

# 0701S201

## Introduction to Statistics

**Time:** May 18, 2026 - June 19, 2026; M, T, Th, 1:00pm-4:20pm

**Office Hours:** by appointment

**Contact Hours:** 60 (50 minutes each)

**Credits:** 4

**Location:** Online, Zoom

**Instructor:** TBA

**Email:** 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)

Peck, Olsen and Devore, Introduction to Statistics and Data Analysis, 3rd edition, Brooks/Cole.

## **Prerequisites**

College Algebra

## **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**

Monday     Discrete and Continuous variables, bivariate data  
Tuesday    Describing data with graph and numerical measures  
Thursday   Basic probability

### **Week 2: Expectation, probability distributions**

Monday     Discrete/absolutely continuous expectations, conditional expectation  
Tuesday    Variance, covariance, correlation, generating functions  
              Bayes' rule  
Thursday   Binomial, Poisson, Hypergeometric probability distribution  
              Normal distribution

### **Week 3: More on normal distribution, Sampling distributions and limit theorems**

Monday     Distribution approximation  
              Sampling distributions  
Tuesday    The law of large numbers, the central limit theory  
Thursday   Midterm Exam

### **Week 4: Large-sample estimation, test of hypotheses**

Monday     Point, interval and difference estimations

|          |                                                                      |
|----------|----------------------------------------------------------------------|
|          | Likelihood function, maximum likelihood estimation,                  |
| Tuesday  | Testing hypotheses and P-values                                      |
|          | Sample-size calculations                                             |
| Thursday | Prior and posterior distributions, inferences based on the posterior |

### **Week 5: Statistical inferences from small samples**

|          |                          |
|----------|--------------------------|
| Monday   | Student's t distribution |
| Tuesday  | Small sample inferences  |
| Thursday | Final Exam               |

### **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 |

### **Attendance**

You are expected to log in to Zoom to attend class and actively participate in discussions. Attendance will be recorded for each session and will contribute to students' participation records. Students should inform the instructor as early as possible if they need to request a leave of absence. All absences may negatively

impact students' final grades. Attendance will be taken at both the beginning and end of each class. If you arrive more than 10 minutes late or leave more than 10 minutes early, your attendance will not be recorded. You are expected to actively participate in class discussions. During the session, you may be randomly selected to assist in solving examples to assess your understanding of core concepts. Additionally, you should be prepared to work through assigned examples during practice time.

### **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.