0701S201
Introduction to Statistics

Instructor: TBA
Time: June 14, 2021-July 16, 2021
Office Hours: 2 hours (according to the teaching schedule)
Contact Hours: 60 (50 minutes each)
Credits: 4
E-mail: TBA

Course Description

Statistics and probability constitute the mathematics of uncertainty. This is an introductory course that gives the students' knowledge on both descriptive and inferential statistics. Topics include graphic and numerical representations of various types of data; probability and statistics, discrete and continuous probability distributions; sampling and estimations; statistical inferences.

Required Textbook(s)

Introduction to Probability and Statistics, 13th Edition by William; Beaver, Robert J.; Beaver, Barbara M. Mendenhall (2006).

Prerequisites

No prerequisites

Course Schedule

Please note that the schedule is meant to give an overview of the major concepts in this course. Changes may occur in this calendar as needed to aid in the student's development.

Week 1: Describing data and basic probabilities
- Discrete and Continuous variables, bivariate data

- Describing data with graph and numerical measures
- Basic probability

Week 2: Expectation, probability distributions
- Discrete/absolutely continuous expectations, conditional expectation
- Variance, covariance, correlation, generating functions
- Bayes' rule
- Binomial, Poisson, Hypergeometric probability distribution
- Normal distribution

Week 3: More on normal distribution, Sampling distributions and limit theorems
- Distribution approximation
- Sampling distributions,
- The law of large numbers, the central limit theory

Week 4: Large-sample estimation, test of hypotheses
- Point, interval and difference estimations
- Likelihood function, maximum likelihood estimation,
- Testing hypotheses and P-values
- Sample-size calculations
- Prior and posterior distributions, inferences based on the posterior

Week 5: Statistical inferences from small samples
- Student's t distribution
- Small sample inferences

Grading Policy

Midterm is worth 30% of the final course grade, the homework is worth 30%, and the final exam is worth 40%.

Grading Scale

The instructor will use the grading system as applied by JNU:

Definition	Letter Grade	Score
Excellent	A	90~100
Good	B	80~89
Satisfactory	C	70~79
Poor	D	60~69
Failed	E	Below 60

Academic Integrity

As members of the Jinan University academic community, students are expected to be honest in all of their academic coursework and activities. Academic dishonesty, includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e., misrepresenting as one's own work any work done by another; submitting the same paper, or a substantially similar paper, to meet the requirements of more than one course without the approval and consent of the instructors concerned; or sabotaging other students` work within these general definitions. Instructors, however, determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties that range from the lowering of their course grade to awarding a grade of E for the entire course.