

Course description:

“Every field has some central tension it is trying to resolve. Visualization deals with the inhuman scale of the information and the need to present it at the very human scale of what the eye can see.”

Martin Wattenberg
Show Me: New Ways of Visualizing Data

This is a studio course that will challenge you to apply the elements and techniques of graphic design towards the visual articulation data. Through color, typography, visual hierarchy, and even animation, you will be expanding and sharpening how data can be presented in print and for digital displays. Alongside the design and development of data-driven graphics, we will also actively discuss, critique, and question the current conventions and trends involving the emerging field of data visualization. But most importantly, this studio class will also function as a laboratory where we will take risks and experiment with new visual forms and platforms that can change the way we disseminate data.

We will be using a wide variety of data for multiple purposes, and there will be numerous challenges and opportunities to engage data as a medium for designers.

All projects will be produced through Adobe CC, but if time allows, additional software tutorials will be given.

Course Objectives:

- Understand how data can be used as a design medium.
- Visualize variables such as time, distance, quantity, etc.
- Understand the use of color, marks, icons, and textures that are appropriate for data visualization.
- Apply the formal qualities of graphic design to give visualizations an appropriate visual voice.
- Understand the difference between explanatory and exploratory visualizations.
- Apply motion graphics to visualizing data.
- Take risks in formulating experimental graphics.

Course prerequisites:

- GDES 2345: typography 1

As college/grad students, you should have at least a foundational understanding on basic concepts in statistics (averages, median, uncertainty, normalization, etc.).

Format for the course:

This is a 3-credit course, and divides our contact time in two weekly sessions. Class is centered primarily on discussions and critique of work done outside of class.

Recommended texts:

- Joel Katz, *Designing Information: Human Factors and Common Sense in Information Design*
- Alberto Cairo, *The Functional Art*
- Nathan Yau, *Data Points*
- Edward Tufte, *Envisioning Information*
- Isabel Meirelles, *Design for Information: An Introduction to the Histories, Theories, and Best Practices Behind Effective Information Visualizations*

Instructor:

Eugene Park, MFA
ebpark@umn.edu

Studio:

Mo & We 11:45am-1:40pm
McNeal 146

Office hours:

Tuesdays 11am-12pm*
McNeal Hall 246e

Spring Semester, 2020
Jan 22-May 04

*also available for appointments

Student Learning Outcomes:

Can locate and critically evaluate information

By the end of this course, all students are expected to have mastered beginner-to-intermediate level competency in working with raw data and be able to identify its recurring patterns, minimum/maximum values, convert to appropriate units, calculate statistical mean and modes, and draw practical conclusions and comparisons. Students must also be able to identify and address statistical exaggerations and their misleading presentations.

It is important to keep in mind that this is primarily a graphic design course. While all students are expected to have foundational knowledge in basic statistical concepts (averages, medians, uncertainty, normalization, etc.), they are not expected to do any rigorous analysis beyond what they were taught in an introductory statistics class.

Students will also be challenged to formulate and test their hypothesis through the data that has been assigned to them. This will be impressed on the first project of this course.

Evaluation: all projects will be evaluated on the integrity of data analysis and its visual articulation. Technical details such as accuracy in scale (size/time/quantity), proper unit conversions, and use of appropriate graph/chart are also crucial to the student's evaluation.

Can communicate effectively

As a graphic design studio, visual communication is an essential component to the student's learning experience. The following are the specifics of what students are expected to achieve under this category:

- Create visualizations that communicate concepts and ideas clearly that doesn't overwhelm the viewer.
- Create design whose primary purpose is to inform and engage a specific audience.
- Able to create graphs and charts with statistical accuracy with meaningful visual impact.
- Construct clear visual narratives using sequence of charts, graphs, and maps.
- Proficiently apply color and typography to construct a coherent visual system for their graphics.
- Effectively communicate data through print and digital mediums, as well as static and animated compositions.
- Never, ever, ever, ever use Arial, Comic Sans, Courier, Times New Roman, Optima, and Papyrus under any circumstances.
- Create experimental visualizations that can still effectively communicate to an audience.
- Provide thoughtful and constructive feedback in clear terms without using certain pedestrian phrases.

