J 339T/J 395/GRG 356T
Mapping in Storytelling
Fall 2017

3:30-5 p.m. Tuesday and Thursday, 3.208 Belo Center for New Media

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Course description
This course covers the foundations of data analysis, spatial analysis, data visualization, design, cartography and interactivity for newsgathering and visual storytelling.

Prerequisite courses
J 310F (or J 320D) and J 311F (or J 321C) with a grade of at least B- in each.

Course objectives
By the end of the semester, you will know how to identify newsworthy topics, find relevant data sources, analyze data using spreadsheets and GIS software, apply design principles and data visualization techniques, and tell visual news stories through a combination of text and graphics, with an emphasis on maps.

Though we will use specific tools to accomplish these goals, you will learn the underlying concepts and have the ability to apply this knowledge to any situation. We will read past and present works of data journalism and visual stories and discuss the editorial and ethical concerns.

You will learn only the most relevant skills and best practices for working in data journalism and visual storytelling. You will become comfortable with these new skills through repeated hands-on practice.

Grading

Weekly assignments	30% of final grade
Midterm project	30%
Final project	30%
Attendance and participation	10%

Final grades are rounded to the nearest percentage point and follow this scale:

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

Readings

There are no required textbooks. Online articles and scanned book excerpts will be assigned throughout the semester.

Tests and quizzes

No exams are scheduled, but there may be quizzes if it becomes clear that you are not keeping up with the readings.

Software

We will use Google Sheets, QGIS and Carto to work with spreadsheets and GIS data. All three programs are free and available for both Mac and Windows.

Schedule

This is only an outline and is subject to change. Check Canvas for updates.

Aug. 31   Class introduction
                 Syllabus, goals, outline, introductions and course setup.

Sept. 5　　　Introduction to data journalism
　　　　　　Why, history, finding data, file types, metadata, documentation and best practices.
　　　　　　Assigned: Exercise #1: Obtaining data and preparing spreadsheets. Due Sept. 12.

Sept. 7　　　Introduction to spreadsheets
　　　　　　Layout, organization, importing and exploring data in Google Sheets.

Sept. 12　　Spreadsheet techniques
　　　　　　Searching, sorting, filtering and cleaning data in Google Sheets.
　　　　　　Due: Exercise #1
　　　　　　Assigned: Exercise #2: Analyzing spreadsheet data. Due Sept. 19.

Sept. 14　　Aggregating and summarizing data
　　　　　　Using pivot tables in Google Sheets.

Sept. 19　　Introduction to data visualization and design principles
　　　　　　Data types, attributes, channels and visual hierarchy.
　　　　　　Due: Exercise #2
　　　　　　Assigned: Exercise #3: Data visualization research and critiques. Due Sept. 26.

Sept. 21　　Chart types
　　　　　　Why and when to use chart types, creating charts in Google Sheets.
　　　　　　Assigned: Midterm project proposal. Due Sept. 28.

Sept. 26　　Introduction to maps
　　　　　　History, types, examples and projections.
　　　　　　Due: Exercise #3
　　　　　　Assigned: Exercise #4: Creating charts and map critiques. Due Oct. 3.

Sept. 28　　Map types and design principles
　　　　　　Choosing map types based on data types and classifications.
　　　　　　Due: Midterm project proposal
　　　　　　Assigned: Midterm project rough draft. Due Oct. 5.

Oct. 3　　　Introduction to spatial data
　　　　　　Where to find, file types, transformations and project organization.
　　　　　　Due: Exercise #4
　　　　　　Assigned: Exercise #5: Finding and analyzing spatial data. Due Oct. 10.

Oct. 5   Introduction to GIS
Exploring spatial data using QGIS.
Due: Midterm project rough draft
Assigned: Midterm project final draft. Due Oct. 12.

