

mmc 6135. data visualization

dr. goodman • 2076 Weimer • 392-2704 • rgoodman@jou.ufl.edu

office hours: M 3-4 period

ta: Rachel Son rachelson@ufl.edu

prerequisites: students should be familiar with Adobe Illustrator before taking this course.

You will see some infographics in this syllabus. By the end of the semester, you should have the tools to critique them and improve them.

course description

this course introduces you to the basics of effective data visualization and storytelling. you will learn how to find stories in data sets, effective visual communication, the legal and ethical implications of data visualization, basic statistics, and understanding how to evaluate the reliability and validity of data sets.

objective

- learn how to find data sets online
- learn how to discover and communicate stories from data sets
- learn data visualization and visual communication principles and guidelines for effective data visualization, storytelling, and analysis for various audiences
- discuss various tools used by today's data communicators
- learn relevant aspects of research methods to better evaluate the validity and reliability of data sets
- use SPSS for analyzing and managing data sets; learn basic statistics
- create and understand basic visualizations in Tableau
- enhance visualization in Adobe Illustrator
- learn the legal and ethical issues related to data visualization
- learn how to critique infographics and reimagine them for enhanced communication

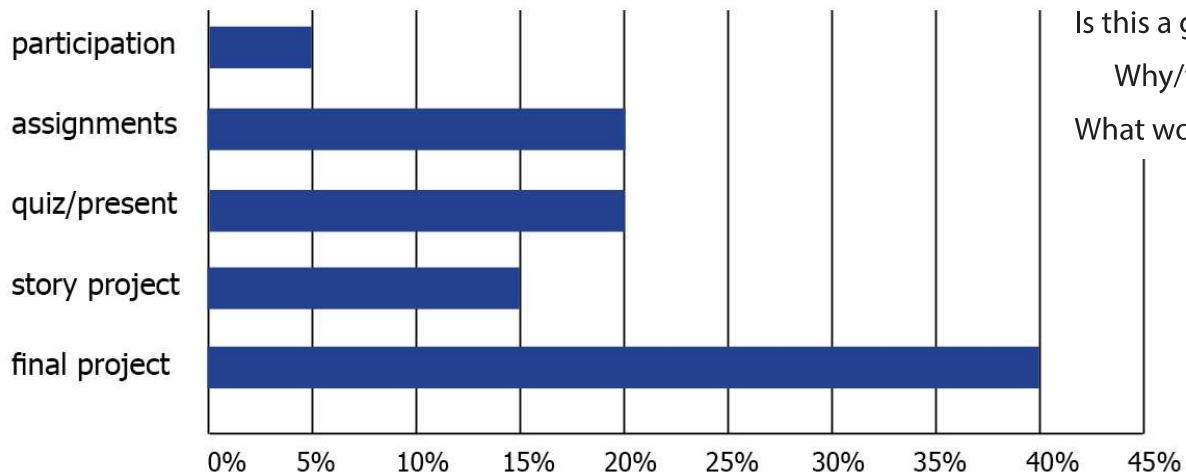
course textbooks

- *the wall street journal guide to information graphics: the dos and don'ts of presenting data, facts, and figures*
- **RECOMMENDED** *adobe illustrator cc 2021 release* or some other illustrator reference manual
- strongly suggest a wireless mouse with right and left buttons
- additional course readings found in Canvas

