Data-Driven Storytelling

Course Information:
JOURNAL 397DJ (3 credits), Spring 2017
Meets Tuesdays and Thursdays, 8:30 - 9:45 a.m., S413 Integrative Learning Center (ILC)
Prerequisites: Journalism 300; Sophomore, Junior and Senior Journalism majors only

Instructor:
Rodrigo Zamith
S467 Integrative Learning Center
Phone: 413-545-4404
E-mail (preferred): rzamith@umass.edu

Office Hours:
Tuesdays, 10:00 a.m. - noon

INTRODUCTION

How can journalists use data to find stories? How can they tell stories through data? This hands-on course provides students with the knowledge and skills necessary to begin gathering, analyzing and visualizing interactive, data-driven stories. Students will work in pairs to tackle questions pertaining to ethical data sourcing, data analysis and making data meaningful for the public. They will also produce their own exciting and thought-provoking digital news story. Prior experience with advanced statistics, web design or computer programming is neither assumed nor necessary, and course content will adapt to the collective skills of the students in the classroom. However, a willingness to experiment, learn new technologies and embrace iteration in a cooperative environment is a must.

REQUIRED TEXTS

This class does not require a textbook. Instead, students will be required to view short lecture videos and read pieces provided by the instructor *prior to coming to class*. All course materials will be made available to students for free via Moodle. You may print these materials or read them on your electronic device of choice, but please do not redistribute them.

TECHNOLOGY

This course makes use of the Moodle online learning system in order to distribute lecture videos, readings, assignments and lecture slides. You will also be asked to submit assignments through Moodle. In order to use Moodle, you will need access to a computer that is connected to the internet. Moodle is compatible with nearly all modern browsers. If you require technical assistance, please contact the IT Help Center at https://www.it.umass.edu/support/moodle.

All software required for successfully completing this course will be installed on the computers in the classroom and/or the computer labs in the ILC. Additionally, much of the work may be completed using free software that runs within your Web browser.

If you anticipate that the use of technology will pose a barrier to your completion of this course, please contact the instructor.

To access the course website, please visit: https://moodle.umass.edu

COURSE OBJECTIVES

This course is designed to help students achieve certain learning outcomes and competencies. At the conclusion of the semester, you should be able to:

1. Generate compelling story ideas that may be addressed through analyses of publicly accessible data.
2. Locate sources of public data to report stories.
3. Evaluate the strengths and weaknesses of data sources, data sets and analytical strategies.
4. Discover errors in data files and "clean" them using computer software.
5. Analyze data using descriptive statistical techniques in order to identify patterns, groups, relationships and/or outliers of interest.
6. Critique data visualizations and match chart forms and functions.
7. Collaboratively create data-driven news stories and visualizations geared at general audiences.

COURSE REQUIREMENTS

Group work: The majority of the work in this class will involve working with at least two partners. (Your instructor strongly believes in the value of collaboration for synthesizing ideas. It is also useful for any communications professional to learn how to play nice with others and resolve conflict in group settings.) The instructor will assign groups on the third week of classes based on your feedback. You will be expected to sit by your groupmates during class.

In-class participation: This class will be far more enjoyable if you and your colleagues are active participants. Your participation will be assessed in a qualitative fashion, focusing on your contributions to the class and your group. A rubric for this course requirement may be found here. These grades will be individual and issued at four different points in the semester.

Data diaries: On most weeks, groups will be given a set of objectives for that week. Each group member will be assigned one of two roles for that week: Reporter or Responder. All group members are expected to contribute to a comprehensive log of their activities for that week. (I recommend setting up collaborative Google Doc every week.) The Reporter will be tasked with ensuring the objectives are met and synthesizing that log into a weekly entry that includes a

detailed write-up of **all** major actions taken by the group, commands they ran, etc. Most importantly, the entry should include the logic behind all major decisions. All entries are public, and the Reporter will submit the entry as a post to a weekly forum on Moodle by *noon on the Sunday for that week*. The Responder will be tasked with responding to a diary entry from a *different* group by *5 p.m. the following day* (Monday). The Responder's reply should include clear and detailed suggestions for what that group could have done better, and ideas they might consider going forward. If a Responder does not have a Report to respond to by noon Sunday, they may respond to any other group by the Monday deadline. A rubric for this course requirement may be found [here](#). These grades will be individual.

Data-driven story critique presentation: Starting in Week 3, classes will begin with a student-led data-driven story critique. You will sign up for one presentation, which you will deliver individually. Each presentation is expected to last roughly five minutes and you will be expected to do a deep dive into a data-driven story that appealed to you, evaluating what did and did not work using the vocabulary we'll be developing over the course of the semester. These grades will be individual.

Quizzes: There will be a short, multiple-choice quiz due most Mondays at 11:59 p.m. All quizzes will be administered online and draw from the learning materials for that week. Your lowest quiz grade will be automatically dropped. These grades will be individual.