Oct. 10   Inspecting spatial data
Advanced searching and filtering in QGIS.
Due: Exercise #5

Oct. 12   Joining spreadsheets and spatial data
Combining multiple data sources for deeper analysis.
Due: Midterm project final draft

Oct. 17   Editing spatial data
Geoprocessing spatial data with merge, dissolve and difference methods.
Assigned: Exercise #6: Joining spreadsheets and spatial data. Due Oct. 24.

Oct. 19   Spatial relationships
Examining spatial relationships with clip, intersect, union and buffer methods.

Oct. 24   Geocoding
Applying spatial awareness to non-spatial data.
Due: Exercise #6
Assigned: Exercise #7: Editing shapefiles using geoprocessing. Due Oct. 31.

Oct. 26   Spatial joins
Combining multiple data sources based on their spatial positions.

Oct. 31   Analyzing Census data
Possibilities and limitations in understanding areas based on demographic data.
Due: Exercise #7
Assigned: Exercise #8: Proximity analysis. Due Nov. 7.

Nov. 2   Population distribution and proportional analysis

Nov. 7   Satellite imagery and sensor data
Due: Exercise #8.
Assigned: Exercise #9: Spatial joins. Due Nov. 14.

Nov. 9   Map styling and presentation
                Introduction to Carto and interactive maps.

Nov. 14   Creating data-driven styles
                Due: Exercise #9
                Assigned: Exercise #10: Styling maps with Carto. Due Nov. 28.

Nov. 16   Interactive design
                Benefits and drawbacks, new capabilities, pitfalls, web browsers, devices.
                Assigned: Final project proposal. Due Nov. 30.

Nov. 21   Web design principles and considerations
                Basic HTML and CSS for structuring and styling web pages.

Nov. 23   No class (Thanksgiving break)

Nov. 28   Graduated and proportional symbols
                Due: Exercise #10
                Assigned: Exercise #11: Advanced maps with Carto. Due Dec. 5.

Nov. 30   Dot density, hex grids and heat maps
                Due: Final project proposal
                Assigned: Final project rough draft. Due Dec. 7.

Dec. 5   Time-series data
                Due: Exercise #11

Dec. 7   The future of digital tools, online presentations and visual storytelling
                Due: Final project rough draft
                Assigned: Final project final draft. Due 5 p.m. Dec. 16.

COURSE POLICIES

Attendance and participation
You are expected to attend all classes and participate in all discussions. This can include raising your hand during lectures, assisting others during in-class work time, sharing your troubleshooting solutions on Canvas or engaging with your classmates in any other way.

Classes include lectures and hands-on work time. The course will move quickly and build on top of previous material, so you will be at a disadvantage if you miss class. Please inform me in advance if you need to miss a class or have a personal situation that will affect your attendance or performance.

Deadlines
Submit all assignments through Canvas by the specified due date and time. Late assignments will have their grades deducted 10 percent starting the moment they are late. An additional 10 percent will be deducted for each subsequent day that an assignment is late. Please inform me if you have a situation that will interfere with your ability to meet a deadline.

All assignments are due at the start of class (3:30 p.m.) on their due dates unless otherwise noted.

Rough and final drafts
You will turn in a rough draft prior to submitting your midterm and final projects. This is your chance to receive feedback about the status of your work and make revisions. As such, I will hold your final drafts to a high standard. Final drafts should be polished, error-free and ready for publication.

Standards
Though you are students, you should hold yourselves to professional standards when reporting your stories and designing your graphics. Make it clear to your sources that you may seek publication for your work and that everything is on the record.

University Code of Conduct
"The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community." Student Discipline and Conduct

Academic integrity
"A fundamental principle for any educational institution, academic integrity is highly valued and seriously regarded at The University of Texas at Austin. More specifically, you and other students are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University. This is a very basic expectation that is further reinforced by the University's Honor Code. At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:

- Acknowledge the contributions of other sources to your work
- Complete your assignments independently unless expressly authorized to seek or obtain assistance in preparing them
- Follow instructions for assignments and exams, and observe the standards of your academic discipline
- Avoid engaging in any form of academic dishonesty on behalf of yourself or another student

"For the official policies on academic integrity and scholastic dishonesty, please refer to Chapter 11 of the Institutional Rules on Student Services and Activities." Academic Integrity

As journalists, you must also consider any conflicts of interest in your reporting. Please speak with me before beginning any work if you are uncertain about this.

