

SOSC 1100 **Quantitative Data Analysis for Social Research I**

Spring, 2021

Tuesday & Thursday, 9:00-10:20am

(Venue TBD)

Instructor: Dr. WANG, Hongbo (hbwang@ust.hk)
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Course Description and Objectives:

This course focuses on practical aspects and implementation of social data analysis by introducing basic yet hands-on techniques for presenting, analyzing, and interpreting quantitative data, many of which are rarely taught in a regular statistics course. It is deliberately designed as complementary to a formal and theoretically-oriented introductory statistics courses.

This course introduces basic knowledge about quantitative data analysis from a social scientific perspective, from data generating processes to implementation. Devoted computing sessions, a signature feature of the course, demonstrate hands-on techniques, such as data extraction, data management, variable manipulation, and descriptive analysis. Students will have the chance to implement ideas and methods from the lectures through in-class exercises, as well as a project, by applying what they learn to real-world data. Upon completion of the course, students should have acquired useful skills for social data analysis as well as a better understanding of quantitative social scientific research.

Organization:

The lectures will be given on Thursdays while Tuesdays are reserved for computing sessions (See “Course Schedule” below for detail).

Course materials will be distributed through [Canvas](#). Note that all course material should be used *exclusively* for the purpose of this course.

Computing:

Mainly [R](#)

References:

Babbie, Earl. 2013. *The Practice of Social Research*. (13th E.). Wadsworth Publishing. [B]

Baumer, Benjamin S., Daniel T. Kaplan, and Nicholas J. Horton. 2017. *Modern Data Science with R*. Chapman and Hall/CRC. [BKH]

[Optional] Moore, David S., George P. McCabe and Bruce A. Craig. 2014. *Introduction to the Practice of Statistics*. (8e.) New York: W. H. Freeman & Co. [MMC]

Navarro, Danielle. [Learning statistics with R: A tutorial for psychology students and other beginners](#) (Version 0.6).

Salganik, Matthew. 2017. *Bit by Bit: Social Research in the Digital Age*. Princeton University Press. [S]

Assessment:

Your grade will be determined as follows:

(1) Attendance and class participation: 30%

Attendance and class participation is required for all classes, either regular lecture or computing session. One point will be docked for each *instance of illegitimate absence or lack of participation (e.g. non-response to questions)*.

(2) In-class quizzes: 40%

There will be four in-class quizzes, each accounting for 10% of the final grade. The quizzes will be focused on R implementation.

(3) Final exam: 30%

The final exam, which covers the whole course, will be based on both lectures and R computing.

Course Schedule (*Subject to adjustment*)

Calendar Week	Topic	Readings	Important Events
Week 1: Tuesday Thursday	Introduction Study Design		
Week 2: Tuesday Thursday	[R] Computing session *NO CLASS (2/11)		
Week 3: Tuesday Thursday	[R] Computing session Sources of Social Data: I		
Week 4: Tuesday Thursday	[R] Computing session Sources of Social Data: II		
Week 5: Tuesday Thursday	[R] Computing session Relational Database		
Week 6: Tuesday Thursday	[R] Computing session Variable: Measurement		
Week 7: Tuesday Thursday	[R] Computing session Variable: Coding & Transformation		
Week 8: Tuesday Thursday	[R] Computing session Describing Uni-variate Distribution: Graphs		
Week 9: Tuesday Thursday	[R] Computing session *NO CLASS (4/1)		
Week 10: Tuesday Thursday	*NO CLASS (4/6) Describing Uni-variate Distribution: Summary Statistics		Quiz 1
Week 11: Tuesday Thursday	[R] Computing session Two-way Table		Quiz 2
Week 12: Tuesday Thursday	[R] Computing session Comparing Distributions by Group		
Week 13: Tuesday Thursday	[R] Computing session Scatterplot		Quiz 3
Week 14: Tuesday Thursday	[R] Computing session Hierarchical Data Structure		Quiz 4
<i>TBD</i>			Final Exam