

MGCS 5010/SSMA 5020
Quantitative Methods in Social Science

Dr. Hongbo WANG

Course Description

This course introduces basic concepts and practices in statistics for social sciences. Main topics include descriptive statistics; Normal distribution; probability theory; fundamentals of statistical inference; inference for population means and proportions; inference for two-way table; OLS regression; ANOVA; and Logistic regression.

In tandem with each lecture there will be a laboratory session on relevant computing issues. Specifically, the laboratory session provides hands-on training on data management and analysis using statistical packages.

The knowledge and skills acquired from this course will be useful not only for academically-oriented students, but also for those who intend to pursue a career in such professions as finance, marketing, and consulting.

Assessment

1. Attendance and class participation: 15%
2. Assignments: 20%
3. Mid-term exam (Closed-book): 30%
4. Final exam (Closed-book): 35%

Class Schedule

NO. THEME

L1	Summarizing Distribution
L2	Normal Distribution
L3	Relationship between Variables
L4	Data Generating Process
L5	Probability Models
L6	Fundamentals of Statistical Inference
L7	Midterm Exam
L8	Inference for Means and Proportions
L9	Inference for Two-way Table
L10	OLS Regression (I)
L11	OLS Regression (II)
L12	ANOVA
L13	Logistic regression

Major Readings

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

Hamilton, Lawrence C. 2013. *Statistics with STATA: v.12* (8e.). Duxbury: Cengage.