Evaluation: all projects must articulate a clear message or story derived from data using primarily typography, image, and color with successful construction of visual hierarchies. The quality of such narratives are measured through the clarity of its presentation that is apparent in the final product. Students are expected to create works that are original and compelling. While designing for clarity is important, formal experimentations used in such a manner that departs from conventional modes of representations are also expected.

Class schedule:

Unit 1: Data Visualization Basics

Jan	22	introductions / project 1 brief
	27	tutorial & exercises
	29	project 1 plots review
Feb	03	in-class exercises
	05	project 1 plots & paragraphs review
	10	project 1 sketches
	12	project 1 sketches
	17	project 1 high-fidelity mockups
	19	project 1 high-fidelity mockups
	24	project 1 production
	26	project 1 final critiques

Unit 2: Specialty Visualizations

Mar	02	software tutorial
	04	project 2 sketches due
	16	project 2 high-fidelity mockups
	18	no class
	23	project 2 production
	25	project 2 production
	30	project 2 final critiques
Apr	01	no class / submit project 3 ideas

Unit 3: Data in Motion

	06	After Effects tutorials
	08	After Effects tutorials
	13	project 3 storyboards
	15	project 3 storyboards
	20	project 3 production
	22	project 3 production
	27	project 3 production
	29	project 3 production
May	04	exit interviews
	16	all projects due

schedule is subject to change

Grading breakdown:

35% project 3
20% project 2
35% project 1
10% in-class activities

Criteria for evaluation:

A: strong design process / thorough research / frequent participation in critiques and class discussions / focused / ability to generate multiple solutions / mastery of form / great craftsmanship / effectively articulate and sketch ideas

B: can improve on the items from the A student / needs to generate more solutions / seldom participation / needs refinement in craftsmanship / final outcome of projects is good but needs to improve on process.

C: completes work only to satisfy minimum requirements / very few instances of participation / unwilling to break initial mold / doesn't make significant improvements to projects / frequently late

D: little or no participation / chronic tardiness / incomplete work / lack of refinement / express little to no interest / doesn't follow instructions

Grading late work:

The student is required to complete all course assignments on time: that is, each assignment is to be finished by 11:45 am on the day it is due, unless specified otherwise. Work completed after this time but by 11:45 am of the next class period will be marked down a full letter grade. If you have a scheduling problem regarding an assignment due date, please speak to the instructor before the due date about alternative means of meeting the course obligation.

Extra credit:

Certain projects will have opportunities for extra points.

Final class meeting:

Our final class meeting will take place 3:00 pm, may 4, 2020. There will be no final examination, but students must be present and bring all finalized projects for critique. In addition, students must also provide digital versions of all of their work done in this course.

Required equipment/software:

- Adobe Illustrator (CS6 or later)
- Adobe After Effects (CS6 or later)
- Microsoft Excel or equivalent software
- Additional software may be assigned

Note on critique:

Critique is a time during class where we give useful input to improve the work of our peers. Whether any of us “like” the work from our classmates is irrelevant. So try to tailor your comments and suggestions to be as objective as possible. Key questions might include:

- “What is the work doing?”
- “How is the work doing what it is doing?”
- “What do we think the designer’s intention might have been?”
- “What associations or references does the work call to mind?”

Each student is highly encouraged to practice being as specific as possible and avoid vague and subjective statements such as: “I like...” “I don't like...” “...is good” “could be better”, etc.

Classroom decorum:

Classroom is a time when we meet and be productive towards satisfying the class objectives. You are expected to be respectful of the time of your peers and be attentive and in all classroom activities and discussions. This means no phone use or texting during class times except in cases of emergency. Headphones for music are not allowed during lectures, class discussions, and critiques.

Release of work:

Students understand that enrollment in this course grants consent for their work to be selected for inclusion or college or departmental publications (online and print). Your instructor may select to use your work to represent his/her skills via teaching portfolio (online and print).

