

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

Spring, 2020

Tuesday & Thursday, 4:30-5:50pm
Room 2302 (Lift 17-18), Academic Building

Instructor: Dr. WANG, Hongbo (hbwang@ust.hk)
Office: Academic Building, Room 2372 (Ext. 7804)
Office Hours: Thursday, 3:00-4:00pm

TA: Mr. Stephen Choy (choyh@ust.hk)
Office: Academic Building, Room 3005 (Lift 4), Ext.: 7809
Office Hours: 11am-12pm, Friday

Course Description and Objectives:

Focusing on practical aspects of social data analysis, this course introduces basic techniques for presenting, analyzing, and interpreting quantitative data in social science. It is deliberately designed as complementary to a theoretically-oriented statistics courses at the introductory level.

Devoted computing sessions, held weekly in tandem with the lectures, are a central component of the course. The computing sessions cover computing and related issues indispensable for analyzing social data in practice. In particular, students will receive hands-on training in data management skills, such as locating data source, transforming variables, and linking datasets. Some of the skills are rarely taught in a regular statistics course. Besides in-class practices, students will also have the chance to apply the skills to real-world data by conducting a group project with a topic of their own choice. 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 Tuesdays while Thursdays are usually reserved for computing sessions (See “Course Schedule” below for detailed topics).

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

Students will form groups of **6** individuals to collaborate on the group project.

Computing:

This course will mainly use [R](#) for computing.

Prerequisite:

Basic knowledge about statistics.

References:

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

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

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

Assessment:

Your grade will be determined as follows:

(1) Attendance and class participation: 10%

Attendance is required for both regular lecture and computing session. We will take attendance via ZOOM/iPRS. You will get one point deducted for each missed lecture or computing session.

(2) In-class quizzes: 40%

There will be four in-class quizzes.

(3) Group project: 50% (Oral presentation, 10%; written report, 40%)

Under the instructor's supervision, each group will choose a topic of their own, locate appropriate data sources, carry out data analysis, present the findings, and, finally, submit a written report. Detailed guidelines will be provided in a separate document.

Course Schedule (*Subject to adjustment*)

Calendar Week	Topic	Readings	Important Dates
Week 1: Tuesday Thursday	Sources of Social Data		2/20
Week 2: Tuesday Thursday	[R] Computing session Data Generating Process		<i>Project Group Finalized (2/27)</i>
Week 3: Tuesday Thursday	[R] Computing session Dataset and Variables		
Week 4: Tuesday Thursday	[R] Computing session Data Management		
Week 5: Tuesday Thursday	[R] Computing session Describing Uni-variate Distribution		
Week 6: Tuesday Thursday	* Quiz 1 Two-way Tables for Categorical Variables		3/24
Week 7: Tuesday Thursday	[R] Computing session * <i>Proposal Defense</i>		<i>Proposal Due (4/2)</i>
Week 8: Tuesday Thursday	* Quiz 2 Comparing Distributions between Groups		4/7
Week 9: Tuesday Thursday	[R] Computing session Scatterplot, Correlation, and Regression		
Week 10: Tuesday Thursday	[R] Computing session Hierarchical Data Structure		
Week 11: Tuesday Thursday	[R] Computing session * Holiday (No Class)		4/30
Week 12: Tuesday Thursday	* Quiz 3 * Quiz 4		5/5 5/7
Week 13: Tuesday Thursday	* <i>Project Presentation</i> * <i>Project Presentation</i>		5/12 5/14
Week 14: Tuesday Thursday			
Week 15: Tuesday Thursday			<i>Final Report Due (5/28)</i>