



National Taiwan University of Science and Technology

2021 Summer Program

STAT 100 Introduction to Statistics

Course Outline

Course Code: STAT 100

Instructor: Byung-Joo Lee, Visiting Professor of Economics

Home Institution: University of Notre Dame, Notre Dame, IN 46556 U.S.A.

Contact: bjleend@gmail.com

Office Hours: TBA

Credit:4

Prerequisites: MATH 111-Calculus 1 & MATH 122-Calculus II and ECON 101-Principles of Microeconomics & ECON 102-Principles of Macroeconomics

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. This course is very intensive and covers course content equivalent to one regular semester three credit course in U.S. university.

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:

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

<u>Week 1: Descriptive Statistics</u>	<u>Video Lectures</u>
<u>Session 1:</u> Chapter 1: Introduction: Data and Statistics	2
<u>Session 2:</u> Chapter 2: Descriptive Statistics: Tabular and Graphical Presentations	3
<u>Session 3:</u> Chapter 3: Descriptive Statistics: Numerical Measures	3
<u>Week 2: Probability Distributions</u>	
<u>Session 4:</u> Chapter 4: Introduction to Probability	3
<u>Session 5:</u> Chapter 5: Discrete Probability Distribution	2
<u>Session 6:</u> Chapter 6: Continuous Probability Distribution	3
<u>Session 7:</u> Midterm Exam: Chapters 1-6	
<u>Week 3: Sampling Distribution</u>	
<u>Session 8:</u> Chapter 7: Sampling Distribution: <i>Normal dist., Central Limit Theorem</i>	2
<u>Session 9:</u> Chapter 8: Interval Estimation	2
<u>Session 10:</u> Chapter 9: Hypothesis Testing: <i>z</i> -test, <i>t</i> -test	3
<u>Week 4: Statistical Inferences on Population Variances</u>	
<u>Session 11:</u> Chapter 10: Inference About Means and Proportions	3
<u>Session 12:</u> Chapter 11: Inference About Population Variances: χ^2 - test	2
<u>Session 13:</u> Chapter 14: Simple Linear Regression	2
<u>Session 14:</u> Final Exam: Chapters 7-11, 14	<u>Total Number of Video Lectures</u> 30