Attendance policy:

Attendance is essential in a studio course. The design process involves input and feedback among class members. You are expected to be on time for each class and work in class on class projects for the entire period. Repeated tardiness and/or consistently leaving class early will be considered an attendance problem and can result in a lower course grade. **Three tardiness will count as one unexcused absence. Three unexcused absences will result in two letter grades deducted from final grade. Five or more unexcused absences will result in course failure.** Excused absences are defined in the policy found here and include the following circumstances: illness, participation in intercollegiate athletic events (not intramural), subpoenas, jury duty, military service, bereavement, and religious observances. Any circumstance that you believe falls under the excused absence category must be verified by presenting the instructor with documentation (e.g., a note from your doctor) that gives the date(s) for which you should be excused (the details of the circumstance do not need to be explained). Students are responsible for information covered during any missed class session and are to acquire this information from a fellow classmate. The instructor will be available to answer follow-up questions during scheduled office hours or during class time, when appropriate. No appointment is needed for office hours.

Incompletes

An incomplete will not be given for this course unless there is a medical emergency or other extraordinary circumstance that can be verified and deemed reasonable by the instructor. If such an emergency occurs, please notify the instructor as soon as possible. To receive an incomplete, both the student and the instructor must sign a formal contract outlining what needs to be done in order to

remove the incomplete. The incomplete must be completed satisfactorily by the end of the following semester or the University automatically turns the incomplete into a failing grade.

Personal electronic devices in the classroom

Designated class hours are intended for GDES 5342 studio work, discussion, and critique. Your ideas and designs will thrive in an atmosphere of open exchange so have fun, share your ideas and opinions respectfully. In the computer lab, opportunities, responsibilities, and distractions of the digital world are at your fingertips. You must resist. In other words, no Internet exploration or device use that is not directly related to this class, no work from other classes. M&W 6:15–8:25 p.m.

<http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>

Use of class notes and materials:

Students may not distribute, via the Internet or other means, instructor-provided lecture notes or other instructor-provided materials, except to other members of the same class or with the express consent of the instructor.

<http://policy.umn.edu/Policies/Education/Education/CLASSNOTESSTUDENTS.html>

Scholastic dishonesty and student conduct code:

Any student found to have committed or to have attempted to commit misconduct as defined in this policy is subject to appropriate disciplinary action.

<http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

Sexual harassment

University policy prohibits sexual harassment as defined in the University Policy Statement of December 11, 1998; copies of this statement are available at

<http://policy.umn.edu/hr/sexualharassment>

Climate of inclusivity

You are expected to be attentive during class, ask questions if you do not understand something, and to offer your opinion. You are also expected to listen respectfully to other students and to me when speaking. The University of Minnesota is committed to providing a safe climate for all students, faculty, and staff. All persons shall have equal access to its programs and facilities without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation. Racism, sexism, homophobia, classism, ageism and other forms of bigotry are inappropriate to express in this class. Reports of harassment are taken seriously, and there are individuals and offices available for help.

(or refer to http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf)

Academic freedom and responsibility

Academic freedom is the freedom, without institutional discipline or restraint, to discuss all relevant matters in the classroom, to explore all avenues of scholarship, research, and creative expression, and to speak or write on matters of public concern as well as on matters related to professional duties and the functioning of the University. Academic responsibility implies the faithful performance of professional duties and obligations, the recognition of the demands of the scholarly enterprise, and the candor to make it clear that when one is speaking on matters of public interest, one is not speaking for the institution.

http://www1.umn.edu/regents/policies/academic/Academic_Freedom.pdf.

Availability of disability and mental health services

The University of Minnesota is committed to providing all students equal access to learning opportunities. The Office of Equity and Diversity has a Disability Resource Center (DRC) that works with students who have disabilities to provide and/or arrange reasonable accommodations.

Students who have, or think they may have, a disability (e.g. mental health, attentional, learning, vision, hearing, physical or systemic), are invited to contact DS to arrange a confidential discussion at 612-626-1333 (V/TTY) or drc@umn.edu.

Students registered with DRC, who have a letter requesting accommodations, are encouraged to contact the instructor early in the semester to discuss accommodations outlined in their letter.

For additional information please visit:

<https://diversity.umn.edu/disability/>

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via www.mentalhealth.umn.edu or contact Counseling/Consulting Services at 612-624-3323.

Academic services

If you would like additional help, please contact one of the offices listed below.

Center for Writing
10 Nicholson Hall, Mpls
612-626-7579

Student Academic Success Service
340 Appleby Hall, Mpls
199 Coffey Hall, St. Paul
612-624-3323