

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

Spring, 2022

Thursday, 1:30-2:50pm

Room 5619 (Lift 31-32)

Instructor: Dr. WANG Hongbo (hbwang@ust.hk)
Office: Academic Building, Room 2372 (Ext. 7804)
Office Hours: By appointment

TA: LAI Ruilin (rlaiac@connect.ust.hk)
Office: Academic Building, Room 3001
Office Hours: By appointment
Tsang Yau, Mitch (mitchtsang@ust.hk)
Office: Academic Building, Room 3005 (Lift 4), Ext.: 7809
Office Hours: By appointment
Alice CHEN (xchenen@connect.ust.hk)
Office: Academic Building, Room 4016
Office Hours: By appointment

Course Description and Objectives:

This entry-level course introduces hands-on techniques for presenting, analyzing, and interpreting quantitative social data, many of which are rarely taught in a regular statistics course. It is designed as complementary to a formal statistics course for first-year undergraduate students in a social scientific discipline.

The course covers basic practices of analyzing data for social scientific research, including data management and descriptive analysis. A signature feature of it is devoted computing sessions, in tandem with lectures, which demonstrate how the practices are actually executed with real-world data using a computing tool, R.

Organization:

This course will be taught in *blended mode*. That is, **all lectures will be provided as pre-recorded videos while the class only needs to physically meet once a week**. The lecture video(s) will be released through [Canvas](#) Tuesday by 1:30pm each week (holiday and recess ones excluded). A face-to-face meeting is scheduled for Thursday in the same week (See “Schedule” below for the weekly topics).

Students are required to read all lecture notes and watch accompanying videos prior to each face-to-face meeting. A few questions, which are to be discussed during the meeting, will be posed at the end of each lecture. Students are expected to participate in discussions, alongside other class activities, during each meeting. There will also be

occasional mini in-class exercises on R computing. Students are strongly encouraged to practice R in and outside of the classroom.

Agenda for a typical face-to-face meeting (*subject to adjustment*):

- (1) Recap of lecture video(s)
- (2) Discussions/Q & A
- (3) R demonstration (*if applicable*)
- (4) In-class R exercise (*if applicable*)

Computing:

[R](#) will be used as the major computing tool. There are countless free resources for learning R on the Internet. If you don't have any prior experience in programming, you may want to start with some tutorial videos for beginners on YouTube or Bilibili.

Prerequisite:

Basic math

References:

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

[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: 10%

Attendance is required for all face-to-face meetings. One point will be deducted for each missed class *without legitimate justification*. **NOTE: You will fail this course automatically if you have missed at least three face-to-face meetings regardless.**

(2) Class participation: 30%

Your class participation will be evaluated in terms of *in-class exercises* (20%) and *discussions and other class activities* (10% using a 4-level scheme: "Excellent" (=10), "satisfactory" (=7), "unsatisfactory" (=5), and completely fail (=0)).

(3) Quizzes: 30%

There will be two *open-book* quizzes, each accounting for 15% of the final grade.

(4) Final exam: 30%

The final exam will be based *exclusively* on the lectures from the entire semester.

Schedule (*Subject to adjustment*)

Calendar Week	Topics		Important Dates
Week 1:	Course Overview and Introduction		2/10
Week 2: [Class 1]	[L] Sources of Social Data ; [L] Census in China***		
Week 3: [Class 2]	[L] Survey Designs; [L] CGSS***; [L] HKPSSD***		
Week 4: [Class 3]	[L] “Big Data”		
Week 5: [Class 4]	[R] Hello to R and RStudio; [R] ABC of R		
Week 6: [Class 5]	[L] RDB; [R] Dataframe		
Week 7: [Class 6]	[L] Variable: Measurement		
Week 8: [Class 7]	[L] Variable: Coding; [R] Variables in R; Quiz 1		3/31
Week 9: [Class 8]	[L] Transforming Variables; [R] Variable Manipulation		
Week 10	NO CLASS (Mid-term Break)		4/14
Week 11: [Class 9]	[L] Describing A Distribution: <i>Graphs</i> ; [R] R Graphics		
Week 12: [Class 10]	[L] Describing Relationship: <i>2-way Table</i>		
Week 13: [Class 11]	[L] Describing Relationship: Scatterplot; [R] Scatterplot Quiz 2		5/5
<i>TBD</i>			Final Exam

[L] Lecture

*** Excluded from final exam.

[R] R demonstration (Excluded from final exam)