

SOSC 1100 Elementary Statistics for Social Research

Spring, 2019

Tuesday & Thursday, 10:30-11:50am
Room 4502 (Lift 25-26), Academic Building

Instructor: Dr. WANG, Hongbo (hbwang@ust.hk)
Office: Academic Building, Room 2372 (Ext. 7804)
Office Hours: Friday, 2:00-2:50pm or by appointment

TA: Mr. SHA Wenbiao (wenbiao.sha@connect.ust.hk)
Office: Academic Building, Room 3001 (Lift 4)
Office Hours: Thursday, 2:00-4:00pm

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 **5** 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 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	Deadlines
Week 1: Tuesday Thursday	Introduction		
Week 2: Tuesday Thursday	*Holiday (2/5) *Holiday (2/7)		
Week 3: Tuesday Thursday	Sources of Social Data: I Sources of Social Data: II		
Week 4: Tuesday Thursday	[R] Computing session Data Generating Process		Project Group Finalized (2/19)
Week 5: Tuesday Thursday	[R] Computing session Dataset and Variables		
Week 6: Tuesday Thursday	[R] Computing session Data Management		Proposal Due (2/28)
Week 7: Tuesday Thursday	[R] Computing session Describing Uni-variate Distribution		
Week 8: Tuesday Thursday	[R] Computing session Two-way Tables for Categorical Variables		Quiz 1
Week 9: Tuesday Thursday	[R] Computing session Comparing Distributions between Groups		
Week 10: Tuesday Thursday	[R] Computing session Scatterplot, Correlation, and Regression		Quiz 2
Week 11: Tuesday Thursday	[R] Computing session Hierarchical Data Structure		
Week 12: Tuesday Thursday	[R] Computing session *Midterm Break (4/18)		Quiz 3
Week 13: Tuesday Thursday	*Midterm Break (4/23) Statistical Inference and Causality		
Week 14: Tuesday Thursday	[R] Computing session <i>*Project Presentation</i>		Quiz 4
Week 15: Tuesday Thursday	<i>*Project Presentation</i> <i>*Project Presentation</i>		
Week 17:			Final Report Due (5/24)