Information Visualization

INLS 541, Spring 2024
Mondays 2:50-5:35pm, Manning 307

School of Information and Library Science

Instructor: Dr. Bradley Hemminger  Email: bmh@ils.unc.edu
Phone: 966-2998 (office)  942-2273 (home)
Office: 206A Manning Hall
Office Hours: after class, and by appointment (Zoom)
Homepage: http://ils.unc.edu/bmh/

Schedule
Assignments
Reading Responses
Resources
Class Work #1, Class Work #2, Class Work #3, Class Work #4

Course Outline and Objectives

Outline
1. Introduction and Framework
2. Data Representation and Mapping
3. Visual Perception and Cognition
4. Information Displays
5. Charts, Tables
6. Multivariate Visualizations
7. Maps/GIS
8. Graphs, Networks, Trees
9. Interaction
10. Evaluation

Objectives

1. To become familiar with the field of Information Visualization.
2. To learn a framework understanding the design, development and evaluation of information visualizations.
3. To gain familiarity with a wide range of information visualization techniques and an understanding of which techniques are appropriate for what problems and environments.
4. To learn how to design, construct and evaluate visualizations through extensive practice.

Class Policies and General Instructions

1. I will always be prepared for class and will start class on time. If unforeseeable circumstances prevent this for any reason, I will try to notify you beforehand if at all possible. I expect the same of my students: be prepared for class, be ready to start class on time, and try to let me know by email if you can't be there.
2. My classroom is intended to be a place where you are encouraged to share your thoughts, think critically, and feel safe in expressing your views. I always welcome your viewpoint, and will be respectful of your opinion. Similarly, I ask that you are respectful of your classmates.
3. All class materials, as well as the course syllabus, policies, and schedule are available on the web through our class webpages (this page). Material I present in class is available so that you don't have to write down the basic information presented during class, hopefully allowing you to concentrate on the discussions and additional information presented in class.
4. When the class is remote, I will place recordings of the Zoom classes on the Resources page under Class Recordings. They are available for 30 days (after which Zoom automatically deletes them).
5. You will be expected to produce visualizations for your exercises and assignments. You are generally free to use whatever tools you wish. In some assignments you will use specific tools provided to you, to do more advanced visualizations.
6. Reading assignments should be done 3 hours before the start of class for which they are assigned so you can ask questions and participate in discussions. You will usually have at least one reading per week. You are responsible for writing 1-2 paragraphs summarizing what you think are the interesting points or implications of each assigned reading, based on your personal knowledge and experiences. Your writeup goes into the Reading Reactions page.
7. Assignments, including a midterm and final project are the major work you are graded on. You will generally have one assignment per week. Most assignments are to be completed individually, but several (including projects) allow for group work. You are encouraged to interact with your fellow students when coming up with ideas for, and in implementing your visualizations.
8. Assignments are **due 3 hours** before the start of the class on which they are due. This is so that I can review them before class so we can cover them that class period. Assignments should be published on our Class Work web pages. Late assignments: Any assignment received after it is due, will be considered late. Late assignments can still be turned in for credit, but will receive less than full credit (see grading).

9. You are expected and encouraged to participate in discussions and exercises in class. I will ask students to explain portions of what was to be read in preparation for a class, to show their visualizations, and to critique other visualizations. Part of your grade will be determined by the quality of your participation and your willingness to participate.

10. Please provide your information in the following google spreadsheet. I need this several days BEFORE the start of class in order to provide you access to all the google sites, docs, and listserv we'll use during class to share and turn in our work. You should enter a gmail address so that I can give you access to class documents, and also provide your preferred email address so I can add you to the listserv.

11. You are expected to **bring your laptop to every class**. We will investigate and review visualizations, readings, class resources, and each other's work, all via the web. We will also search out information during class. I will also ask members of the class to share their work (or homework) from their computer on the projection screen.

12. We use the professional visualization software package, Tableau, for several assignment/exercises. Download and install on your laptop or personal computer, their free package available for one year: Tableau for Students.

13. Viz of the Week. During the semester I encourage you to share interesting visualizations you see, with the rest of the class. Please post them on our class resources wiki under, Viz of the Week, by providing a link, and a brief description,

14. If there is something you don't understand, please ask about it! If you don't want to ask during class, you may ask me during office hours, come see me at some other time, post your question to the listserv, or ask me over email. Your classmates may well be your best resources for many questions.

15. Honor Code: The principles of academic honesty, integrity, and responsible citizenship govern the performance of all academic work and student conduct at the University as they have during the long life of this institution. Your acceptance of enrollment in the University presupposes a commitment to the principles embodied in the Code of Student Conduct and a respect for this most significant Carolina tradition. Your reward is in the practice of these principles. Your participation in this course comes with the expectation that your work will be completed in full observance of the Honor Code. Academic dishonesty in any form is unacceptable, because any breach in academic integrity, however small, strikes destructively at the University's life and work. (From the 8/1/1992 letter to the faculty, signed by Paul Hardin, Chancellor, and John Moody, Student Body President.)

16. Resources: I make every attempt to use high quality, current, freely available resources for our class. This allows you to always have convenient access to a resource, and saves trees :-).
Grading

Assignments: 65% (each is worth 5%)
Final Project: 15%
Midterm Project: 10%
Readings Reactions 7%
Class Participation 3%

The grading scale I use for this class is below. My goal is to give you as much qualitative feedback as possible (through class discussion of assignments/readings, my evaluations and your classmates evaluations). To calculate your grade, I will assign you grades on all your work roughly corresponding to H/P+/P/P-/L/F (rightmost column, in parentheses, in table below). My expectation is that everyone will get at least a P (graduate students), or B (undergraduates) if they complete all their work reasonably well. I will post your grades shortly after I have graded them to SAKAI, so you can see where you stand grade wise at all times during the semester. Only if you do outstanding work on most everything will you receive an H/A+. If you are doing poorly I will let you know this, so that you will have the opportunity to improve your grade. LATE WORK: if you turn your work in after due date but less than one day late it will be docked 15 points on from 100 point total. If it is turned in two days or more late, it will be docked 25 points. Note it is still far better to turn it in late than get a 0!

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Accessibility Resources and Services

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: https://ars.unc.edu or email ars@unc.edu.

Resources

The INLS 541 Resources Page is used to maintain an ongoing collection of information about resources related to the INLS 541 class. It is very comprehensive and contains information on books, readings, examples, tools, and other web resources.

This page is maintained by Dr. Hemminger. Address questions and comments about this page to him at bmh@ils.unc.edu

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