

# Advanced Data Journalism (JOURN 4432/7432)

## Fall 2021

### Instructors

Elizabeth Lucas

Email: [lucasek@missouri.edu](mailto:lucasek@missouri.edu)

Github: [/eklucas](https://github.com/eklucas)

Office Hours: From 10 a.m. - 12 p.m. on class days.

Schedule a meeting: <https://calendly.com/eklucas/officehours>

Mike Jenner (*instructor of record*)

Email: [jennerm@missouri.edu](mailto:jennerm@missouri.edu)

Office: 216 Reynolds Journalism Institute

Cell: (573) 808-4785

### Course objectives

The goal of this class is to teach you advanced tools and techniques for working with data in the context of a newsroom. Advanced quantitative analysis requires 1) special tools and technical skill, and 2) robust critical thinking and decision making. This class will help you develop proficiency in both areas.

While we will discuss many different tools and strategies, our primary programming language will be R; with it you will engage various datasets and analytical problems and learn to use data with accuracy, efficiency, and clarity. You should become competent in these areas:

- Parsing, formatting and otherwise preparing data for analysis
- Developing sound methodologies for data analysis
- Conducting analysis with accuracy and integrity
- Creating reproducible analysis
- Using automation where applicable
- Presenting data findings and visualizations with clarity

The course will culminate in a final project where you will put these skills to work on a dataset of your choice.

### Course outline

We will meet from 8:30 to 9:45 a.m. each Monday and Wednesday in Gannett 280F. Should circumstances change, classes will shift online via Zoom links in Canvas.

**Please bring your laptop to every class.** You will be responsible for having the appropriate software and capacity for storing and working with data.

The class will be built around a series of sequential modules that relate to and build off each other. These modules will cover the following topics (roughly) in this order. Each module will include weekly assignments to assess your knowledge of the material.

*\*This schedule and the assignment due dates may change.\**

### Module 1: Overview of the class, review of core concepts

*8/23 through 9/3*

Assignment 1 due Sept 1

### Module 2: Introduction to programming and R

*9/8 through 9/17*

Assignment 2 due Sept 13

Assignment 3 due Sept 20

Assignment 4 due Sept 27

### Module 3: Advanced analysis with R

*9/20 through 10/8*

Assignment 5 due Oct 4

Final project initial pitch due Oct 4

Assignment 6 due Oct 11

### Module 4: Automation and reproducibility

*10/11 through 10/22*

Assignment 7 due Oct 18

Final project final pitch due Oct 18

Assignment 8 due Oct 25

### Module 5: Web scraping

*10/25 through 11/5*

Assignment 9 due Nov 1

Final project initial draft due Nov 8

### Module 6: Web apps, sharing data

*11/8 through 11/19*

Assignment 10 due Nov 15

### Module 7: Review of ethics and best practices

*11/29 through 12/8*

Final project due Dec 6

Because this learning relies on step-by-step progression, and because of the technical challenges posed by the nature of the material, **it's essential that students attend and participate in all classes and complete all assignments so they don't fall behind.**

There is no textbook for this class; links to relevant readings will be shared with students.

## **Grading**

Grading will be based on the following components:

Component	% of final grade
Class participation & attendance	25%
Assignments & Quizzes	50%
Final project	25%

There is no midterm or final exam for this course.

## **Final project**

The final project will represent the culmination of a variety of skills learned in this class. It can be a written story or a visual representation, but in either case, the content must be based on insights you discovered in data that you acquired, prepared and analyzed. Projects will be assessed based on the following criteria:

- How challenging was the process acquiring and preparing the data?
- How relevant/impactful are your insights to your audience?
- How successfully have you presented your insights?

The final project is a multi-step process. You will be given several assignments to ensure that you complete your project before the end of this semester; the details of these assignments will be discussed in detail during the first weeks of class:

Assignment	Due Date
Initial pitch	Oct 4
Refined pitch	Oct 18
Initial draft	Nov 8
Final draft	Dec 6

## **Graduate assignment**

Graduate students will be given an additional assignment to earn graduate credit for this course. This is in addition to the other assignments required of all students in the course. The graduate assignment will consist of researching and interviewing a leading industry practitioner about a particular project. Students will write a paper based on their interview and research, and will introduce the project and discuss the work before the class in the

latter half of the semester. Successfully completing the graduate assignment is a stipulation for passing the course. A grade of C or better is required, even if all other course work is completed satisfactorily.

