

mmc 6135. data visualization

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office hours: M 4th; Th 3-4th

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

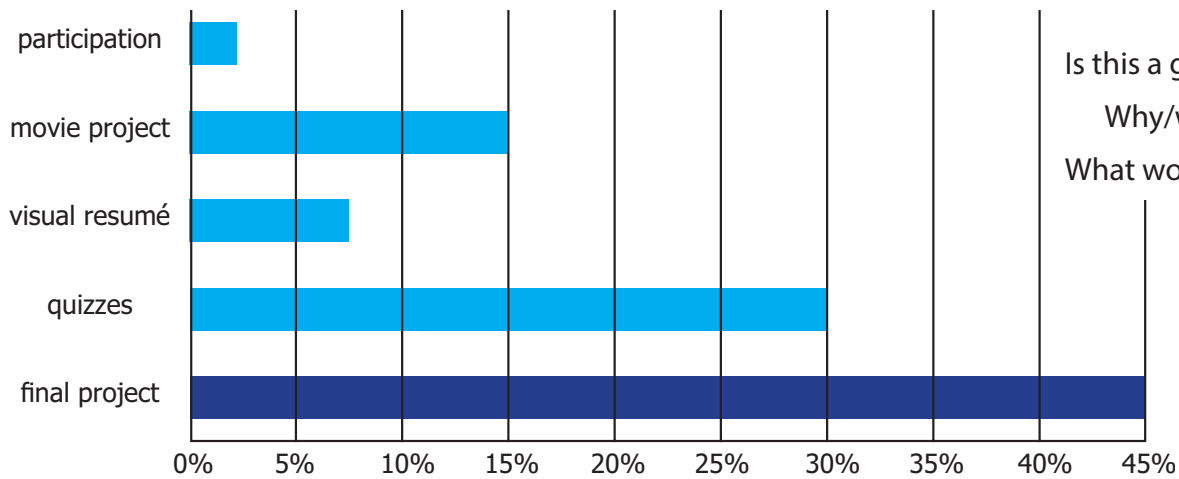
course textbooks

- *the wall street journal guide to information graphics: the dos and don'ts of presenting data, facts, and figures*
- *adobe illustrator cc 2015 release* or some other illustrator reference manual
- strongly suggest a wireless mouse with right and left buttons
- additional course readings found in Canvas or on reserve in the library

great books for more information

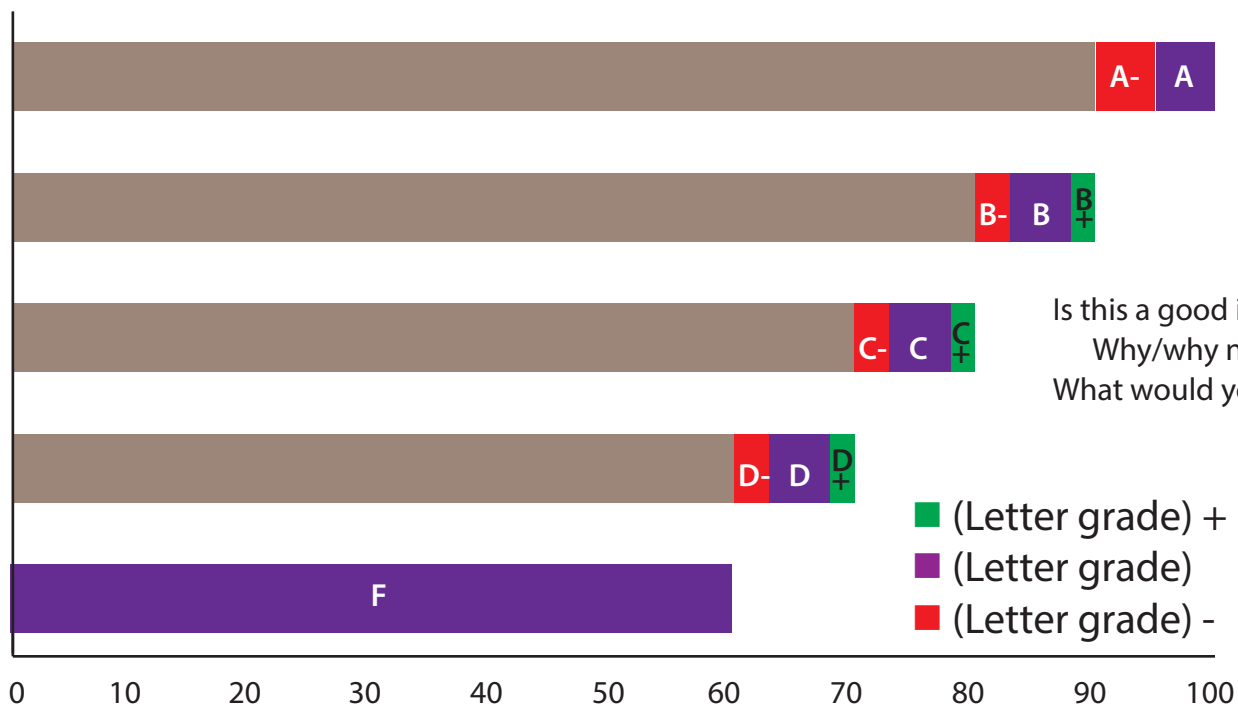
- *cool infographics* by randy kaum
- *storytelling with data* by cole nussbaumer knaflic
- *show me the numbers* by stephen few
- *the functional art* by alberto cairo
- *infographics: the power of visual storytelling* by jason lankow, josh ritchie & ross crooks

