

Communicating with Data

PLAN 590 | Spring 2025

Frank Muraca | muraca@sog.unc.edu

Fridays, 1:30pm-4:30pm

January 17th – February 7th

New East Computer Lab

Introduction: Planners are increasingly called upon to analyze, interpret, and ultimately communicate data to elected officials, government staff, the public, and other stakeholders. In this course, students will have the opportunity to develop their data communication skills through visualizing, writing, and presenting analysis. Topics we'll explore include defining your audience, the foundation of effective data visualization, issues around ethics about how people and places are conveyed in data, how to write clearly about data, and the elements of a compelling data story.

Students should note that this course emphasizes theory, practice, and techniques over tools. Students should be comfortable creating and editing charts in Excel and PowerPoint but will have opportunities to practice data visualization with other tools such as R or Python should they choose to do so.

Readings: All readings will be available on Canvas.

Grades: Attendance & Participation: 70%, Final Memo: 30%

Schedule

Day 1 – January 17th

Reading/Listening/Watching

- [Video] Storytelling with Data: How to focus attention
https://www.youtube.com/watch?v=kfGbl9wovZk&t=295s&ab_channel=storytellingwithdata
- [Podcast] Data Viz Now: Can you XRAY data viz?
<https://dataviztoday.com/shownotes/83>

Discussion Topics

- Building trust with data

- Setting goals for your data visualizations
- Strategies for defining your audience
- Visual processing & Cognitive Load
- How to choose the right visualization for your data

Day 2 – January 24th

Homework

- Data Viz XRAY

Reading/Listening/Watching

- Franconeri, S. L., Padilla, L. M., Shah, P., Zacks, J. M., & Hullman, J. (2021). The Science of Visual Data Communication: What Works. *Psychological Science in the Public Interest*, 22(3), 110-161. <https://doi.org/10.1177/15291006211051956>
- Desbarats, N. (2021). Nightingale. “Does Data Visualization Have Rules? Or Is It All Just ‘It Depends’?” <https://nightingaledvs.com/does-data-visualization-have-rules-or-is-it-all-just-it-depends/>
- Schwabish JA. Ten Guidelines for Better Tables. *Journal of Benefit-Cost Analysis*. 2020;11(2):151-178. doi:10.1017/bca.2020.11

Discussion Topics

- XRAY discussion
- Data Visualization Research: What Works
- A light introduction to color theory
- Better legends in your data visualization
- Titles, annotations, and other texts
- “Fix my chart” exercise

Day 3 – January 31st

Homework

- “Fix my chart”

Reading/Listening/Watching

- Federal Plain Language guidelines <https://www.plainlanguage.gov/guidelines/>
- How to Uncover a Data Story <https://www.linkedin.com/pulse/how-uncover-data-story-kat-greenbrook/>
- North Carolina State Climate Office. *Rapid Reaction: Historic Flooding Follows Helene in Western NC* <https://climate.ncsu.edu/blog/2024/09/rapid-reaction-historic-flooding-follows-helene-in-western-nc/>
- Jacksonville Housing Market Memo

Discussion Topics

- Plain language: What it is, why it's important, and how to use it
- Writing about numbers
- What makes a compelling data story
- Data Story Canvas

Day 4 – February 7th

Reading/Listening/Watching

- Urban Institute Data Visualization Style Guide <https://urbaninstitute.github.io/graphics-styleguide/>
- Urban Institute: Do No Harm Guide: Applying Equity Awareness in Data Visualization: <https://www.urban.org/research/publication/do-no-harm-guide-applying-equity-awareness-data-visualization>
- Datawrapper: What to consider when choosing colors for race, ethnicity, and world religion <https://blog.datawrapper.de/colors-for-race-ethnicity-world-regions/>
- PolicyViz Podcast: Frank Elavsky <https://policyviz.com/podcast/episode-208-frank-elavsky/>

Discussion Topics

- Accessibility in data visualization
- Equity in data visualization
- Data visualization in the workplace
- Workshop time for memos

Final Memo

Planners use various methods to present data, such as videos, dashboards, and art. However, the most common ways are narrative presentations and written documents. For this assignment, choose an analytical topic and write a memo for a data stakeholder (e.g., a colleague, client, or elected official). Your memo should include:

1. **The question or problem** you are addressing.
2. **Your data sources** and the approach you used to analyze the data.
3. **Your findings** and any potential limitations.

Your memo should include the best practices discussed in class, including:

- Clearly defining your audience and tailoring your communication accordingly.
- Select charts that align with your data and how people process visual information.
- Using design elements that emphasize key takeaways and minimize cognitive load.
- Writing in plain language to explain the data, analysis, and implications.
- Applying effective data storytelling techniques.

Suggestions:

- Consider using an analytical topic from another course or previous work to focus on data communication rather than data collection or analysis. For example, second-year MCRP students are encouraged to use their Master's Project topic.

Details:

- **Due Date:** February 21st
- **Word Limit:** No more than 2,500 words.
- Use as many charts or visuals as needed, but only include those essential to telling your data story.

This assignment is designed to strengthen your skills in data communication and visual storytelling.

Campus Resources

Should you need further assistance beyond the help of the professor, please consult the following on-campus resources:

- The Writing Center: <https://writingcenter.unc.edu/>
- Academic Success Program (for students with learning disabilities (LD) and/or attention-deficit/hyperactivity disorder (ADHD): <https://learningcenter.unc.edu/services/ldadhd-services>
- Learning Center: <https://learningcenter.unc.edu/>
- Counseling and Psychological Services: <https://caps.unc.edu/>
- UNC's Attendance Policy: <http://www.catalog.unc.edu/policies-procedures/attendance-grading-examination/>