Grad students should discuss this assignment individually with Liz and obtain approval before beginning work on the assignment no later than September 20. Completed assignments are due November 17.

### **Grading scale**

The grading scale for undergraduate and graduate students, with one important exception: Graduate students who do not earn more than 69 percent will fail this course.

#### **For undergraduate students**

Percent range	Letter grade
98-100%	A+
93-97%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-
59% & below	F

#### **For graduate students**

Percent range	Letter grade
98-100%	A+
93-97%	A

90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
69% & below	F

### **Prerequisite**

Prior to enrollment, students are required to complete Computer-Assisted Reporting (JOURN 4430/7430) or gain consent from Mike Jenner.

### **Attendance and punctuality**

Students are expected to attend class. Students who fail to attend class will miss receiving important information from instructors, as well as missing in-class lessons completely. Furthermore, students are asked to be punctual. Whether in person or online, showing up late can disrupt and delay presentations, cause you to miss information that will help you follow along, and is unfair to students who are on time. Students with attendance or punctuality problems will pay a penalty in their participation grade.

### **Core values and competencies**

As a student of the Missouri School of Journalism, you are expected to be aware of certain core values and competencies. Specifically, the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) requires that, irrespective of their particular specialization, all graduates should be able to:

- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Think critically, creatively and independently;
- Understand concepts and apply theories in the use and presentation of information;
- Conduct research and evaluate information by methods appropriate to the communications professions in which they work;
- Apply basic numerical and statistical concepts;
- Apply current tools and technologies appropriate for the communications professions in which they work, and to understand relevant aspects of the digital world.

## **Academic honesty and integrity**

Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful.

The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion.

Academic misconduct includes but is not limited to the following:

- Use of materials from another author without citation or attribution.
- Use of verbatim materials from another author without citation or attribution.
- Extensive use of materials from past assignments without permission of your instructor.
- Extensive use of materials from assignments in other classes without permission of your instructor.
- Extensive use of materials from work in a University media organization or external media organization without permission of your instructor.
- Fabricating information in news or feature stories, whether for publication or not.
- Fabricating sources in news or feature stories, whether for publication or not.
- Fabricating quotes in news or feature stories, whether for publication or not.
- Lack of full disclosure or permission from editors when controversial reportorial techniques, such as going undercover to get news, are used.

When in doubt about plagiarism, paraphrasing, quoting or collaboration, consult with your instructor. For closed-book exams and exercises, academic misconduct includes conferring with other class members, copying or reading someone else's test and using notes and materials without prior permission of the instructor. For open-book exams and exercises, academic misconduct includes copying or reading someone else's work.

## **Classroom Misconduct**

Classroom misconduct is defined by the University of Missouri's collected rules and regulations are also outlined in the M-Book Student Code of Conduct.

Classroom misconduct can include obstruction or disruption of teaching, such as late arrival or early departure or failure to turn off mobile devices unless otherwise instructed.

Classroom misconduct can also include misuse of computing resources, harassment, bullying, physical abuse or safety threats; theft; property damage; disruptive, lewd or obscene conduct; abuse of computer time; repeated failure to attend class when attendance is required; and repeated failure to participate or respond in class when class participation is required.

## **Dishonesty and Misconduct Reporting Procedures**

MU faculty are required to report all instances of academic dishonesty or classroom misconduct to the appropriate campus officials. Allegations of classroom misconduct must be reported to MU's Office of Student Accountability & Support. Allegations of academic misconduct must be reported to MU's Office of Academic Integrity.

## **Professional Standards and Ethics**

The School of Journalism is committed to the highest standards of academic and professional ethics and expects its students to adhere to those standards. Students should be familiar with the Code of Ethics of the Society of Professional Journalists and adhere to its restrictions. Students are expected to observe strict honesty in academic programs and as representatives of school-related media. Should any student be guilty of plagiarism, falsification, misrepresentation or other forms of dishonesty in any assigned work, that student may be subject to a failing grade from the instructor and such disciplinary action as may be necessary under University regulations.