Plagiarism
"'Plagiarism' includes, but is not limited to, the appropriation of, buying, receiving as a gift, or obtaining by any means material that is attributable in whole or in part to another source without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one's own academic work being offered for credit or in conjunction with a program course or degree requirements." Plagiarism

This includes submitting your own past work (self-plagiarism). All work is expected to be new and original, and anything less will be treated as academic dishonesty. If you would like to expand on previous work, you must speak with me beforehand.

If you are caught plagiarizing, you will face severe punishment in this course and will be referred to the Office of the Dean of Students for possible further punishment. If you are uncertain whether you are committing plagiarism, consult me before you turn in any work.

Plagiarism is never an acceptable practice, but it is especially egregious in journalism. Your career lives and dies on your honesty, transparency and reputation. Cite all of your sources, quote people accurately and never take credit for work that is not yours.

Q drop policy
If you want to drop a class after the 12th class day, you will need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution.

Religious holidays

Please notify me in advance if you will be observing a religious holiday so that you will be given an opportunity to complete any missed work.

Disabilities

Please notify me if you require any accommodations or assistance. Visit the Division of Diversity and Community Engagement's Services for Students with Disabilities website or call 512-471-6259 for information on available accommodations.

Mental health

The Counseling and Mental Health Center (512-471-3515) and its crisis line (512-471-2255) offer counseling, psychiatric assistance, consultation, assessments, referral services and prevention services for your academic and personal lives. If stress, anxiety, racing thoughts, feeling unmotivated or anything else is getting in your way, there are options available for support.

The Moody College of Communication's CARE Counselor is Abby Simpson. You can find her in room 4.134 CMA or by calling 512-471-7642 (leave a message if she is unavailable).

Safety and emergency procedures

Please review the emergency preparedness website for details about campus safety, emergency plans and emergency communications.

Student Emergency Services is also available for reporting violence, mental health concerns, disasters, student deaths and other emergencies.

The Behavior Concerns Advice Line is available 24 hours a day for you to report concerns about another person's behavior. It is a fast and simple way to report any issues or concerns you may have with any member of the university community including students and teaching assistants. You can report your concerns online or by calling 512-232-5050.

SURE Walk is a safe way to get to and from campus and from building to building. Student employees and volunteers provide walking escorts and car or cart rides to students, faculty and staff. SURE Walk is available seven days a week from 8:30 p.m. to 2 a.m. by calling 512-232-9255 or emailing orderasurewalk@gmail.com. Check the website for a map showing where the services are available.

SURE Ride is a new service that provides free Lyft rides to residential locations, seven days a week from 11 p.m. to 4 a.m. Check the website to see where the service is available.

Moody College Writing Support Program
Writing is not the focus of this course, but clear and concise writing is always important. I highly recommend the tutors in this program and have seen tremendous improvements in students' work after only one half-hour appointment. The program is open to both journalism and geography students. The program's description:

"The Moody College Writing Support Program, located in BMC 3.322, offers one-on-one assistance without charge to undergraduates seeking to improve their professional writing in all fields of communication. We have student specialists in Journalism, RTF, CSD, CMS, Communication & Leadership and PR & Advertising. In addition, we offer workshops to strengthen core writing skills in each field and to inspire students to strive for excellence. Students may guarantee their time by booking half-hour appointments on our website for assistance during all stages of the writing process. Writing coaches also will take drop-ins if they are not working with appointments."

Additional resources
The University Writing Center offers one-on-one writing consultation for undergraduate and graduate students. Though helpful, this likely won't offer the same journalism-specific advice that you would find with the Moody College Writing Support Program.

The Sanger Learning Center provides academic support, coaching, workshops and classes.