



**University of International Business and Economics  
International Summer School**

**STAT 220 Introduction to Statistics**

**Term: June 12<sup>th</sup> – July 7<sup>th</sup>, 2023**

**Instructor: Shen Fan**

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**Class Hours: Monday through Friday, 120 minutes each day (2,400 minutes in total)**

**Office Hours: TBD**

**Discussion Session: 2 hours each week**

**Total Contact Hours: 64 contact hours (45 minutes each, 48 hours in total)**

**Location: WEB**

**Credit: 4 units**

**Course Description:**

Statistics is the study of data and how it can be collected, organized, analyzed and interpreted to obtain insights. Descriptive statistics focuses on organizing and summarizing data so that it is better understood. Inferential statistics leverages data from a small group to arrive at conclusions about the entire population of which the small group is a part. Statistics is part of everyday life. One of the most sought-after job areas these days is business analytics, which refers to the application of statistics to obtain important insights from data available to organizations. This course provides a calculus-based introduction to statistics.

**Course Goals:**

We will first introduce data and statistics, data presentations, measures of centrality and variation, discrete and continuous probability, hypothesis testing for populations and parameters, Chi-square tests, analysis of variance.

**Prerequisites:**

At least one semester of calculus is required; two or three semesters are strongly recommended.

**Required Textbook:**

De Veaux, Velleman and Bock, Stats: Data and Models, Pearson, ISBN 13: 978-1-292-10163-7

### Grading Policy:

Grading will be determined by homework and the results of your exams. Homework 30%, Midterm Exams 30%, Final Exam 40%.

### Grading Scale:

Assignments and examinations will be graded according to the following grade scale:

A	90-100	C+	72-74
A-	85-89	C	68-71
B+	82-84	C-	64-67
B	78-81	D	60-63
B-	75-77	F	below 60

### Academic Integrity:

Students are responsible for knowing policy regarding academic honesty. The University of International Business and Economics (UIBE) expects students to be honest in their academic work. Academic dishonesty is viewed as a serious violation of university rules and such misconduct is not accepted by academic community. In particular, students must refrain from plagiarism, cheating and collusion in connection with examinations, submitting substantially the same piece of work to different classes and must fully acknowledge all the sources of ideas and all assistance received in work submitted to the instructor for evaluation. Violation of the rules of academic honesty may lead to suspension or disqualification of the student from further study at UIBE.

### Course Schedule:

June.12

What are Statistics? Displaying and Describing Categorical Data

June.13

Quantitative Data, Distributions

June.14

Standard Deviation, Scatterplots

June.15

Linear Regression, Regression Wisdom

June.16

Re-expressing data, Randomness

June.19

Sample Surveys, Experiments and Observational Studies



June.20

Review first 12 chapters and First tests

June.21

Probability, Probability Rules

June.22

Random Variables

June.23

Probability models

June.26

Sampling Distribution Models

June.27

Confidence Intervals, Testing Hypotheses

June.28

Inference about Means, Tests and intervals

June.29

Comparing Groups

June.30

Paired Samples and Blocks, Comparing counts

July.3

Inferences for Regression

July.4

Analysis of variance

July.5

Multifactor Analysis of Variance

July.6

Multiple Regression

July.7

Final Exam