

MMC 6135

****Data Visualization****

Spring 2024 Syllabus

Professor: Tracey Kyles

Class Time / Location: Mon. & Wed. from 9:35-11:35 p.m. in WEIM 2050

Office Hours/Location: by appt. / via Zoom at <https://ufl.zoom.us/j/8975457035>

Meeting ID: 897 545 7035

Email: traceykyles@ufl.edu

Course Website: Relevant course info will be posted on Canvas.

Reading Materials

- Textbook: Wong, D.M. (2013) The Wall Street Journal Guide to Information Graphics: The Dos and Don'ts of Presenting Data, Facts, and Figures. W.W. Norton & Company, Inc.
- Online Textbook: Wilke, C. O. (2022) Fundamentals of Data Visualization. O'Reilly Media, Inc. <https://clauswilke.com/dataviz/telling-a-story.html>
- Canvas Readings: Additional required readings will be made available through the modules on Canvas as the course progresses.
- Books have been ordered through the University of Florida's "Text Adoption" service and should be available at any participating bookstore.

Software Materials

- Tableau
- R Computing Software
- SPSS
- Adobe Illustrator

Course Description

This course will teach you to understand visual data in terms of storytelling. We will learn to analyze data sets and articulating the underlying phenomena through visual interpretation. The course will also cover fundamental statistical concepts, validity and data reliability. We will also explore both legal and ethical considerations in the field of data visualization.

Course Objectives

- Learn how to find data sets and communicate stories from the data.
- Develop knowledge of core principles and guidelines for effective visual communication through data visualization, storytelling, and analysis for various audiences.
- Have a foundational understanding of relevant aspects of research methods to better evaluate the validity and reliability of data sets, including
- Understand the legal and ethical issues related to data visualization.
- Develop skills to critique infographics and reimagine them for enhanced communication

Assignments

The full assignment and rubric for each assignment will be posted on Canvas at least one week before its due date this semester.

- **Discussion Leader (10%):** For every topics covered during the semester, one student will facilitate the discussion based on one of the assigned readings for that day. The discussion leader is responsible for posing questions and/or an activity that contributes to the class's understanding of data visualization related to the topic at hand. See the assignment description on Canvas for details.
- **Online Assignment (20%):** There will be several assignments designed for students to apply the skills or knowledge of concepts covered in the lectures and readings. Each assignment will vary depending on the
- **Quizzes (15%):** Quizzes are intended to test the student's knowledge of the concepts covered during the semester. Students are responsible for completing all assigned readings, lectures, and any required supplementary material. Quiz questions are developed from any or all those sources and designed to test the student's ability to apply the concepts into a related scenario. See the course schedule to know when the quizzes are taking place.
- **Storytelling Project (Group Project 1) (20%):** As a group students will tell a "how to" story to an audience through an infographic about hurricane preparedness. The project will be completed in the first half of the semester to practice the skills and gain knowledge vital to the completion of the infographic project. Details for each phase of the assignment is provided on the course calendar, as well as the Canvas page.
- **Final Project (Group Project 2) (30%):** Groups will design an infographic for a topic of their choosing. The project is multifaceted in that groups will need to (1) obtain data that informs the infographic, (2) write a summary that describes background information on the infographic (2-3 pages), (3) the visual infographic, (4) complete peer evaluations, and (5) complete a presentation at the end of the semester to present the work. Details for each phase of the assignment is provided on the course calendar, as well as the Canvas page.

Grading Scale

94.00 and above = A	90.00 – 93.99 = A-
87.00 – 89.99 = B+	84.00 – 86.99 = B
80.00 – 83.99 = B-	77.00 – 79.99 = C+
74.00 – 76.99 = C	70.00 – 73.99 = C-
67.00 – 69.99 = D+	64.00 – 66.99 = D
61.00 – 63.99 = D-	60.99 and below = F

Please see UF grading policies at <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

Policies

- **Late submission:** Any assignment submitted after the deadline will result in a late penalty. A percentage of the overall score will be deducted based on the when the late assignment is submitted:
 - 1 min. - 24 hrs = 10% deduction
 - >24 hrs. - 48 hrs = 20% deduction

Note. Late/make-up quizzes are not accepted unless it adheres there is a documented excuse as explained below.

- **Make-Ups:** Arrange with me for makeup material. You will have one week to prepare for any makeup assignment if circumstances allow it. Quizzes or exams will be allotted the appropriate amount of time to complete it as given to other students, which will be clearly communicated to students during the correspondence.
- **Classroom Preparedness:** Please attend and participate in class discussions. Complete readings before the class in which they are discussed. Check your email and Canvas frequently for the latest class information and updates.
- **Technology/Paying Attention:** I don't mind that you take notes via computer, but please, no text messaging/Facebooking/web surfing during class. If you do this you will be asked to stop. If you continue, you will be asked to leave.
- **Grade Challenges:** Grades will not be discussed via email, the telephone or in class. If you disagree with a grade given on any assignment, you must appeal the grade during my office hours or in an appointment with me. In this appeal, you must clearly state the problem and give a clear, concise explanation as to why you feel the grade is inaccurate. You must appeal assigned grades within two weeks of your receiving that particular grade. After two weeks, all grades are final.
- **Hours of Work:** Per UF policy, for each hour you are in class, you should plan to spend at least two hours on preparing for the next class and completing homework and assignments. Because this course is worth three credit hours, you should expect to spend nine hours per week on the course.
- **Respect for Others' Ideas:** We are diverse in many ways. Effective communication relies on the ability to recognize and embrace diversity in all its forms, including viewpoints. Be respectful of the diverse range of opinions of everyone in the class, and help make this an inclusive environment. Appropriate and professional conduct is expected at all times. Respect and common courtesy toward your classmates and your professor are required. Each of us is responsible for creating a safer, more inclusive environment. See the CJC diversity statement for more information: <https://www.jou.ufl.edu/home/about/diversity-statement/>.
- **Honor Code:** Please review the UF Student Honor Code and Student Conduct Code, which can be found at: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>. Any violation of the codes will be reported to the proper University administrators and may result in other sanctions.
- **Plagiarism:** Original writing is essential to ethical advertising. It is also essential for this class. Cheating is any action that violates University norms or an instructor's guidelines for the preparation and submission of assignments. Such actions may include using or providing unauthorized assistance or materials on course assignments or possessing unauthorized materials during an exam.

