**JOU 4930 Advanced Data Journalism**

Spring 2022 | Class 28812, section NT1O | Periods 8-10 Tuesdays | Weimer 2050 | 3 credits

**Associate Professor Norman P. Lewis, Ph.D.**

Office: 3052 Weimer Hall

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

Office hours: Online via Zoom (make appointment in Canvas): Mondays noon to 2pm

 In person (open; no appointment): Mondays 2 to 4 pm

In-person office hours are first-come, first-served. To make a Zoom appointment, click the Calendar icon, then Find Appointment. If none work, contact me and we will find a time.

 **ABOUT THE COURSE**

**Course Description**

This (new for 2022) course blends journalism and data science to qualify you to be hired as a full-time data journalist skilled in the analysis of data and pattern detection. The focus is transparent and reproducible data analysis using R Studio, R Markdown, and GitHub.

**Prerequisites**

Completion of either JOU 3305 Data Journalism or JOU 4930 Sports Data Journalism, and either prior or concurrent enrollment in JOU 3121 DataViz and Mapping, or by permission of the instructor.

**Course Objectives**

To be hirable as a full-time data journalist who can:

* Write R code to analyze and communicate data.
* Employ workflows for transparent and reproducible data journalism.
* Acquire data from standard file formats and APIs.
* Apply statistical techniques to detect meaningful patterns.
* Evaluate a range of journalism topics: census, education, environment, etc.
* Collaborate on data projects using GitHub.
* Communicate data analysis for internal and external use via R Markdown.

**Computer Requirements**

A laptop, either Mac or Windows.

**Required Textbook**

None. Instead, spend $25 and [join](https://www.ire.org/membership/) IRE/NICAR, the world’s premier association for data journalism. You will get access to email lists, story tip sheets, and a helpful community. If money is tight, scholarships are available through IRE or me. Just ask.

**Tentative Schedule (subject to change)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Date** | **Theme or Topic** | **R Skills** | **Assignment** |
| 1 | Jan 11 | Univariate Visual Analysis | Data analysis with 1 variable; essential tidyverse functions in dplyr and ggplot | Homework 1 |
| 2 | Jan 18 | Bivariate Visual Analysis | Data analysis with 2 variables; scatterplots; line charts; trend lines; standard error | Homework 2 |
| 3 | Jan 25 | Wrangle (import, export, formats, dates) | Import online data; import Excel file; fixing headers; data types; dates; lubridate; export | Homework 3 |
| 4 | Feb 1 | Assemble (joins, normalize, search text) | Joins; combine CSVs; normalization; search text; readxl; data export | Homework 4 |
| 5 | Feb 8 | Format (clean, tidy) | Clean variable names; parse strings; clean numbers; made data tidy for visualization | Homework 5 |
| 6 | Feb 15 | Customize Charts | Stacked bar charts; adjust fill colors; edit axis labels and numbers; add titles; Color Brewer | Homework 6 |
| 7 | Feb 22 | Project | Sample project from start to finish | Homework 7 |
| 8 | Mar 1 | NICAR | NICAR data journalism conference March 3-6 (in Atlanta, if held in person) |  |
|  | Mar 8 |  | No class due to spring break |  |
| 9 | Mar 15 | Sharing  | Translate project into R Markdown for sharing via R Studio; GitHub | Homework 8 |
| 10 | Mar 22 | Applied Statistics | Statistical significance; correlation; standard deviation; standard error; t-test; regression | Homework 9 |
| 11 | Mar 29 | Census Data Analysis | API; Census data; ipumsr | Homework 10 |
| 12 | Apr 5 | Geospatial Analysis | GIS and mapping; Leaflet; Mapbox | Homework 11 |
| 13 | Apr 12 | Best Practices | Best practices in data journalism | Homework 12 |
| 14 | Apr 19 | Markdown Presentations | Class presentations |  |

 **ASSIGNMENTS AND GRADING**

**Grade Allocation**

Homework (10 highest count) 40%

R Markdown Project 40%

Final Exam (take at home) 20%

**Grading Scale**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percent |  | Percent |  | Percent |  | Percent |
|  |  | B+ | 89.4-86.5% | C+ | 79.4-76.5% | D+ | 69.4-66.5% |
| A | 100-92.5% | B | 86.4-82.5% | C | 76.4-72.5% | D | 66.4-62.5% |
| A- | 92.4-89.5% | B- | 82.4-79.5% | C- | 72.4-69.5% | D- | 62.4-59.5% |

**Attendance and Deadlines**

Because this is a hands-on, learn-by-doing course, weekly attendance is expected. Unless an absence covered by UF [policy](https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) extends more than 5 days, deadlines are firm.

**Homework**

Assignments reinforce weekly lessons. Twelve are planned, and the best 10 count.

**Final Exam**

This will be an open-book combination of problem-solving and an assessment of how to think empirically about data, apply its benefits, and address its limitations. Regular attendance will adequately prepare you for this exam. You’ll have a full week to complete.

**R Markdown Project**

The project has 3 parts:

1. Identify a compelling current question relevant to audiences.
2. Analyze the data in R using accepted scientific principles.
3. Present the analysis in R Markdown for lay newsroom or public audiences.

Characteristics of an A project:

1. So good it would persuade an employer to hire you.
2. Succinctly answers the question without baloney; quality over quantity.
3. More substance than flash; focused on data analysis more than presentation.
4. Required a substantial amount of data, either in breadth or scope.
5. Employed substantial analysis to test or discover patterns in the data.
6. Applied statistics or other empirical principles to validate patterns.
7. Empirically valid; interprets and evaluates data correctly.
8. Readable by a lay audience (journalist or public) with minimal data skills.
9. R Markdown elements can vary but usually will include:
	1. A readable summary of analysis
	2. Includes explanation of methodology and
	3. Downloadable data, presented in an R datatable.
	4. At least three visual elements that illuminate meaningful patterns.
	5. Links to external sources.
	6. Has sufficient R code that I can replicate and test your analysis.

 **OTHER VERY 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.

**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](https://disability.ufl.edu/students/get-started/). 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 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:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

My policy:

You can record anything the professor does in class for your personal academic use.

**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](https://umatter.ufl.edu/) 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](https://counseling.ufl.edu/) 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](https://shcc.ufl.edu/).
* **University Police Department**: Visit UF Police Department [website](https://police.ufl.edu/) 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](https://ufhealth.org/emergency-room-trauma-center).

**Academic Resources**

* **E-learning technical support**: Contact the UF Computing Help Desk [website](https://helpdesk.ufl.edu/), or phone 24/7 at 352-392-4357, or email helpdesk@ufl.edu.
* **Career Connections Center**: Career assistance and counseling services. Visit the [website](https://career.ufl.edu/). 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](https://cms.uflib.ufl.edu/ask).
* **Teaching Center**: General study skills and tutoring. Visit the [website](https://teachingcenter.ufl.edu/https%3A/teachingcenter.ufl.edu/). 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](https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/).