
- Use Tableau to visually detect patterns and assess statistical significance.
- Obtain reliable GIS data via shapefiles, GeoJSON, and geocoding.
- Apply core geospatial principles to proper analysis of geographic data.
- Analyze GIS data via points in polygons, perimeter buffers, and isochrone layers.

My Related Data Courses

- JOU 3305 Data Journalism (fall): In-depth spreadsheet analysis and cleaning
- JOU 4318 Sports Data Journalism (fall): A sports version of Data Journalism
- JOU 4306 Advanced Data Journalism (spring): Data coding using R

Required Textbook

None required. Recommended: "How Charts Lie: Getting Smarter About Visual Information" by Alberto Cairo (2019). W.W. Norton & Co. Ebook: \$10.

Computer Requirements

- Laptop, either Mac or Windows. Have enough free disk space to load 2 programs.
- Download Office 365 on your laptop free through [UF Tech](#)

IRE Membership

For \$25 (student rate), [join](#) Investigative Reporters and Editors (IRE), which includes NICAR for data journalists. Get [access](#) to 30,000 ideas, stories, tip sheets, data – and job prospects. IRE/NICAR is a superb journalism organization.

Tentative Schedule (subject to change)

Wk	Date	Theme	Skills	Assignment
UNIT 1: Visual Data Storytelling				
1	Jan 11	Visuals 1: The Data Story	Create a mobile-first, visual data story using 3 charts and published on Medium	H1: UF Due Mon Jan 15
2	Jan 18	Visuals 2: Chart Types	Identify the story in the data and matching primary chart types to the data	H2: Types Due Mon Jan 22
3	Jan 25	Visuals 3: Clarity	Add clarity to charts with visual embedding cues, annotating charts	H3: Clarity Due Mon Jan 29
4	Feb 1	Visuals 4: Mapping Data	Convey data through point and choropleth maps, as appropriate	H4: Mapping Due Mon Feb 5
5	Feb 8	Visuals 5: Location Maps	Create locator maps that reveal location-specific data or time-sequence data	H5: Location Due Mon Feb 12
6	Feb 15	Visuals 6: Census	Use current census data to create a 5-visual story with charts and maps	H6: Census Due Mon Feb 19 Project Plan Email Due Tue Feb. 20
7	Feb 22	Visuals 7: Tableau	Use Tableau to find patterns; quartiles, correlation, box-and-whisker plots	H7: Tableau Due Mon Feb 26
8	Feb 29	Visuals Exam		Viz Exam In class Thu Feb 29
9	Mar 7		No class due to spring break	
10	Mar 14	Demo Visual Data Project	Demo completed (not draft) data story in class and use feedback to refine	Data Project Due Fri Mar 15
UNIT 2: Geospatial Analysis				
11	Mar 21	QGIS 1: Cartography	Mapping mechanics; ethics of geospatial data; importing geodata; point analysis	H8: GIS 1 Due Mon Mar 25
12	Mar 28	QGIS 2: Joins	Joining numbers and geodata; choropleth and histogram analysis; geocoding; styling	H9: GIS 2 Due Mon April 1
13	Apr 4	QGIS 3: Point Analysis	Geospatial analysis sans maps; point analysis; analysis by locale and time	H10: GIS 3 Due Mon April 8
14	Apr 11	QGIS 4: Spatial Analysis	Isochrone analysis: Setting and measuring parameters using distance and traffic data	H11: GIS 4 Due Mon April 15
15	Apr 18	GIS Exam		GIS Exam In class Thu Apr 18

PART 2: ASSIGNMENTS AND GRADING

Attendance and Deadlines

Because this is a hands-on course, weekly attendance is expected. Deadlines are firm.

Grade Allocation

- Weekly Homework 60% Due 11:59 pm on Mondays. Best 10 scores count.
- Visual Data Project 20% Due 11:59 pm Friday, March 15
- Visuals Exam 10% In class Thursday, Feb. 29
- GIS Exam 10% In class Thursday, April 18


Grading Scale

	Percent		Percent		Percent		Percent
		B+	89-87%	C+	79-77%	D+	69-67%
A	100-93%	B	86-83%	C	76-73%	D	66-63%
A-	92-90%	B-	82-80%	C-	72-70%	D-	62-60%

Scores are rounded to the nearest whole point: 89.4 rounds down to 89 (B+) while 89.5 rounds up to 90 (A-). The [UF grading policy](#) details how GPA is computed.

Homework (60%)

Homework is assigned after each class and is due before 11:59 pm on Mondays. The low score drops. Because you have 4 days to complete each assignment, no extensions will be allowed unless you have an exemption covered by UF policy for the entire time period.

 *Bonus:* Each homework submitted before 6 pm Saturday earns 10 extra points. Why the bonus? Completing work within 48 hours improves learning and retention.

Extra Credit

The only extra credit is the weekly opportunity to earn a full letter grade by turning in each week’s homework early (above). No other option is available.

