88624759 Data Visualization

Syllabus

Course Information

- Lecture: M, 13:00-17:00 pm
- Course Web page: in Google Classroom

Instructor Information

- Assist Prof. Dr. Ureerat Suksawatchon
- Office Hours: Thu 9:00-12:00 am by appointment
- Email: ureerat@go.buu.ac.th, ureerat.w@gmail.com

Course Description (in Curriculum)

Fundamental concepts of data visualization; information visualization types; design principles of data visualization; tools for static data visualization; tree and network visualizations; big data visualizations.

Course Prerequisites

Students should have taken and pass in 88620459 Introduction to Data Science and Data Analytics

Course Overview

Data visualization is an essential skill required in today's data driven world. We'll explore how to design and create data visualizations based on data available and tasks to be achieved. The goal of this course is to introduce students to data visualization including both the principles and techniques. Students will learn the value of visualization, specific techniques, and understand how to best leverage visualization methods.

Course Learning Outcomes

- Present data with visual representations for your target audience, task, and data;
- Create multiple versions of digital visualizations using various software packages;
- Identify appropriate data visualization techniques given particular requirements imposed by the data;
- Apply appropriate design principles in the creation of presentations and visualizations.

Grading

10% Course Participation

30% Assignments

30% Midterm Exam

30% Final Exam

Readings and course materials

- Claus O. Wilke, Fundamentals of Data Visualization" to be published with O'Reilly Media, Inc. (https://serialmentor.com/dataviz/index.html)
- Ben Jones, Communicating Data with Tableau, O'Reilly Media, Inc, USA.

Required software

The major graphics tools we will be using in this course for creating visualizations are Excel and Tableau.

Course Schedule

Week	Topics
7 Jun	Introduction to data visualization
14 Jun	Look at Data Data source
21 Jun	Visualizing data: Mapping data onto aesthetics Data visualization: basic principles
28 Jun	Coordinate systems and axes Tableau Primer
5 Jul	Color scales Common pitfalls of color use
12 Jul	Directory of visualizations
19 Jul	Visualizing amounts
26 Jul	Visualizing distributions
	Midterm Exam
Week	Topics
2 Aug	Visualizing associations among two or more quantitative variables
9 Aug	Visualizing time series Visualizing trends
16 Aug	Handling overlapping points
23 Aug	Multi-panel figures
30 Aug	Telling a story and making a point
6 Sep	Class review
13 Sep	Project presentations and class wrap up - The visual pitch
	Final Exam

Term Project

This project is an opportunity for you to create a series of data graphics based on data that you select.

You will create at least 4 visualizations based on your defined audience, data, and tasks.

You will present visualizations to the class in the form of a compelling story.

You can see the more examples in the Tableau publics blogs.