ISS 6317 Social Research Quantitative Methods I
Fall 2022 (8/22-12/3, 2022)
Graham Center (GC) 274
Tuesday 5:00 - 7:40 PM

Instructor: Qing Lai
Office: SIPA 313
Office Hours: Tuesday 2:00-4:00 PM
Email: Please use Canvas message for course communications.

Description:

This course is designed to introduce basic statistical knowledge and skills in the context of social research. It provides a conceptual understanding of fundamental procedures of statistical description and inference. It also introduces basic skills of data analysis (using Excel and Stata) and results presentation. This course assumes no prior knowledge of statistics and no mathematical knowledge beyond simple algebra.

Students can expect to gain sufficient quantitative literacy to understand and evaluate most research designs and some statistical methods used in social science publications. This course also aims to develop the ability to conduct and publish with basic quantitative data analysis. Finally, this course prepares students for more advanced quantitative method courses offered at GSS which covers linear regression and categorical data analysis.

Textbook:

* The course uses my own lecture notes. The following textbook is NOT required, but may provide some helpful elaborations. Similar elaborations are available online if you simply google the statistical terms. If you decide to use an older edition of the book, note that the sequence of chapters might be different.

(GW) Gravetter, Frederick J & Larry B. Wallnau. 2013. *Essentials of Statistics for the Behavioral Sciences* (Eighth Edition). ISBN-13: 978-1133956570.

Requirements:

Lecture attendance is required. We will meet face-to-face during the designated class time. If you have to miss a lecture (with valid reasons of course), you can catch up by watching my pre-recorded lecture videos. The video links are available in the Module section.

A total of nine assignments are posted on Canvas. All the assignments are posted in the Modules section, but your completed work should be submitted in the Assignment section. Study groups are encouraged but you must complete all the assignments independently. Please note that each assignment will be graded either 0 or 5 based on timely submission of completed work on Canvas. The assignment keys will be posted after the due dates.

Three timed exams are scheduled on Canvas for 9/27, 10/25, and 11/29. There will be no class meetings on those dates. The online exams will be available for the whole day until 11:59 PM, but once started you have 60 minutes to finish all the questions in one sitting. You should not discuss questions with other people during the exam, but you may consult your notes or the course materials. In the Modules

section, you can find a module dedicated to help you prepare for the exams, which consists of three practice exams and prep videos.

All course materials, including lecture notes, lecture videos, assignments, datasets, assignment keys, and online exams are or will be posted on Canvas.

Grading:

	Grade Points	Total
Attendance	1 point * 15 weeks	15 points
Assignments	5 points * 9 assignments	45 points
Exams	15 points * 3 exams	45 points

Your final letter grade for the course will be assessed as below--

A   96-105
A-   91-95
B+   86-90
B   81-85
B-   76-80
C+   71-75
C   66-70
D   60-65
F   0-59

Email Policy:

Please use Canvas Message to contact me for matters related to this course.

Course Outline:

8/23   **Lecture 1**: Introduction to basic concepts and ideas

8/30   **Lecture 1 (cont.)**: Frequency distribution; Frequency table; Histogram; GW 2

9/6   **Lecture 2**: Measures of central tendency and variability; **Asg 1 due;** GW 3, 4

9/13   **Lecture 3**: Standardized distribution; Z-score; **Asg 2 due**; GW 5

9/20   **Lecture 4**: Normal distribution; Sampling distribution; Standard error; **Asg 3 due**; GW 6, 7

9/27   **Exam 1**

10/4   **Lecture 5**: Z-test for one mean; **Asg 4 due;** GW 8

10/11   **Lecture 6**: t-test for one mean; **Asg 5 due;** GW 9

10/18   **Lecture 7**: t-test for 2 independent samples; t-test for 2 related samples; **Asg 6 due;** GW 10, 11

10/25   **Exam 2**

11/1   **Lecture 8**: Confidence intervals; Contingency table; Chi-square test; **Asg 7 due**; GW 15.3

11/8   **Lecture 9**: Correlation; bivariate regression I; **Asg 8 due;** GW 14

11/15   **Lecture 9 (cont.)**: Bivariate regression II; GW 14

11/22   **Final session**: Going further in statistics**; Asg 9 due**

11/29   **Exam 3**