The University of Texas at Austin
School of Information

DATA STORYTELLING

INFT385T FALL 2024

UNIQUE #27810

TUESDAYS
6:30 PM to 9:30 PM
UTA 1.210A

INSTRUCTOR: Dr. Amy Esselman
EMAIL: amy.esselman@austin.utexas.edu
MOBILE: 651-261-3516
OFFICE HOURS: on Zoom Fridays 2:00 pm to 3:30 pm & by appointment

WHAT YOU'LL LEARN

Data storytelling is an essential skill in today's digital world and is applicable across diverse fields and industries. It involves extracting meaningful insights from data and clearly communicating them through compelling narratives and visualizations for a specific audience. Effective data storytelling empowers individuals to make faster, smarter decisions that can save lives, secure competitive advantages, educate, and much more.

Data storytelling is more than the just aesthetically pleasing graphs and slides. There is a science behind how we perceive and process information, as well as an art to making effective visual design choices. While creating a basic chart or a slide presentation is quick and easy with most tools, designing a clear and focused communication requires time and thoughtful consideration. The ultimate goal is something that is not only readable and usable but also actionable.

This hands-on course will guide students in developing meaningful data stories that reveal visual insights accessible to relevant audiences. Students will learn the fundamentals of Excel, Tableau, and PowerPoint—common data communication and visualization tools in industry—to make sense of and visualize data. Students will also learn how to articulate the stories behind datasets and communicate data findings in visual, oral, and written contexts for various audiences.

There are no prerequisites for this course and no prior programming experience is required. Whether you are a complete novice in data or experienced in data visualization best practices and eager to improve your communication skills, this course is for you. *Students with extensive prior experience should consult the instructor before enrolling.*

LEARNING OBJECTIVES

- Understand the difference between **exploratory** & **explanatory data analysis** and how to effectively apply them
- Apply data analysis and visualization in various **tools**, specifically Excel, Tableau, and PowerPoint
- Choose an **appropriate visual** for the intended message and audience
- Thoughtfully **design charts** that increase understanding and comprehension for the intended audience
- Develop **interactive dashboards** for a specific audience to effectively explore and understand data
- Implement core concepts of **usability & accessibility**, like use of whitespace, contrast, text, and color selection
- Build foundational **presentation skills** to engage and influence an audience

MATERIALS YOU WILL USE

Hardware and software

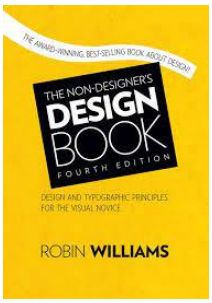
The software packages used in the course are freely available for students.

You can download and install Microsoft Office through the university's Office 365 portal to access **Excel** and **PowerPoint**.

Instructions for obtaining **Tableau Desktop** activation keys will be provided to you during the semester. Your device should meet the minimum requirements to run Tableau Desktop. If you are concerned about this at the beginning of the semester, you can download and install the program with the 2-week free trial (or Tableau Public—the free version of Tableau Desktop) to see if it runs on your machine.

You will have access to the desktop machines and the software required for the course via the iSchool computer lab even if you do not have a laptop. Please note that the computer lab permits no food or drinks other than water in spill-proof containers.

Book to purchase

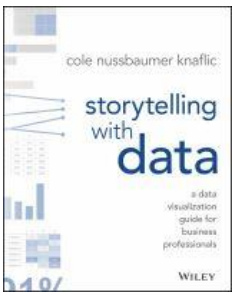


Williams, R. (2015). *The Non-Designer's Design Book*, Fourth Edition. San Francisco, CA: Peachpit Press.

This is a basic graphic design book that explains important design concepts. It will be a necessary resource when revising your work or when providing feedback to your peers. Used copies are fine.

Books and readings provided to you

Our main textbook for the course is *Storytelling with Data* by Cole Nussbaumer Knaflic, which will be provided through UT Libraries.



Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. Hoboken, NJ: Wiley.

We'll also be reading works from other experts in the field. Please refer to Canvas for the list of readings each week.