great books for more information

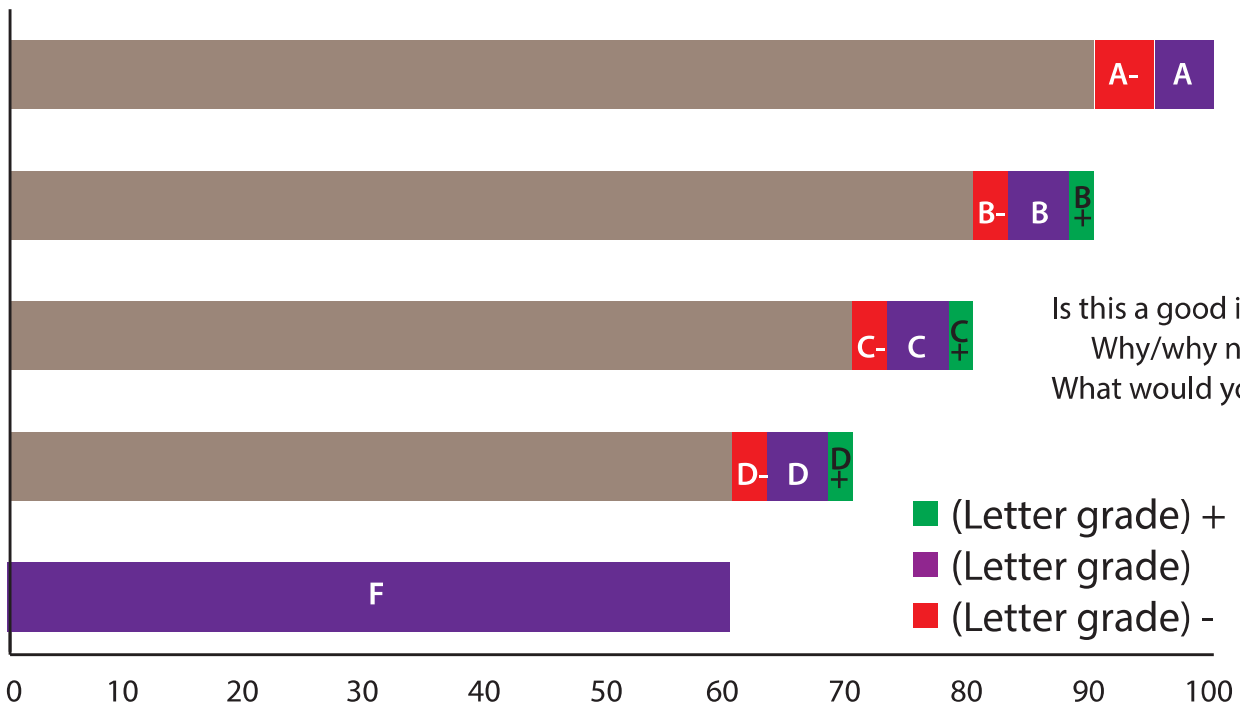
- *cool infographics* by randy kaum
- *storytelling with data* by cole nussbaumer knaflic
- *show me the numbers* by stephen few
- *the functional art* by alberto cairo
- *infographics: the power of visual storytelling* by jason lankow, josh ritche & ross crooks

course evaluation breakdown



Is this a good infographic?
 Why/why not?
 What would you change?

grade scale



Is this a good infographic?
 Why/why not?
 What would you change?

■ (Letter grade) +
 ■ (Letter grade)
 ■ (Letter grade) -

Grade scale

A = 95-100; A- = 90-94.9; B+ = 88-89.9; B = 83-87.9; B- = 80-82.9; C+ = 78-79.9; C = 73-77.9; C- = 70-72.9; D+ = 68-69.9; D = 63-67.9; D- = 60-62.9; BELOW 60 = E

attitude, effort, being late, etc. can either increase or decrease your grade.

additional information of the UF grading policy may be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

attendance/participation 5%

Your presence and contribution are important, and they are required for a successful class. You will be graded for both attendance and active class participation (meaning you speak in class).

If you are ill or have another excusable type of absence (court appearance, medical emergency, religious holiday, conference presentations), you need to notify me, preferably before class, in order for it to be excused. Things that aren't excused are holiday travel, meetings for other classes, sporting events, social engagements and the like. More than one unexcused absence will result in the loss of a full letter grade from your final grade for each unexcused absence. Being late to class more than twice results in 1/2 a letter grade loss. Disruptive or rude behavior including talking while others are talking, texting, trolling Instagram, etc. also may result in up to a 1/2 a letter grade for your final course grade.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

assignments/homework 20%

You will have homework assignments in SPSS and Tableau along with assignments related to data visualization.

quizzes 20%

This class is a lot of information and much of it builds on previous weeks. After reading a great book about how students are most successful and remember material the best, I will be giving you smaller-scale quizzes throughout the semester to test your understanding of the course information. These will be combinations of multiple choice and short answer. The amount of time for each will be dependent on the number of questions asked. The amount of time and number of questions for each quiz will be posted on Canvas. In most cases, you will be able to use your notes for a small amount of time, but you must study and know the information. The notes portion will only be long enough to look up an answer or two. What will be tested on each quiz will be listed on Canvas. Not everything we talk about in class will be tested. In some cases, your quiz may be take-home and be a different format than mentioned here. You will also have some at-home "quiz" checks on the readings so make sure you're keeping up.

storytelling project 15%

This project is your first foray into visual storytelling. Can you tell a "how to" story on hurricane preparedness? This assignment tests your ability to communicate a complex "story" with visualizations. You will work with partners on teams of 3-5 people. See Canvas for additional information.

