

# Course Syllabus

## Visual Analytics DSBA 5122

Fall 2022, 12:00-2:45pm Mondays, Center City 1101

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### Proposed schedule

Date/Time	Topic	Assignment
8/22/2022	Introduction to visual analysis and analytical storytelling	
8/29/2022	Introduction to R and ggplot	ggplot Assignment
9/5/2022	Labor Day – No Classes	
9/12/2022	Effective visuals - Color, Tableau tutorial I	Tableau Assignment
9/19/2022	Effective visuals – Reducing clutter, Tableau tutorial II	
9/26/2022	Developing your story (theory), Developing your story (example)	Flipgrid video recording
10/3/2022	Cognitive aspects of visualization, Multi-dimensional Visualization	Midterm presentations instruction out
10/10/2022	Student Recess – No Classes	
10/17/2022	IEEEVIS Conference 2022	
10/24/2022	Midterm Presentations	Case study writeup instructions out
10/31/2022	Case study discussions	Hiring by machines

11/7/2022	Text Analysis and Visualization, Vega-lite	Vega-lite assignment
11/14/2022	The persuasive power of visualization, Delivering presentations	Final Project Instructions out
11/21/2022	Geospatial Visualization, PowerBI	
11/28/2022	Effective communications for storytelling	
12/5/2022	Final Project Question Answering	
12/12/2022	Final Project Presentations	The presentations would take place during our final exam time

- Assignments are small problem sets designed to reinforce the concepts learned in the lectures.
  - Participation (**5pts**) - Share two or more visualizations and storytelling examples of your choice with the class.
  - R ggplot2 Assignment (**10pts**)– visualization exercise with ggplot in R.
  - Tableau assignment (**10pts**) – Creating visualizations in Tableau
  - Flipgrid video recording assignment (**10pts**) - video record a short presentation to understand your style and areas for improvement
  - Lessons learned from attending a session in the IEEE Visualization Conference (**5pts**)
  - Case study write up (**10pts**) - read a case study about "Hiring by Machine" and writing down your thoughts before discussions in class
  - Vega-lite assignment (**10pts**) - Embed Vega-lite visualizations in a webpage.
  - Extra Credit Assignment\*: 5 extra credit

\*The extra credit assignment is a user study you volunteer to participate.
- Mid-term Presentation (**15pts**) – Combining visualization and analytical storytelling to convey a clear message
  - Final Project (**20pts**) – Developing visualizations on a real-world dataset with a tool of your choice (R/ggplot, Tableau, Vega-lite, Python, D3.js, etc.)

- Visualization and analytical storytelling demo/presentation (10pts)<sup>[11]</sup><sub>SEP</sub>
- Final project report (10pts)

**Schedule Subject to Change:** The standards and requirements set forth in this plan may be modified by the course instructor. Notice of such changes will be made in advance and by announcement in class.

### Textbook (recommended but not required)

- Tamara Munzner. Visualization Analysis & Design. CPC Press, 2015. Web page: [https://charlotte.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991011152187904091&context=L&vid=01UNCC\\_INST:01UNCC\\_INST&lang=en&search\\_scope=MyInst and CI&adaptor=Local%20Search%20Engine&tab=Everything&query=any,contains,Visualization%20Analysis%20%26%20Design&offset=0](https://charlotte.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991011152187904091&context=L&vid=01UNCC_INST:01UNCC_INST&lang=en&search_scope=MyInst%20and%20CI&adaptor=Local%20Search%20Engine&tab=Everything&query=any,contains,Visualization%20Analysis%20%26%20Design&offset=0) [Links to an external site.](#)
- Storytelling with Data: Let's Practice, Knaflic 2020. [https://charlotte.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991011180284804091&context=L&vid=01UNCC\\_INST:01UNCC\\_INST&lang=en&search\\_scope=MyInst and CI&adaptor=Local%20Search%20Engine&tab=Everything&query=any,contains,Storytelling%20with%20Data:%20Let%27s%20Practice!&offset=0](https://charlotte.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991011180284804091&context=L&vid=01UNCC_INST:01UNCC_INST&lang=en&search_scope=MyInst%20and%20CI&adaptor=Local%20Search%20Engine&tab=Everything&query=any,contains,Storytelling%20with%20Data:%20Let%27s%20Practice!&offset=0) [Links to an external site.](#)

### Supplemental Reading

- Alberto Cairo, The Truthful Art. Information graphics from a communication perspective. Blog: <http://www.thefunctionalart.com>
- Edward Tufte. The Visual Display of Quantitative Information (2nd Edition). Graphics Press, 2001.

### Visualization Blogs

- Visualizing data by Andy Kirk: [visualisingdata.com](http://visualisingdata.com)
- FLOWINGDATA by Nathan Yau: <https://flowingdata.com/> The Tutorials section provides good examples for developing data visualizations.
- KANTAR Information is Beautiful Awards: <https://www.informationisbeautifulawards.com> Annual awards celebrate excellence and beauty in data visualizations, infographics, interactives & information art

### Grading Policy

- Grading Scale:
- A (Excellent) = 90.00% – 100.00%

- B (Good) = 80.00% – 89.99%
- C (Fair) = 70.00% – 79.99%
- D (Passing) = 60.00% – 69.99%
- U (Failing) = below 60%

*Faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.*