

Syllabus

- **Course name:** INST 462 - Introduction to Data Visualization
- **Term:** Fall 2018
- **Instructor:** Dr. Jennifer Golbeck, Professor of Information Studies, jgolbeck@umd.edu
Office hours Thursday 12-1:30 Hornbake
- **TA:** Sahar Zavaree, Office Hours Hornbake 0215A 9am-11am Mondays
- **Textbook:** Tamara Munzner, *Visualization Analysis and Design* (VAD), CRC press, 2014. (<http://www.cs.ubc.ca/~tmm/vadbook/>)

Introduction

- *Data visualization* is the graphical representation of data to aid understanding, and is the key to analyzing big data for fields such as science, engineering, medicine, and the humanities. This undergraduate course is an introduction to data visualization, where you will learn how to design, build, and evaluate visualizations for different types of data, disciplines, and domains. The course has a strong emphasis on design and practical applications of data visualization. The format for the course will be lectures by the instructor, practical design exercises, group discussions, as well as a set of practical assignments throughout the course. The grading will be based on participation in class and seven assignments.

Student Learning Outcomes

- Upon successful completion of the course, students will be able to:
- Articulate human, visual, and interactive design issues for creating effective visualizations.
- Use existing visualization tools and techniques to analyze basic datasets.
- Apply existing techniques from scalar, volume, multidimensional, textual, graph-based, tree-based, and temporal visualization to actual problems and data.
- Evaluate a visualization solution based on quantitative metrics such as time and error, as well as more complex and qualitative metrics.
- Articulate issues and techniques for applying visualization to domains such as medicine, finance, science, engineering, the humanities, policy, and government.

Grading

- The course outcomes will be assessed through the following mechanisms:

- **Homework assignments (50%)** - practical assignments on data visualization, including visual and interactive design, cognition, and data transformation.
- **Labs (25%)** – Labs are online and have required activities with due dates. Your participation is required.
- **Quizzes (10%)** – these are lightweight and designed to easily confirm that you have watched the lectures each week.
- **Class participation and lecture exercises (15%)** – though we are meeting online, there are hands on exercises in some lectures with discussions. While these are not graded, we expect you to engage. Your level of participation in these discussions and exercises will count toward your participation grade.
- Final grades will be assigned based on your weighted average in the class using the following categories:

A+ More than 97.0*

A 93.0 - 96.9

A- 90.0 - 92.9

B+ 87.0 - 89.9

B 83.0 - 86.9

B- 80.0 - 82.9

C+ 77.0 - 79.9

C 73.0 - 76.9

C- 70.0 - 72.9

D+ 67.0 - 69.9

D 63.0 - 66.9

D- 60.0 - 62.9

F Less than 60

* Note: To receive an A+ you must have demonstrated significant contributions to the class in addition to achieving this numeric grade.

Homework Assignments

Biweekly-ish assignments where students work on practical visualization problems will be a major part of the course. The goal is to expose the student to as many practical visualization techniques and problems as possible.

Detailed Schedule

- See Canvas for a detailed weekly schedule.

Extensions

If you have to miss a deadline, you should inform the instructor as soon as possible, indicating when you will submit your work. The instructor will try to accommodate your needs. You should use this clause only for extraordinary personal reasons (e.g., personal illness, death in the family, etc.), not because you are busy with other classes, have a career fair to attend, etc. The general policy is that late work will be deducted 20% of its total grade per calendar day, starting on the same day it is due. It is at the instructor's discretion to accept late work and assign late penalties.

There are absolutely no extensions or re-dos on quizzes.

University Policies

For university course policies, review go.umd.edu/ug-policy