Final project: Together with your group, you will produce a data package that delves deeply into a newsworthy issue of your choice. The package should include news feature longer than 1,000 words and at least three distinct data visualizations that illustrate key aspects of the story. You will also be asked to turn in a detailed tutorial for replicating all of your work. At the end of the semester, you will have the opportunity to rate your groupmates' contributions to this assignment. Thus, individual group members may receive different grades depending on the quantity and quality of their contributions, as well as their demeanor as a groupmate. Additionally, each group member will turn in a short reflection paper, which will be evaluated individually.

GRADING POLICY

Grade Calculation: Your course grade will be calculated as follows:
- Class participation: 100 points
- Data diaries: 270 points
- Quizzes: 90 points
- Data-driven story critique presentation: 40 points
- Final project: 300 points
- (Total: 800 points)

Grade Distribution: Grades will be given on an absolute scale. This means that your grades will be based only on your accomplishments and that you are not in competition with other students for grades in this course.

Grading Standard:

- A: Achievement that is outstanding relative to the level necessary to meet course requirements. (A: 93-100%; A-: 90-92.99%)
- B: Achievement that is significantly above the level necessary to meet course requirements. (B+: 87-89.99%; B: 83-86.99%; B-: 80-82.99%)
- C: Achievement that meets course requirements in every respect. (C+: 77-79.99%; C: 73-76.99%; C-: 70-72.99%)
- D: Achievement that is worthy of credit even though it fails to meet fully the course requirements. (D+: 67-69.99%; D: 63-66.99%; D-: 60-62.99%)
- F: Represents failure and signifies that the work was either completed but at a level of achievement that is not worthy of credit or was not completed. (F: 59.99% and below)
- I (Incomplete) – This grade is rare and will be assigned at the discretion of the instructor. An incomplete grade will be considered only when documented, extraordinary circumstances beyond control, or ability to anticipate, prohibit timely completion of the course requirements. Additionally, students must (1) have successfully completed a substantial portion of the required coursework and (2) be determined by the instructor to be capable of completing the remaining coursework within one calendar year. An Incomplete will not be granted to students presently failing the course. Students requesting an Incomplete must enter into a written agreement with the instructor establishing the coursework to be completed and the timeframe in which it will be completed.

Attendance: Attendance is not formally required in this course. However, failure to regularly attend class is likely to result in negative outcomes for several reasons, including the fact that you will not be able to contribute to the in-class discussions and exercises, both of which factor into your course grade. Additionally, you will miss out on your instructor's humor and wit, and your classmates will forever pity you for it.

Late Assignments: Late assignments are only permitted with the instructor's approval. They will be automatically penalized by half of the total possible points and subsequently graded. For example, if you were to turn in a late assignment that was originally worth 50 points and made an error that cost you 5 points, you would receive 20 points for the assignment. (50 ÷ 2 = 25; 25 – 5 = 20.) *Extensions are rare and will only be considered if the instructor is provided with substantial advance notice.*

Make-up Policy: Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances, which must be documented. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement and religious observances. Make-up assignments must be completed within one week of the original due date. The instructor must be notified of excused absences within 48 hours of the absence. In-class activities and assignments with flexible due dates may not be made up.

Coursework Resubmission: Assignments are only eligible for resubmission in extraordinary circumstances and with the permission of the instructor.

Assignment Grade Changes: Your instructor is human and thus prone to make misteaks. If you believe your assignment has been graded incorrectly, please contact the instructor. If this is a simple arithmetic error (e.g., the points don't add up), the instructor will immediately change the

grade. In instances where the presumed error lies in the instructor's judgment (e.g., you were granted fewer points than you think you deserved), the instructor will review the entire assignment before assigning a new grade. This is because judgment errors rarely occur in isolation, and it means that you will receive a new grade that may be *higher or lower* than the previous grade. You will be granted a single appeal per assignment. All grades must be challenged in writing within one week of the receipt of the original grade to receive consideration. For group assignments, all members of a group must agree with the appeal for it to go forward.

Extra Credit: A student is not permitted to submit extra work in an attempt to raise their grade unless the instructor has made an extra credit opportunity available to all students and announced it in class or via a class-wide e-mail. Extra credit will only be offered when it advances course objectives and will not disadvantage students electing not to participate in extra credit opportunities. A student may receive no more than 30 extra credit points over the course of the semester.

COURSE EXPECTATIONS

Role of the Instructor: I view my role as Instructor in this particular class to be more of a guide than the nexus of information. *I will often give you tips for how to find an answer instead of answering a question for you.* This is intentional and may occasionally frustrate you. Rest assured, it's not because I'm a jerk or want the easy way out. Instead, it's to prepare you for the reality of operating in a rapidly-changing industry, where technologies and the paths to information are constantly changing. Guiding you to learn how to figure out solutions to recurring challenges in data-driven storytelling is arguably the most important thing I can offer in this class.

Student Expectations: Students are expected to: (1) be open-minded; (2) engage in the course material and in class discussions; (3) respect their peers and instructor; (4) work hard, within the limits of the workload policy; (5) be aware of information posted on Moodle and disseminated by the instructor via e-mail, including deadlines; and (6) discuss their concerns with the instructor as they arise.