HOW YOU WILL BE ASSESSED

All assignments, readings, and other essential informiaton will be on the course Canvas site. Assignment weighting percentages are outlined below.

REQUIREMENT	DESCRIPTION	WEIGHTING
Short assignments	Exercises that will complement and reinforce the topics, tutorials, and hands-on work done in class. Specifics will be available on Canvas for each assignment.	50% 10 assignments at 5% each
Dashboard project	Build an interactive Tableau dashboard based on a topic of your choice using any open dataset.	25% 10% plan & mockup, 15% final dashboard
Final presentation	Design and deliver a compelling data story for a specific audience. The final project includes a 5-8 minute live presentation to the class.	25%

This is how your final grade will be reported:

	A	B	C	D	F
PLUS		87-89	77-79	67-69	
GRADE	93-100	83-86	73-76	63-66	0-59
MINUS	90-92	80-82	70-72	60-62	

ASSIGNMENT POLICIES

- Unless otherwise specified, turn in assignments **through Canvas**.
- All assignments are an **individual effort**, not a group project.
- If something occurs and you need an extension on an assignment or another accommodation, **talk to me as soon as possible**. Because of the nature of some assignments, I may not be able to make exceptions without notice.
- Previously graded **assignments cannot be resubmitted** with edits and corrections for a higher grade unless we discuss it in advance of your resubmission.
- **Late assignments will be docked 10 points for each day delayed.**

Attendance & participation

Regular attendance and punctuality are expected. A substantial portion of course content includes hands-on labs and activities. As a result, missing classes and not participating in activities can impact performance and result in a lower grade.

I recognize there are legitimate and personal reasons one might be unable to come to class on a particular day. It's your responsibility to look on Canvas and/or check in with me or your classmates for notes and assignments you missed.

If you must miss a class or an assignment to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence. By UT Austin policy, you must notify me of your pending absence for a religious holy day as far in advance as possible of the date of observance.

If you need attendance waivers or assignment extensions because of an emergency, please reach out to Student Emergency Services at studentemergency@austin.utexas.edu or 512-471-5017 Monday through Friday from 8 AM to 5 PM. The Office of Student Emergency Services exists to support students with issues that impact their well-being and academics, including natural disasters, medical issues, mental health concerns, family emergencies, and more. They can act as an interface between you and me so private or sensitive information is not disclosed to me.

HOW TO SUCCEED IN THIS COURSE

Be open. To succeed in this course, it's important to be open and receptive. Embrace feedback as a valuable tool for growth. Offer thoughtful, constructive criticism to your peers and be ready to receive it as well. This applies to me too. While I will ask for your feedback at the end of the semester, don't hesitate to share your thoughts whenever something comes to mind.

Be proactive. Make sure to read the assignment instructions thoroughly before the deadline. Don't hesitate to reach out to me for clarification. Keep in mind that I work full-time and may not immediately respond, so do not wait until the day the assignment is due to ask your questions. Before submitting your work, review the instructions again to ensure you've covered everything.

Be inquisitive. Curiosity will also serve you well in this course (and life in general). Don't shy away from asking questions or doing some research. For software-related queries, a quick Google search can often provide helpful answers. Learning a new software tool can be challenging, have patience and self-compassion for the learning process. If you're having trouble with something, chances are someone else has faced the same issue. Don't hesitate to take advantage of office hours if you need to discuss any aspect of the course you don't understand or if you have questions. You can also post on the course discussion board to get help from your coursemates, but be thoughtful about adhering to the academic integrity policies.

Be communicative. Communication is crucial. The fastest and most reliable way to reach me is through text or email. Please allow 24-hours for a response. Make sure the primary email address you have recorded with the university is one you check regularly, as that's the email Canvas will use for course communications.

OTHER POLICIES YOU SHOULD BE AWARE OF

Sharing of course materials is prohibited: No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class without explicit, written permission of the instructor. Unauthorized sharing of materials promotes cheating. The University is aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in initiation of the student conduct process and include charge(s) for academic misconduct, potentially resulting in sanctions, including a grade impact.

