

Introduction to Statistics

Course Information

Lecture time and location: Tuesday and Thursday 10:35am-11:50am, Room 903, School of Social Work.

Textbook: *Probability & Statistics for Engineering and Sciences*, Jay Devore, Eighth Edition.

Instructor: Gongjun Xu

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Office Hours: Tuesday and Thursday 9:30am-10:30am.

Course Objectives: List of topics include:

- Random variables, probability distributions, conditional distribution.
- Mean, variance, correlation, conditional mean and variance, law of iterated expectations.
- Normal, chi-square, F and t distributions.
- Law of large numbers, central limit theorem.
- Parameter estimation, unbiasedness, consistency, efficiency.
- Hypothesis testing, confidence intervals.
- Maximum likelihood.

Prerequisites: One semester of calculus. You should be familiar with the following:

- Differentiating basic expressions
- Chain rule
- Product rule
- Quotient rule
- Integrating basic expressions
- Integration by substitution
- Integration by parts

Grading:

Homework	30%	
Quizzes	10%	(5% for Quiz 1, 5% for Quiz 2)
Midterm	20%	
Final	40%	