### **Copyright in course materials**

The materials you encounter in your coursework at Mizzou is subject to many different types of copyright protection, depending on the author as well as how it is used. In a single course you may encounter materials created by your instructor, an article that is shared with you in an extemporaneous way under the Teach Act, and materials such as course packets where each copy includes a royalty payment to the author. As a student, you are responsible for how you use course materials and must ensure that the rights of copyright holders are not violated by sharing them, posting materials online, etc.

### **Student work and copyright**

Just like materials created by your instructor are protected by copyright, the things you create as a student are owned by you. For example, if your instructor uses TurnItIn to check for plagiarism in student papers, the University has an agreement with TurnItIn so that no papers are shared with that company and are only used to cross-reference.

### **Audio and video recordings of classes**

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

**Religious holidays**

Students are excused for recognized religious holidays. Let your instructor know in advance if you have a conflict.

**FERPA**

The University of Missouri maintains educational records of students in accordance with the Family Educational Rights and Privacy Act of 1974 (FERPA). Related topics include privacy policies at MU, display of student directory information and details about how MU manages FERPA-protected information.

**University of Missouri Notice of Nondiscrimination**

The University of Missouri does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age, disability or status as a protected veteran.

**Title IX**

University of Missouri policies prohibit discrimination on the basis of race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, pregnancy, age, genetic information, disability and protected veteran status. Discrimination includes any form of unequal treatment such as denial of opportunities, harassment, and violence. Sex-based violence includes rape, sexual assault, unwanted touching, stalking, dating/interpersonal violence, and sexual exploitation.

If you experience discrimination, you are encouraged (but not required) to report the incident to the MU Office for Civil Rights & Title IX. Learn more about your rights and options at [civilrights.missouri.edu](http://civilrights.missouri.edu) or call 573-882-3880. You also may make an anonymous report online.

Students may also contact the Relationship & Sexual Violence Prevention (RSVP) Center, a confidential resource, for advocacy and other support related to rape or power-based personal violence at [rsvp@missouri.edu](mailto:rsvp@missouri.edu) or 573-882-6638, or go to [rsvp.missouri.edu](http://rsvp.missouri.edu).

Both the [Office for Civil Rights & Title IX](#) and the [RSVP Center](#) can provide assistance to students who need help with academics, housing, or other issues.

**\*Required Referral\*:** Mizzou employees are required to refer all incidents of sex discrimination to the Office for Civil Rights & Title IX. The Office connects students with resources and helps them decide whether they wish to file a complaint of discrimination. To learn more, contact [title9@missouri.edu](mailto:title9@missouri.edu) or 573-882-3880, or go to [civilrights.missouri.edu](http://civilrights.missouri.edu).

**Students with disabilities**

If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share with me, or if you need to make arrangements in case the building must be evacuated, please let me know as soon as possible.



If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please register with the MU Disability Center, S5 Memorial Union, 573-882-4696, and then notify me of your eligibility for reasonable accommodations.

### **Intellectual Pluralism**

The University community welcomes intellectual diversity and respects student rights. Students who have questions concerning the atmosphere in this class (including respect for diverse opinions) may contact your faculty chair or associate dean; or the director of the Office of Students Rights and Responsibilities; the MU Equity Office, or [equity@missouri.edu](mailto:equity@missouri.edu).

### **Student Support Statement**

Students can encounter challenges that may impact their performance in their academic programs. The School of Journalism is committed to support students who encounter these challenges. Any student who cannot afford groceries or access sufficient food to eat every day, or who lacks a safe and stable place to live is urged to contact Nicole Logue, 2500 MU Student Center, ([loguejn@missouri.edu](mailto:loguejn@missouri.edu)) or Lynda Kraxberger, Associate Dean for Undergraduate Studies, 120 Neff Hall, [kraxbergerl@missouri.edu](mailto:kraxbergerl@missouri.edu) for a list of resources and support. In addition, the MU Tiger Pantry is a free resource with a food pantry and personal care items, located at 1400 S Rock Quarry Rd #8. Students in these situations may find it helpful to notify their professors so they can also assist with finding resources.

### **Evaluating instructors**

All students will have the opportunity to submit an anonymous evaluation of the instructor(s) at the end of the course.