Instructor Expectations: You should expect me to be: (1) open-minded; (2) respectful and constructively critical of you, your opinions and your work; (3) helpful in achieving the course objectives; and (4) responsive, both in terms of providing feedback and addressing your concerns. My goal is to help you learn, and I welcome feedback on my performance. You will be given an opportunity to provide anonymous feedback around the middle of the semester, but I encourage you to send me an e-mail, approach me after class, or stop by during office hours to share any concerns or suggestions you might have.

Classroom Conduct: I am responsible for maintaining a positive and orderly classroom environment. To facilitate this, students are asked to (1) be respectful of the wide range of views that may be presented in the class; (2) give their classmates and the instructor the opportunity to finish their statements; and (3) raise their hands to ask questions or engage the instructor in a non-disruptive manner. Different perspectives are encouraged, provided they are presented in a constructive manner. If a student feels that their learning is being negatively impacted by the

actions of the instructor or another student, they should make their concerns known to the instructor. Students whose behavior is disruptive may be asked to leave the classroom. When in doubt, follow the Golden Rule.

Electronic Device Policy: Electronic devices like laptops, tablets and phones *are* allowed in the classroom and students may be asked to use such devices to complete in-class activities. If you are observed by the instructor using a device for non-class purposes or in a manner that is distracting to the instructor or your classmates, you will be warned once and then have your electronic device privileges removed. Repeated violation of this policy may lead to your dismissal from the class. *Please silence all electronic devices.*

ADDITIONAL POLICY REMINDERS

Workload Policy: According to UMass policy, one undergraduate credit represents three hours of academic work per week, averaged over the semester, in order to complete the work of the course to achieve an average grade. Thus, a three credit course is equivalent to roughly 9 hours of work per week (3 hours inside the classroom and 6 hours outside of it).

Course Grade Changes: Questions about course grade changes should be directed to the instructor. After contacting the instructor, you may also reach out to the department chair, Kathy Roberts Forde. Alternatively, you may contact the Ombuds Office at http://www.umass.edu/ombuds/. Grade changes will be made only when there is evidence of an error in grading and/or recording of a grade.

Appropriate Use of Class Notes: Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community.

Scholastic Misconduct: You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. *Proven scholastic misconduct may result in a course grade of F.* If you have questions about scholastic misconduct, please review the materials at http://www.umass.edu/academichonesty/ or contact the instructor.

Disabilities: I am committed to providing quality education to all students regardless of ability. Determining appropriate disability accommodations is a collaborative process. You as a student must register with Disability Services and provide documentation of your disability. I will then work with you and Disability Services to attempt to accommodate the learning environment to suit your needs and will provide essential information about the course in an alternate format.

For more information, please see the Disability Services website at http://www.umass.edu/disability/ or have a conversation with me.

Sexual Harassment: "Sexual harassment" means unwelcome sexual advances, requests for sexual favors and/or other verbal or physical conduct of a sexual nature. This kind of conduct has the effect of unreasonably interfering with a student's work or academic performance and can create an intimidating, hostile, or offensive environment. Such behavior is not acceptable in the University setting and most certainly not in my classroom. Complaints about sexual harassment should be reported to the instructor and/or the Office of Equal Opportunity & Diversity at http://www.umass.edu/eod/index.html.

Diversity and Equal Opportunity: I strive to offer equal access and opportunity to all students in my class, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. I encourage students to offer critical perspectives and to keep an open mind to the multiplicity of perspectives. I take intolerance very seriously and reserve the right to expel you from the class for engaging in disrespectful or, worse, hateful conduct. Complaints about prejudicial conduct should be reported to the instructor and/or the Office of Equal Opportunity & Diversity at http://www.umass.edu/eod/index.html.

Mental Health and Stress Management: As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. As the instructor, I will attempt to work with you *provided you discuss this with me ahead of time*. I also encourage students to visit the Center for Counseling and Psychological Health to develop a strategy for dealing with these issues. For more information, see http://www.umass.edu/counseling/.

Academic Freedom: Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. You are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. You are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but you are also responsible for learning the content of any course of study for which you are enrolled. If you are concerned about your academic freedoms in this class, please contact either me or the head of the Journalism Department, [Kathy Roberts Forde](#).

COURSE TOPICS

The most up-to-date version of the course schedule, with readings and assignments, may be found on the [Moodle course page](#). Below is a brief summary of the topics we'll be covering in the class.

Week 1: Introducing the course and unpacking the role of data in journalism.

Week 2: Obtaining data and evaluating their source.

Week 3: Making sense of datasets and exploring data using Microsoft Excel.

Week 4: Generating story ideas and correcting common problems in publicly-available datasets.

Week 5: An introduction to statistics; using Pivot Tables in Excel.

Week 6: Correctly interpreting your statistics (and the limits of your inference).

Week 7: Incorporating human sources into data-driven packages.

Week 8: Spring Break. (No class!)

Week 9: Group meetings with Prof. Zamith.

Week 10: Writing a compelling data-driven news story.

Week 11: Matching form and function with charts; design principles for non-designers.

Week 12: Creating interactive visualizations.

Week 13: Visualizing spatial data with interactive maps. (There will be no class on Apr. 18.)

Week 14: Using JavaScript to create fully customizable interactive visualizations; wrapping up the Final Project.

Week 15: Final Project presentations.