Course Syllabus for SIADS 522: Information Visualization I

Course Overview and Prerequisites

This course will introduce information visualization — visual representations of data through interactive systems. Specific focus will be on the role of visualization in understanding data and understanding how perception, cognition, and good design enhance visualization. The course will introduce APIs for visualization construction. Students will learn to construct and critique visualizations and visualization tools.

Students should have an understanding of the pandas library, which is covered in Data Manipulation, prior to this course.

Instructor and Course Assistants

- Instructor: Aasakiran "Bobby" Madamanchi (amadaman@umich.edu)
- GSIs: Elham Amini (eamini@umich.edu), Annette Han (hananh@umich.edu)

Communication Expectations

Contacting instructor and course assistants: Course channel in Slack
Email response time: 24 - 48 hours
Slack response time: 24-48 hours
Office hours: see *Course Schedule* below

Required Textbook

Visual Display of Quantitative Information. Edward. R. Tufte. One source for this text is Amazon:
https://www.amazon.com/Visual-Display-Quantitative-Information/dp/1930824130)

Technology Requirements (unique to this course)

None

Accessibility

Screen reader configuration for Jupyter Notebook Content

Course Outcomes

1. Enumerate the key reasons for creating and evaluating information visualizations
2. Be able to construct basic visualizations using Altair
3. Be able to evaluate visualization designs on expressiveness/effectiveness by using cognitive/perceptual theories
4. Be able to critique and contrast different designs based on task frameworks (domain, abstract)
5. Be able to select appropriate encodings given data and task framework
6. Be able to define basic visualization types using Grammar of Graphics

Course Schedule

This course begins on **Tuesday, June 1, 2021 and ends on Monday, June 28, 2021**.

Weekly assignments will be due on **Mondays at 11:59 pm** (time zone = Ann Arbor, Michigan - Eastern Standard Time).

Schedule of Weekly Office Hours via Zoom (time zone = Ann Arbor, Michigan - Eastern Standard Time):

- Instructor: Bobby Madamanchi - amadaman@umich.edu (Office hours: Wednesdays at 4-5pm)
- Staff:
  - Elham Amini - eamini@umich.edu (Office hours: Sundays at 9am)
    - There will be no office hour on Sunday June 20. Instead it will be on Monday, June 21 at 9am.
  - Annette Han - hananh@umich.edu (Office hours: Tuesdays at 8pm)

Grading

Course Assignments	Percentage of Final Grade
Week 1 Assignment	25%
Week 2 Assignment	25%
Week 3 Assignment	25%
Week 4 Assignment	25%
	100%

Note: All assignments are required to earn credit for this course.

Letter Grades, Course Grades, and Late Submission Policy

Refer to the MADS Assignment Submission and Grading Policies section of the UMSI Student Handbook (access to Student Orientation course required)

For this course, assignments will be accepted 24 hours late with a 20% penalty. After 24 hours we will not accept your assignments unless you have prior approval for an extension (this is uncommon, but please ask if there's an important reason).

W**e do not allow an unlimited number of submission attempts** in this class. We provide either an example of the output or the specific visualization for you to replicate. Because we can't autograde this--we need to look at the visualizations--much of this course is manually graded. Even those parts that are autograded are manually checked if an error was reported.

We apply the following for letter grade determination. Please note that we rarely give A+'s in this course.:

Letter Grade	Score Range
A	>93
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76

C-	70-72
D+	67-69
D	63-66
D-	60-62
F	<60

Academic Integrity / Code of Conduct

Refer to the Academic and Professional Integrity section of the UMSI Student Handbook (access to Student Orientation course required).

While we offer a number of discussion channels to support your work, if you are stuck **you may not share or receive complete solutions to the assignments**. We also encourage you to support your classmates, but again, without sharing completed code. (Pointing to resources, describing ideas in pseudo-code, etc. is fine.)

Accommodations

Refer to the Accommodations for Students with Disabilities section of the UMSI Student Handbook (access to the Student Orientation course required).

Use the Student Intake Form to begin the process of working with the University's Office of Services for Students with Disabilities.

Help Desk(s): How to get help

- Degree program questions or general help - umsimadshelp@umich.edu
- Coursera's Technical Support (24/7) - https://learner.coursera.help/

Library Access

Refer to the U-M Library's information sheet on accessing library resources from off-campus. For more information regarding library support services, please refer to the U-M Library Resources section of the UMSI Student Handbook (access to the Student Orientation course required).

Student Mental Health

Refer to the University's Resources for Stress and Mental Health website for a listing of resources for students.

Student Services

Refer to the Introduction to UMSI Student Life section of the UMSI Student Handbook (access to the Student Orientation course required).