Plagiarism involves the representation of another's work as your own, for example: (a) Submitting as one's own any material that is copied from published or unpublished sources such as the Internet, print sources, or video programs without proper acknowledgement that it is someone else's (b) Paraphrasing another's views, opinions or insights without proper acknowledgement or copying of any source in whole or in part with only minor changes in wording or syntax even with acknowledgement (c) Submitting as one's own work a report, examination, paper, computer file, lab report or other assignment which has been prepared by someone else (d) Presenting work created for another course as original work in this class.

UF requires faculty who find evidence of plagiarism to submit a report to Student Conduct and Conflict Resolution. Please read the UF Student Honor Code for more information.

- **E-mail Policy:** As e-mail has become a favored way to communicate in academia and industry, you must learn to use it appropriately. Thus, when e-mailing me, address me formally. I will generally return it within 24 hours of receiving it on weekdays or by Monday evening if I receive it on the weekend. If you need to discuss something in length, visit my digital office hours or email me to set up a time to meet virtually.
- **Students with Disabilities:** Students with disabilities can receive accommodations. The first step is to contact the Disability Resource Center (352-329-8565; www.dso.ufl.edu/drc/). Once you receive your accommodation letter, provide a copy to the professor as early as possible in the semester.
- **Counseling and Wellness Center:** Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.
- **Course Evaluations:** Students are expected to provide professional and constructive feedback on the quality of instruction via the online course evaluation system, GatorEvals. You will be notified when the evaluation period begins, and you can find GatorEvals through your Canvas course menu.
- **Recording the Professor:** 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 Student Honor Code and Student Conduct Code.

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Tentative Course Schedule

	Date	Topic / Lecture	Reading	Assignments Due
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1	Jan. 8	Syllabus & Overview		
	Jan. 10	Visual Storytelling 1	Wilke Ch. 29 Canvas Reading	
2	Jan. 17	Visual Storytelling 2	Canvas Reading	Discussion Leader 1
3	Jan. 22	Statistics 1	Wong Ch. 3 (p. 93 – 121) Canvas Reading	Online Assignment 1
	Jan. 24	Statistics 2	Canvas Readings	Discussion Leader 2 Project Groups
4	Jan. 29	Evaluating Data 1	Canvas Readings	Online Assignment 2
	Jan. 31	Evaluating Data 2	Canvas Readings	Discussion Leader 2
5	Feb. 5	Principles: Guidelines & Aesthetics	Wong Ch. 1 (p. 19 – 35) Wilke Ch. 2	Quiz 1
	Feb. 7	Principles: Guidelines & Aesthetics	Canvas Readings	Discussion Leader 3 Storytelling Topic
6	Feb. 12	Principles: Processing & Perception	Canvas Readings	Online Assignment 3
	Feb. 14	Principles: Processing & Perception	Canvas Readings	Discussion Leader 4
7	Feb. 19	Principles: Color Theory	Canvas Readings	Online Assignment 4
	Feb. 21	Principles: Color Theory	Wong Ch. 1 (p. 36 – 47) Wilke Ch. 4	Discussion Leader 5 Story Project Draft
8	Feb. 26	Group Meetings		Quiz 2 Group Meetings
	Feb. 28	Charts: Visualizing Data	Wilke Ch. 5	Online Assignment 5
9	Mar. 4	Charts: Visualizing Data	Canvas Readings	Discussion Leader 6 Storytelling Project (Final)
	Mar. 6	Charts: Tables, Pictographs, & Maps	Wong Ch. 2 (p. 82 – 91) Wilke Ch. 15	Online Assignment 6
11	Mar. 18	Charts: Tables, Pictographs, & Maps	Canvas Readings	Discussion Leader 7 Infographic Topic
	Mar. 20	Charts: Line Graphs	Wong Ch. 2 (p. 49 – 61) Wilke Ch. 12 – 14	Online Assignment 7
12	Mar. 25	Charts: Line Graphs	Canvas Readings	Discussion Leader 8 Data & Write-up
	Mar. 27	Charts: Bar Graphs & Pie Charts	Wong Ch. 2 (p. 62 – 81) Wilke Ch. 6 – 7, & 10	Online Assignment 8
13	Apr. 1	Charts: Bar Graphs & Pie Charts	Canvas Readings	Discussion Leader 9 Infographic Draft
	Apr. 3	Quiz & Group Meetings		Quiz 3 Group Meeting
14	Apr. 8	Research Day		
	Apr. 10	Research Day		
15	Apr. 15	Research Day		

	Apr. 17	Research Day		
16	Apr. 22	Group Projects		Presentation Day
	Apr. 24	Final Project due		

**This syllabus is subject to change as the instructor deems appropriate and necessary.*

**Other readings will be posted on Canvas*