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/small assignments 2.5%

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 Facebook, 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>.

in-class discussion & small assignments

These will be "assignments" that you need to read and write up the assignment PRIOR to class. We will be discussing the assignment in class, and you will hand in your TYPED write up. You won't be graded in terms of right or wrong answers but in terms of the quantity and/or quality of the write up. Make sure you have this printed and ready to hand in class or else it will be a 0.

Grading will be 2 = good, 1 = some errors, inadequacies, or other issues, 0 = did not do or poor quality/limited thought

quizzes 30%

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.

movie project 15%

This project is your first foray into visual storytelling. Can you summarize your favorite movie into an infographic using minimal text? This assignment tests your ability to communicate a complete story relying heavily on visuals. You may work with a partner.

resumé project 7.5%

Have you ever heard of a visual resumé? Now you're going to *partially* design one for yourself based off of what you've learned in class. Examples will be presented in class and be on Canvas. No partners. You need to find one item from your regular resume to make visual. You will not design the entire resume like in the examples, just one element.

final project 45%

This project is the culmination of this course. You will come up with an infographic that tells a 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 1-2 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 will negatively influence your final course grade as follows:

93.1-100 Project grade is unaffected

90.1-93 Minus 4% on your final grade.

88.1-90 Minus 10% points on your final grade

80-88 Minus 15% points on your final grade

These will continue to increase in 5% increments. So those whose evaluations are in the C+ range will have minus 20% and so on.

late policy: 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).

If it is an in-class assignment, you will simply receive a 0 for that day's participation

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.

date	to do
Jan. 9	Class introduction. What is wrong with the syllabus visualizations. What is data visualization? Good and bad data visualization. What makes it work. What are its objectives and steps. <i>Reading: Data Storytelling for next week. Also view the Data Storytelling lecture for next class.</i>
Jan. 16	NO CLASS DUE TO HOLIDAY BUT YOU DO HAVE AN ONLINE LECTURE Data storytelling online lecture (distributed through dropbox) <i>Readings on Ethics for next week.</i>
Jan. 23	Data visualization ethics (copyrights, stock art, data transparency, sources) --Guest lecture Dr. Clay Calvert Start Attention and memory <i>Reading for next week: Wall Street Journal book pgs 30-48.</i> Start work on movie project
Jan. 30	Quiz #1--Intro to Data Visualization and Data Storytelling Start Design principles Movie project sketch due.
Feb. 6	Quiz #2--Attention & Memory, Gestalt Design principles, Color, Typography Decluttering in class is due <i>Reading for next week: Data chapter from Stephen Few.</i>
Feb. 13	Evaluating data: Sampling, reliability, validity, operational definitions Movie project rough draft due.
Feb. 20	Quiz #3--Design principles, Color, Typography Evaluating data cont. Numbers--nominal, ordinal, continuous, discrete, categorical Begin SPSS Movie project due. Start work on visual resume
Feb. 27	Numeracy (aggregate vs per capita, % change, mean/media/mode, rank, ratio, correlation, spread, normal distribution) <i>Read Wall Street Journal chapters 3 and 4</i> Continue SPSS In class assignment on continuous and discrete variables due Visual resume rough draft due

date	to do
March 13	Finish numeracy Begin Tableau <i>Read: Chp 2 in Wall Street Journal book</i> Visual resume is due
March 20	Quiz #4--Evaluating data Data visualization types and formats Continue Tableau Must tell Goodman what final project story is.
March 27	Data visualization types and formats Continue Tableau Show Goodman data for final project. Will have meetings.
April 3	Data visualization types and formats What is wrong with the syllabus in class revisited. Sketches are due. Will have meetings. Midpoint team evaluation.
April 10	Teams meet with Goodman on final project. Complete draft is due.
April 17	Portfolio review of final projects. Class provides feedback. Top 2 teams earn extra credit based on class vote.
April 22 (Saturday by 9 a.m.)	Final project and group evaluations due

NOTE: You will lose 2% of your final letter grade for each sketch, presentation, draft, etc. that you do not have ready.