



## Beijing Jiaotong University

### 2022 Summer Session

### STAT 100 Introduction to Statistics

### Course Outline

**Course Code: STAT 100**

**Instructor: TBA**

**Office Hours: TBA**

**Email: TBA**

**Credit: 4**

**Class Hours:**

This course will have 52 class hours, including 32 lecture hours, professor 8 office hours, 8-hour TA discussion sessions, 4-hour review sessions.

**Course Description:**

This course introduces basic statistical concept applied to the economics data analysis. This course emphasizes the understanding of statistics and how statistics are used in the business problems. Modern business analysis requires rigorous statistical analysis to draw meaningful business conclusions. We will use economic examples to introduce statistical techniques.

This course consists of 4 sessions of 120 minutes each per week for 4 weeks.

We will use Microsoft Excel to do various statistical analyses. Microsoft Excel is designed for spreadsheet program, but it also has good statistical data analysis functions. I will teach various Excel functions in class for the statistical analysis.

**Textbook:**

1. Essentials of Statistics for Business and Economics, 8th ed., Anderson, Sweeney, Williams, Camm and Cochran, CENGAGE Learning, 2018
2. Lecture slides will be provided in the class.

**Prerequisite:**

1. Principles of Microeconomics and Principles of Macroeconomics, or equivalents.

**Attendance:**

Students should attend class regularly, arrive on time and not leave early. While you are in class, show the proper respect to your instructor and to your classmates. When you must miss a class, it is your responsibility to get the class material from me or your classmates. Class attendance will be checked regularly. In the event of extended absence, students should report to instructor and/or academic dean for approval. Excessive absence may result in the course grade of "F".

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Students should attend class regularly, arrive on time and not leave early. While you are in class, show the proper respect to your instructor and to your classmates. When you must miss a class, it is your responsibility to get the class material from me or your classmates. Class attendance will be checked. You will earn maximum 15 points for attendance for the final grade. Late arrival and excused absence will cost 0.5 point. Excessive absence may result in the course grade of "F". Grading scale is as following with appropriate curve:

**Evaluation:**

Quizzes and Exercises	20%
Midterm Exam	35%
Final Exam	45%
	100%

**Grading Scale:**

A+:	4.3	—	95-100
A :	4.0	—	87-94
A-:	3.7	—	82-86
B+:	3.3	—	78-81
B :	3.0	—	75-77
B -:	2.7	—	71-74
C+:	2.3	—	68-70
C :	2.0	—	65-67
C -:	1.7	—	61-64
D :	1.0	—	55-60
E :	0.0	—	49-54
X :	0.0	—	0



### **Academic Honor Code:**

The Code of Honor will be strictly applied. Honor Code pledges "I will not participate in or tolerate academic dishonesty." Students will not give or receive aid on exams. This includes, but is not limited to, viewing the exams of others, sharing answers with others, and using books or notes while taking the exam. You can collaborate to study your homework, but you have to submit your own completed homework to receive appropriate credit. Copying solutions from others, whether they are current or past, constitutes plagiarism.

### **Computer Program:**

We will use Microsoft Excel to do various statistical analyses. Microsoft Excel is designed for spreadsheet program, but it also has good statistical data analysis functions. I will teach various Excel functions in class for the statistical analysis. Microsoft Office Excel and Power Points are required for the class.

### **Tentative Course Schedule**

#### **Week 1: Descriptive Statistics**

Session 1: Chapter 1: Introduction: Data and Statistics

Session 2: Chapter 2: Descriptive Statistics: Tabular and Graphical Presentations

Session 3: Chapter 3: Descriptive Statistics: Numerical Measures

#### **Week 2: Probability Distributions**

Session 4: Chapter 4: Introduction to Probability

Session 5: Chapter 5: Discrete Probability Distribution

Session 6: Chapter 6: Continuous Probability Distribution

Session 7: **Midterm Exam: Chapters 1-6**

#### **Week 3: Sampling Distribution**

Session 8: Chapter 7: Sampling Distribution: *Normal dist., Central Limit Theorem*

Session 9: Chapter 8: Interval Estimation

Session 10: Chapter 9: Hypothesis Testing: *z-test, t-test*

#### **Week 4: Statistical Inferences on Population Variances**

Session 11: Chapter 10: Inference About Means and Proportions

Session 12: Chapter 11: Inference About Population Variances:  $\chi^2$  - test

Session 13: Chapter 14: Simple Linear Regression



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Session 14: Final Exam: Chapters 7-11, 14