

Fall 2023: Telling Stories with Data Visualization

PPHA 30562

Information about this course

Background and Goals

If an image is worth a thousand words, nowhere is it truer than with data visualization. The proliferation of technology means that massive quantities of data have become valuable assets to both public and private organizations. This class equips students with the skills to make and disseminate meaning from these datasets.

The purpose of this course is to equip students with the skills to attain, analyze and visualize data effectively. In the first part of the course, students will gain an understanding of the foundational psychology underlying the effectiveness of data visualization as a tool for communications and how their intended audience impacts visual design. They will also get an understanding of how data collection impacts the resulting visualization. With these foundations, part two of the course will focus on the bread and butter of high-quality visualization construction. Finally, the third part of the course will introduce concepts to enhance the workflow of chart creation in the real world. Ultimately, students should become proficient in communicating data insights visually.

Class Logistics

Class meets in person from 2:00pm to 4:50pm on Thursday's in room KELL10. Class time will be divided between lectures and in-class activities. Students will complete short reading quizzes each week to demonstrate completion of homework. Canvas will be used for communications/announcements and for submitting the midterm and final. We will use Canvas discussion posts to display and discuss in-class activities.

The Midterm will take place on October 26th and the final project will be due by December 7th.

Student assignments

Reading quizzes (15%)

Short reading checks will be administered at the end of each lecture based on the homework.

In-class activities (25%)

Students will complete an activity during each class to advance their skillset. Students should make a substantial effort on these activities which will be submitted to discussion posts on Canvas.

Midterm (20%)

The midterm will be a combination of multiple-choice and essay-based test administered in-class on October 26th. Students will have 90 minutes to complete the midterm.

Final (40%)

The final will be a data visualization project that is turned in by each student individually by midnight on December 7th. The final project will be an original culmination of all the skills we learn in class and should serve as a potential portfolio item for students to show employers their skills.

Readings, topics, and schedules

Part I: Dataviz Science and Foundations

Homework due before class on September 28th

- Class survey
- Read pages 5 - 86 of *The Functional Art: An Introduction To Information Graphics And Visualization* by Alberto Cairo

Homework due before class on October 5th

- Read pages 97-146 of *The Functional Art: An Introduction To Information Graphics And Visualization* by Alberto Cairo

Homework due before class on October 12th

- Read pages 93 - 130 of *Guide To Information Graphics: The Dos And Dont's Of Presenting Data, Facts And Figures* by Dona M. Wong

Part II: Building Blocks of Chart Construction

Homework due before class on October 19th

- Read pages 121-296 of *The Truthful Art: Data, Charts, And Maps For Communication* by Alberto Cairo

Homework due before class on October 26th

No homework other than studying for the midterm.

Homework due before class on November 2nd

- Read pages 30 - 91 of *Guide To Information Graphics: The Dos And Dont's Of Presenting Data, Facts And Figures* by Dona M. Wong

Part III: Dataviz in the Real World

Homework due before class on November 9th

- Read pages 53-153 of *How Charts Lie: Getting Smarter About Visual Information* by Alberto Cairo

Homework due before class on November 16th

- Read pages 212 - 342 of *The Functional Art: An Introduction To Information Graphics And Visualization* by Alberto Cairo

Homework due before class on November 30th

No homework other than working on final project.

Grading policies and procedures

All completed in-class activities will receive full credit. If an in-class activity is incomplete by noon the following day, the students will receive a 50% point reduction on the grade.

To allow for sickness and any other complications, students may miss one class per quarter without losing credit on these assignments. Students who miss more than one class will lose credit on their reading quiz and in-class activity grades.

Late assignments will receive a 30% point reduction. This class will not allow regrade requests.

Instructor Office Hours

Office hours are from 1-2pm on Wednesdays over zoom. Students may use [this spreadsheet](#) to sign up for a time to meet with the instructor.

The best time to ask questions is in class. Otherwise, please send an email to the TA or Professor.

Teaching assistant(s) and/or graders

Info coming soon

Teaching and learning in person, dual-modality, and/or remote environments

Classes will take place in-person and classroom attendance is expected. Students' grades will not be impacted if they miss one class due to any reason.

The classes will not be recorded, but class slides will be students who are not able to attend in-person.