Information Design and Visualization FNAR-337/637-401   Spring 2017
David Comberg: comberg@design.upenn.edu
Asha Sheshadri, TA: ashas@design.upenn.edu
Meeting space/time: MacLab and Fine Arts conference room Tues/Thurs 9-12
Course site/blog: datadesignpenn.com

This course is an advanced studio that explores the relationship between visual design and the field of information visualization. It presents strategies for designing effective visual communications while seeking to articulate a vocabulary of data design. Course work will provide students with an introduction to structuring and presenting information with an emphasis on meaning, effective communication, and visual aesthetics.

Sample readings:

Visual Complexity: Mapping Patterns of Information, Manuel Lima

Information Graphics: Visual Tools for Analyzing, Managing, and Communicating Robert L. Harris

Fundamental Principles, Edward Tufte

Mapping Experience, Marc Treib, Design Quarterly, No. 115

Artistic Data Visualization: Beyond Visual Analytics, Martin Wattenberg

Elsewhere Mapping, Janet Abrams, Peter Hall

Graphesis: Visual Forms of Knowledge Production, Harvard, Johanna Drucker

The purpose of this course is to explore how information can be structured and visualized to create effective communications and to stimulate viewer attention and engagement through design.

Students must complete three assigned projects and one independent research project using a variety of design tools/media, from static, pencil and paper models, to video, animation, interactive and sculptural and interactive web. The focus of the projects will be on developing an analytic and critical design process, demonstrating how design can affect and improve the understanding of information and how data can fuel artistic production. The course is intended for both undergraduate and graduate students in a variety of programs including visual design, engineering, business, and architecture, or any student who works with data presentation.

Students will be expected to complete basic research, data collection, analysis, interpretation, and presentation. They will be required to synthesize information from multiple and varied perspectives and create visual representations for each of the course projects. Students will need to choose appropriate media for each project and complete work with a high level of skill, balancing functionality and aesthetics. Class time will be used for project work, short presentations, discussion, and critiques. Students should plan on spending an additional 6–8 hours per week outside of class.

COURSE REQUIREMENTS

· attend all classes on time and prepared to work
· complete all assignments fully and on time (submit work to Course Folder/blog on assigned days
· participate in critiques, explaining and justifying work and offering criticism of other students' work
· contribute to class blog (1-2 post/wk)
· maintain records of design process
· submit final projects by the last day of class/crit date

GRADUATE STUDENT REQUIREMENT

Graduate students will be required to participate in a separate mid-point review of their independent project with a panel of faculty and peers. Based on feedback they must complete the work with a documentation of their development process before the final class critique.

GRADING

Your grade is based on work produced and participation in class (including discussion, critiques and course blog). Projects will be evaluated based on how effectively you complete research, the design development process, and the quality of final design. A successful project is a result of analysis, synthesis, and aesthetics–observation, inquiry, interpretation, and visualization–and will be evaluated based on presentations in class.

Mid-semester meetings will be scheduled with each student to discuss progress.

LATENESS AND ABSENCE POLICY

In addition to grading for work completed, students will be assessed on the basis of attendance, preparedness, and participation in class. **Attendance in class is an important element of your grade.** Three absences will result in grade drop of one letter grade. Notify me if you miss a class.

CODE OF ACADEMIC INTEGRITY

It is your responsibility to be familiar with the University's Code of Academic Integrity.
http://www.upenn.edu/academicintegrity/ai_codeofacademicintegrity.html

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PROJECTS AND READINGS

Project 1 (3 weeks) January 12–February 2

1.1   Class Landscape: Quantify and Correlate (today)

Work with a partner. Take each other's history (a brief set of factual data) then map/sketch to make correlations that will both inform and engage your audience (us!). Be creative: find information about your partner that goes beyond the obvious (scars, quirks, collections, habits, etc.)

1.2   Hello: Autobiographical Data Visualization (for February 2)

Design and perform a 2-minute spoken and visual presentation about yourself built from personal data and vital statistics. Initial plans/sketches due Jan 24/26.
Design and print an 8.5x11″ handout diagram summarizing your presentation (illustration, map, icons, chart, table—minimal text)

Readings (for January 19): *The Fundamental Principles of Analytical Design,* Tufte; *Artistic Data Visualization: Beyond Visual Analytics,* Wattenberg; *How to Make Data Look Sexy,* Wattenberg, Viegas; *Data-Driven Aesthetics,* Hansen; *Bizarre Insights From Big Data,* Quentin Hardy

Project 2   Bigger, Longer, Faster, Weirder: Visions of Change (3.5 weeks) February 2–Feb 28

This project requires you to address a significant contemporary issue using data to chronicle change over time. The design must use published data to support your particular view or argument. The goal of the project is to use data to convey a heightened recognition of the issue, to influence and empower users, and to promote engagement and activism.

Readings: *Critical InfoVis: Exploring the Politics of Visualization,* Marian Dörk, et al, 2013; Case Study: *Trail of Silence,* Shakiel Greely, 2014

Collaborators: Lauris Olson, Librarian/Coordinator for Social Sciences Collections
Public Lecture: Amanda Cox, New York Times Graphics Editor/Statistician

Project 3   Van Pelt's Future (4 weeks) March 2–April 6/May 4

Built in 1962, Van Pelt Library has a collection of more than 2.5 million volumes and serves over 1 million visitors annually. With a gross area of 230,000 square feet it is the largest of the 15 university libraries. The Penn Libraries are the 23rd largest system in the country, with 6.5 million volumes, 3 million digital images and 37,000 videos. Each year the library completes over 50 million loans and transactions. In this project you'll work in teams with Penn Libraries' data group and use data to visually explore the changing role of the Libraries: how has what is offered changed and how have users' expectations changed? Are libraries still useful? How does the Library demonstrate continued relevance? How has users' engagement evolved regarding subjects, services, formats, media, space, or other factors?

Readings: *Penn Library Facts, 2016*; *On Mapping,* Peter Hall; *Bubbles, Lines, and String: How Information Visualization Shapes Society;* Peter Hall, *Mapping Experience,* Treib, *Design Quarterly,* No. 115, 1980; *Forecasting the Future of Libraries 2015,* American Libraries Association

Collaborators: Joe Zucca/Andy Sarno, Strategic Initiatives, Penn Library Technology Services

Project 4   Independent Research Project (4 weeks) April 6–April 26/May 4 (final crit)

This project is open to any issue or subject—the only requirement is that the project's design must incorporate and be supported by data/information. Project proposals are due February 9. A mid-project review will be scheduled for mid-April.

All work, portfolios, and final projects are due at the final critique, May 4, noon.