final project 40%

This project is the culmination of this course. You will come up with an infographic that tells a compelling state story. You will find a database(s) online, discover the stories within the data, analyze

the data, and design a data visualization to tell your data's story keeping in mind the principles you have learned throughout the semester. Examples were shown throughout the semester. You will work with 2-4 partners. You will turn in your data as well as the visualization. I will be checking for plagiarism, both visual (copying or largely copying a previous infographic) and verbal (stealing others words). You will evaluate your teammates at 2 places (midway and final). The midway serves as a warning point if you need to step it up. You will evaluate and list exactly what you contributed. Your **final** peer evaluations may negatively impact your final course grade. Note: if you fail to turn in peer evaluations on time, I will deduct 2% from your final course grade.

late policy on all work: You will lose one letter grade for each day it is late. (Note: if you don't turn it in at the time it's due, you automatically are considered a full day late). This applies to the team as well. If a team member does not turn in it on time, then the team loses points.

students with disabilities

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. If your disability requires special testing arrangements (e.g., extra time, quiet environment), you will be taking your exams at the disability office and not in the building. You will also need to keep track of the appropriate paperwork for this.

student honor code

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 (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class."

students with complaints. UF policy for dealing with complaints is available at: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

Syllabus is subject to change with instructor notification. There may be extra credit opportunities related to research studies.

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/>.

Recording lectures

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.

date	to do (note all assignments are due on CANVAS unless otherwise noted. Make sure to read directions online)
Jan. 5	Class introduction. What is wrong with the syllabus visualizations. <i>Reading: Storytelling Data Viz for next week (in reading folder on CANVAS).</i>
Jan. 11/12	What is data visualization? Data storytelling <i>Readings on Intellectual Property and Copyright for next week (reading folder).</i>
Jan. 18/19	Finish Data storytelling; Attention and memory <i>Reading for next week: Wall Street Journal book pgs 30-48.</i> Quiz #1--Data storytelling 1/19 at beginning of class. Start work on storytelling project; tell me teams by 1/25 View Data visualization ethics online
Jan. 25/26 spss trial is 14 days	Design principles Quiz #2--Attention & Memory, Gestalt 1/26 at beginning of class. HW: SPSS 1 & 2 (10 pts each) due 1/25 at beginning of class*
Feb. 1/2	Illustrator refresher if time; Data visualization types and formats HW: SPSS 3 & 4 (10 pts each) due 2/2 at beginning of class*
Feb. 8/9	Data visualization types and formats; Tableau CHECKPOINT: Story project draft due 2/8. See Canvas.
Feb. 15/16	Finish Tableau At Home Quiz #3--Design principles, Color, Typography due 2/16 at beginning of class. Hand in hard copy.
Feb. 22/23	Work on project week. <i>Read: Chp 2-4 in Wall Street Journal book and Data chapter from Stephen Few for after spring break. There is a "quiz" on Chapters 2-4.</i> Story project (100 pts) due 2/23 and Team evaluation due 2/23 (both beginning of class, 20 pts). -10 on project if no eval submitted on time.

date	to do (note all assignments are due on CANVAS unless otherwise noted. Make sure to read directions online)
March 1/2	Evaluating data: Sampling, reliability, validity, operational definitions WSJ & Data chapter "quiz" due 3/2 at beginning of class* CHECKPOINT Due 3/1 Story idea(s) for final project and team beginning of class <i>If you haven't done it yet, read Chp 2-4 in Wall Street Journal book and Data chapter from Stephen Few. Quiz on WSJ book.</i>
March 8/9	NO CLASSES. SPRING BREAK.
March 15/16	Evaluating data continued CHECKPOINT Due 3/15 Data and write up for final project due Meet with Goodman about your data story this week. (May be able to do in class depending on where we are on lectures).
March 22/23 no class march 28	Evaluating data cont. Numeracy GOODMAN AT CONFERENCE ON Thursday. NO CLASS. Project sketch due 3/22.
March 29/30 no class april 2	Dubious dtata./Tableau if needed.
April 5/6	Checkpoint: Complete draft is due 4/4 which is MONDAY AT NOON Midpoint team evaluation due 4/5 at beginning of class (-10 if not turned in on time) Teams meet with Goodman (SCHEDULE) In class Quiz #4 on 4/6--Evaluating data & numeracy
April 12/13	Work week on project.
April 19/20	Presentation of final projects (50 points). Class provides feedback. Top 2 teams earn extra credit based on class vote.
April 22 by Noon	Final project (100 pts) due. Final team evaluations due (20 points).

