JINAN UNIVERSITY
Introduction to Statistics

Lecturer: TBA
Time: Monday through Friday (June 17, 2019-July 19, 2019)
Office hours: 2 hours (according to the teaching schedule)
Total Contact Hour: 60 (50 minutes each)
Credits: 4
Location: Huiquan Building
Office: Huiquan Building 518
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 Text:
Introduction to Probability and Statistics, 13th Edition by William; Beaver, Robert J.; Beaver, Barbara M. Mendenhall (2006).

Course Hours
The course has 25 sessions in total. Each class session is 120 minutes in length. The course meets from Monday to Friday.

Grading Policy

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

Course Assistants:

The CA will run a weekly one-hour problem session on the relevant material. You are invited to attend as many of these problem sessions as you like. Their times and locations will be announced in the first class.

Homework:

There will be an assignment due at the beginning of each class covering the material from the previous day and introducing some of the material from the day on which it is due. No late homework will be accepted, except for the last one. You are encouraged to make sure of the following resources: your classmates, course assistants and the textbook. When you work in a team, you should write down all people's name in your term.

Exams:

There will be one midterm and one final exam. No calculators or notes may be brought into the exams. The times will be posted or announced later. If you must miss a midterm exam because of an approved conflict, please contact me as soon as possible, and no later than one week before the exam.

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

Course Schedule

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

Academic Honesty
Jinan University defines academic misconduct as any act by a student that misrepresents the students' own academic work or compromises the academic work of another. Scholastic misconduct 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 substantially similar papers to meet the requirements of more than one course without the approval and consent of the instructors concerned; or sabotaging another's work. Within these general definitions, however, instructors determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work will face penalties ranging from lowering of their course grade to awarding a grade of E for the entire course.