Instructor: Prof. Tommy Dang (Tuan Dang)
Email: tommy.dang@ttu.edu
Office hours: 2:00 pm - 2:45 pm MWF and available to talk right after the class
Office: EC 306J

Class 3:00 pm - 3:50 pm MWF Aug 29, 2016 - Dec 14, 2016
Undergraduate level: Special Topics in Computer Science: Visualization and Visual Analytics - 38041 - CS 4331 - 004
Graduate level: Special Problems in Computer Science: Visualization and Visual Analytics - 38042 - CS 5331 - 004

Tutarioal Assistant (TA): Judas Tadeo (JT)
Email: judas.tadeo@ttu.edu
Office hours: 11:30 am - 1:00pm, Eng Center 202

Course Description:

- This course introduces material on designing effective visualizations. This course is going to focus on the basics of visualization, covering principles, methods, and techniques that are foundational to both information and scientific visualization.
- During the course, students will get hands-on experiences on building interactive visualizations for various real-world datasets. Students will be accessed their learnings through three visualization projects.
- Extensive computer use is required.

Prerequisites:

- Students are expected to have basic programming skills. Completed material in computer programming topics (e.g. CS 2413: Data Structures, CS 3364: Design & Analysis of Algorithms or equivalent) is helpful but not required.
- Students majoring in areas other than Computer Science are also encouraged to enroll.
- Please contact the instructor if you are unsure if you satisfy the prerequisites.

Attendance:

Attendance is not mandatory. However, part of your grade is from your in-class participation/contribution. So, you should consider to go the all classes, make comments on other people's work, ask questions, and ask good questions.

Class policies:

- No cell phone usage and no eating during class.
- Academic dishonesty, such as cheating or plagiarism, is a serious offense. For the class projects, you are expected to come up with your own design ideas and implement your work. If you are caught cheating, the grade of F will stand as your final grade (see Part II B 2 of the *Student Handbook*). The instructor may recommend to Student Judicial Programs for more serious/repeated violations. (*OP 34.12)*
- Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. (*OP 34.22*)
- A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. (*OP 34.19*)

Evaluation:

The numeric breakdown of your final grade is computed as follows::

|	Percentage	What to do	Notes
Project 1:	20%	Time series visualization	Individual project
Project 2:	30%	Geospatial visualization	Group project (teammates are assigned by instructor)
Project 3:	30%	Network visualization	Group project (teammates are selected by students)

Peer evaluation:	10%	Feeback from teammates	for Project 2 and 3
Class Participation:	10%	Comments/Ask questions	if you are a distant student, this 10% will go to your Project 1

A = 85 - 100%
B = 70 - 84%
C = 55 - 69%
D = 40 - 54%
F = 0 - 39%

Schedule:

	Topics
Week 1: 8/29 - 9/2	- Course overview - Project 1 is out
Week 2: 9/5 - 9/9	- Introduction to Javascript
Week 3: 9/12 - 9/16	- Introduction to D3.js
Week 4: 9/19 - 9/23	- Introduction to Visualization
Week 5: 9/26 - 9/30	- Information Visualization vs. Visual Analytics - Project 1 is due at 11:59pm Sunday, 10/2
Week 6: 10/3 - 10/7	- Project 1 presentations
Week 7: 10/10 - 10/14	- Project 2 is out - Team assigment
Week 8: 10/17 - 10/21	- Tree layouts in D3 - Text visualization
Week 9: 10/24 - 10/28	- Geospatial Visualization
Week 10: 10/31 - 11/4	- Project 2 is due at 11:59pm Sunday, 11/6
Week 11: 11/7 - 11/11	- Project 2 presentations
Week 12: 11/14 - 11/18	- Project 3 is out - Team formation
Week 13: 11/21 - 11/25	- Network visualization - Adjacency matrices - Force-directed layout in D3
Week 14: 11/28 - 12/02	- Dynamic network visualization - Visualizing Uncertainty in networks
Week 15: 12/05 - 12/09	- Project 3 is due at 11:59pm Sunday, 12/11
Week 16: 12/12 - 12/16	- Project 3 presentations

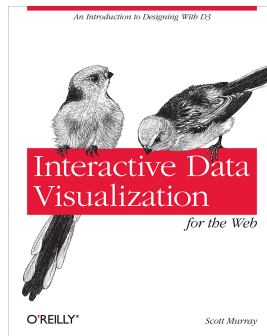## Textbooks:
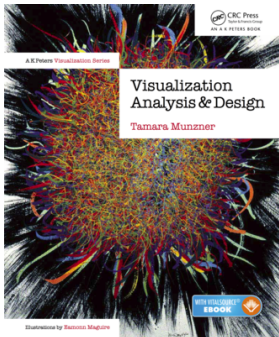
Visualization Analysis and Design

by Tamara Munzner

CRC Press, 2014
ISBN: 978-1466508910
$75 hardcover

Interactive Data Visualization for the Web

by Scott Murray

O'Reilly, 2013
ISBNL 978-1449339739
available for free online

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