Visual Data Project (20%)

This is an original, timely, journalistic, data-driven visual story requiring a spreadsheet and optimized for a phone. Must be original to this class. Due by 11:59 pm Friday, March 15.

Exams: Visual (10%) and GIS (10%)

- Visual: In class Feb. 29. Based on class discussion, readings, and instructional videos.
- GIS: In class April 18. Based on class discussion, readings, and QGIS.
- Exams are open book but only-you. No outside consultation allowed.

A makeup exam is possible only if all three conditions are met:

1. The absence is covered by [UF policy](#).
2. You contact me at least 30 minutes before class begins.
3. You promptly provide written documentation if appropriate.

Visual Data Story Rubric (Homework and Project)

Assignment: Create an interesting and concise, data-driven visual story designed for mobile.

Work product: URL of your story on Medium.

Grading standard: How likely is this story to impress a potential employer?

Category	Criteria
Topic (10%)	<ol style="list-style-type: none"> 1. Explicitly driven by a specific, non-binary, timely question of civic import.
Data Analysis (20%)	<ol style="list-style-type: none"> 1. Employs current and reliable data substantial enough to answer question. 2. Analysis is original to you, requiring a spreadsheet to parse and summarize. 3. Data are normalized as necessary to avoid misleading conclusions. 4. Calculations (percent, rate, mean, median, etc.) are appropriate for the data.
Text (20%)	<ol style="list-style-type: none"> 1. Lede and headline focus on one meaningful point derived from your analysis. 2. Numbers in text are used sparingly: Up to 1 per sentence and 3 per story. 3. Headlines, text, and visuals are concise and complementary, not repetitive. 4. Headline and lede (25 words max) meet journalistic standards, per course. 5. Text is mechanically sound: No more than 1 error in spelling or grammar. 6. Story is fair and neutral.
Visuals (40%)	<p>All 3 visuals are distinctive, essential, and follow best practice:</p> <ol style="list-style-type: none"> 1. Scan-read effectively on mobile. <ol style="list-style-type: none"> a. Clear and simple, with only one message per chart. b. Visual “picture” reads effectively without text or labels. c. Color keys avoided; if necessary, employ simple, rounded categories. d. Tooltips coded properly but used only for supplemental information. 2. Accurately represent data. <ol style="list-style-type: none"> a. Numerical axes start at zero; categorical axes complete with equal units. b. For bar/column charts, length is benchmarked properly to data. c. Chart or map type used match the data. 3. Color is used deliberately and effectively. <ol style="list-style-type: none"> a. Visuals can be read in gray tones and accommodate color blindness. b. For emphasis, color choice and hue match data and data type. c. Match palette to data values and use color motifs consistently.

For Project only, remaining 10% apportioned as follows:

Assignment	Description	Percent	Due Date
1. Project Plan Email	Email (not message in Canvas) me these five points: 1. Question: The specific, non-binary, timely question of civic import you will answer. 2. Source: The specific data you will use, with a hyperlink to the source or a copy of the data file. 3. Method: Specify how you will analyze the data in Excel. 4. Visuals: Specify each of the 3 visuals, both (a) the likely title and (b) the chart or map type to be used. 5. Lede: The single, specific data point you have or expect to find, written as a lede sentence.	5%	Email Tuesday, Feb. 20
2. Demo Visual Data Project	Demo completed (not draft) data story in class. 5% awarded only if story is completed and shown to the class on Medium. No partial points.	5%	In class Thursday, March 14

1. I invite you to discuss your project with me before Feb. 20.
2. On Feb. 20, a well-defined and researched project *plan* is due.
3. (FYI, hope is not a plan.)

PART 3: OTHER IMPORTANT DETAILS

Academic Integrity

UF students are bound by 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 work submitted for credit by students at the University of Florida, 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, you 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.

In-Class Recording

The official UF policy regarding in-class recording, to comply with a 2021 Florida law can be found [here](#).

Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting the [get-started page](#). It is important to share any accommodation letter with me and discuss access needs as early as possible in the semester.

Diversity

The College of Journalism and Communications embraces an intellectual community enriched and enhanced by diversity along several dimensions, including race, ethnicity and national origins, gender and gender identity, sexuality, class, and religion. Each course is expected to help foster an understanding of the diversity of peoples and cultures and of the significance and impact of mass communication in a global society. To that end:

1. Please let me know if you find any material in the course violates that expectation.
2. Please alert me if you have a name or preferred pronouns that differ from the class roll information, which is my only source of information about you.
3. If you have any concerns involving diversity in this course that you feel uncomfortable discussing with me, I encourage you to contact Professor Joanna Hernandez, CJC director of inclusion and diversity, at jhernandez@jou.ufl.edu.

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](#). 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 [Bluera](#). Summaries of course evaluation results are [publicly available](#).

Health and Wellness

- **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](#).