Academic integrity: Students who violate University rules on academic misconduct are subject to the student conduct process. A student found responsible for academic misconduct may be

assigned both a status sanction and a grade impact for the course. The grade impact could range from a zero on the assignment in question up to a failing grade in the course. A status sanction can include a written warning, probation, deferred suspension or dismissal from the University. To learn more about academic integrity standards, tips for avoiding a potential academic misconduct violation, and the overall conduct process, please visit the Student Conduct and Academic Integrity website at: http://deanofstudents.utexas.edu/conduct.

Leverage Artificial Intelligence thoughtfully and carefully: The creation of artificial intelligence tools for widespread use is an exciting innovation. However, its answers can be incomplete, out-of-date, and/or biased. AI should be used with caution and be properly attributed. If you use AI for any assignments, you should include a citation in your Canvas submission along with the prompt(s) used to generate the response. Failing to properly cite AI constitute a violation of UT Austin's Institutional Rules on academic integrity. If you are considering the use of AI tools but are unsure if you are allowed or the extent to which they may be utilized appropriately, please ask me.

Counseling and Mental Health Center (CMHC): Students who are struggling for any reason and who believe that it might impact their performance in the course are urged to reach out to Bryce Moffett if they feel comfortable. This will allow her to provide any resources or accommodations that she can. If immediate mental health assistance is needed, call the Counseling and Mental Health Center (CMHC) at 512-471-3515 or you may also contact Bryce Moffett, LCSW (iSchool CARE counselor) at 512-232-4449. Bryce's office is located in FAC18S and she holds drop in Office Hours on Wednesday from 2-3pm. For urgent mental health concerns, please contact the CMHC 24/7 Crisis Line at 512-471-2255.

Services with students with disabilities: The university is committed to creating an accessible and inclusive learning environment consistent with university policy and federal and state law. Please let me know if you experience any barriers to learning so I can work with you to ensure you have equal opportunity to participate fully in this course. If you are a student with a disability, or think you may have a disability, and need accommodations please contact Services for Students with Disabilities (SSD). Please refer to SSD's website for more information. If you are already registered with SSD, please deliver your Accommodation Letter to me as early as possible

Title IX reporting: Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence andstalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.

3. Investigate and discipline violations of the university's relevant policies.

Faculty members are required to report violations of Title IX to the Title IXCoordinator. If you want to speak with someone for support or remedies without making an official report to the university, email advocate@austin.utexas.edu. For more information about reporting options and resources, visit the Title IX Office or email titleix@austin.utexas.edu.

COURSE SCHEDULE

All assignments, readings, and essential information will be on the Canvas website at utexas.instructure.com. Changes to the schedule may be made at my discretion if circumstances require. **Please refer to Canvas for the latest information.** I will announce any changes in class and will also communicate them via a Canvas announcement. It is your responsibility to note these changes when announced, and I will do my best to ensure that you are notified of changes with as much advance notice as possible.

WEEK #	LECTURE DATE	TOPIC	DUE BEFORE LECTURE
1	8/27/24	What is data storytelling?	Install software
2	9/3/24	Feedback & critique	Welcome quiz (5%)
3	9/10/24	Exploratory analysis with Excel	Visual evaluation paper (5%)
4	9/17/24	Charts & tables	Excel exercise (5%)
5	9/24/24	Tableau fundamentals	Graph exercise (5%)
6	10/1/24	Audience & context	Tableau exercise (5%) Dashboard plan & mockup (10%)
7	10/8/24	Aspects of visual design	Dashboard mockup peer feedback (5%)
8	10/15/24	Components of story	Dashboard project (15%)
9	10/22/24	Ethics in data storytelling	Final presentation storyboard (5%)
10	10/29/24	Slide design	Storyboard peer feedback (5%)
11	11/5/24	Presentation delivery	Slide layout exercise (5%)
12	11/12/24	Advanced tools & techniques	Animation exercise (5%)
13	11/19/24	Final presentations #1	Final project presentation (25%)
14		Fall break (NO LECTURE)	No classes November 25-30
15	12/3/24	Final presentations #2	Attendance in both sessions is required
16		What's next? (NO LECTURE)	Course evaluation