



STAT3622 Data Visualization (2018-19 Semester 1)

Course Outline

Instructor:	Dr. Aijun Zhang
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Lecture Hours:	Monday 11:30am – 12:20pm (MB217) Thursday 10:30am – 12:20pm (MB217)
Tutor:	Zebin Yang (RR114, u3005497@connect.hku.hk)
Tutorial Hours:	TBD

Course Objectives:

This course will focus on exploratory data analysis with statistical graphics and interactive data visualization. Students will learn how to display, communicate and analyze data, using a set of packages based on R and Python programming.

Prerequisites:

STAT2602 (Probability and Statistics II) or STAT3902 (Statistical Models).

Contents and Topics:

Data science, data manipulation, exploratory data analysis, statistical graphics, interactive data visualization, shiny applications, selected case studies.

Intended Learning Outcomes:

- Choose the best chart that fits the data
- Communicate effectively using statistical graphics
- Create compelling visualization via programming tools

Assessment Method:

Continuous:	Participation, in-class quizzes and homeworks	40%
Final Project:	DataViz app, oral presentation and written report	60%

Course Website: <http://stat3622.saas.hku.hk/> & <http://moodle.hku.hk/>

Programming: R, Python, D3.js

References and Online Materials:

1. *R for Data Science* (2017 O'Reilly) by Golemund and Wickham. <http://r4ds.had.co.nz/>
2. *ggplot2: Elegant Graphics for Data Analysis* (2nd Edition, 2016 Springer) by Hadley Wickham. <http://had.co.nz/ggplot2/>
3. *IPython Interactive Computing and Visualization Cookbook* (2018 Packt) by Cyrille Rossant. <https://ipython-books.github.io/>
4. *D3.js in Action* (2nd Edition, 2017 Manning) by Elijah Meeks. <https://www.manning.com/books/d3js-in-action-second-edition>
5. Yau, N. (2011). *Visualize This: The FlowingData Guide to Design, Visualization, and Statistics*. Wiley. <http://book.flowingdata.com/>
6. RStudio Cheat Cheats. <https://www.rstudio.com/resources/cheatsheets/>

