ECO 104: Introduction to Statistics

East West University
Department of Economics
Semester: Spring 2020

Course Information

Course Code: ECO 104
Course Title: Introduction to Statistics
Credit Hours: 3

Class Schedule

Course	Sec	Time	Day	Room
ECO 104	2	08:30-10:00	TR	336

Instructor

Noara Razzak, Adjunct Faculty, Department of Economics, Room 345
Email: `noara.razzak@gmail.com`

Office Hours

Day	Sunday	Monday	Tuesday	Wednesday	Thursday
Time			10:00-11:50		10:00-11:50

Course Learning Outcomes

- CL01: Understand basic concepts of statistics, descriptive and inferential statistics;

- CL02: Understand the concept and measurement, sources of data, variables, sample and population;

- CL03: Draw tabular and graphical displays, summarizing data for a categorical variable and quantitative variable and use in Excel;

- CL04: Understand and apply measurement of location or central tendency and dispersions (variability) and association between two variables and use in Excel;

- CL05: Understand basic concepts of covariance and correlation and calculate coefficients of correlation and interpretation and use in Excel;

- CL06: Apply and interpret discrete probability distributions (Binomial and Poisson) and continuous probability distribution (Normal) and use in Excel;

- CL07: Calculate and interpret different index numbers.

Rationale & Objectives

Rationale of Course

Statistics has become an indispensable tool in the field of Business Administration, Computer Science, Economics, Physics, Biology, to name a few. Descriptive and inferential statistics is crucial for all students majoring in these fields. We live in the Information Age where we understand a great deal about the world around us. Much of this information was determined mathematically by using statistics. When used correctly, statistics can tell us about any trends in what happened in the past and can be useful in predicting what may happen in the future.

Objectives of Course

The course is intended to provide a basic knowledge of statistical tools required to understand and apply concepts in business, economics and social sciences. Students of the course will primarily learn problem solving skills and develop an intuition of how and why statistical tools are used to solve problems in fields such as business and economics. Lab class will be an essential part of the teaching method.

Core Reading

- Introductory Statistics, Barbara Illowsky and Susan Dean, 1st Edition.

- Statistics for Business and Economics, by Anderson and Sweeney Williams, 10th Edition

Course Schedule

Part 1: Sampling, Data and Descriptive Statistics

Topic 1	Population, Sample, Data, Sampling, Frequency, Frequency tables
Topic 2	Measures of the Center of the Data, Skewness, Mean, Median and Mode
Topic 3	Probability, Independent and Mutually Exclusive Events

Part 2: Probability Topics

Topic 1	Tree and Venn Diagrams with further applications of Independent and Mutually Exclusive Events, Conditional Probability and Random Variables
Topic 2	Probability Mass Functions (PMF) of discrete random variables, mean, expected value and standard deviation
Topic 3	Examples of Discrete Distributions: Bernoulli Trials, Binomial Distribution, Geometric Distribution

Part 3: Random Variables and Distribution

Topic 1	Examples of Discrete Distributions: Hyper-Geometric Distribution and Poisson Distribution
Topic 2	Probability Distribution Function (PDF) of continuous variables, mean, expected value and standard deviation
Topic 3	Examples of Continuous Distributions: The Uniform Distribution, the Exponential Distribution and The Normal Distribution, Introduction to Joint Distribution: Covariance and Correlation, Calculate and interpret different index numbers

Note: The syllabus is at the instructor's discretion to be modified/revised at any time to be notified to all students.

Assessment

Component	Weight
Assignments	10%
Homeworks	5%
Lab	5%
Midterm 1	25%
Midterm 2	25%
Finals	30%
Total	**100%**

Grading Policy

% of Marks	Grades	% of Marks	Grades
97% - 100%	A+	73%-76%	C+
90% - 94%	A	70%-72%	C
87%-89%	A-	67%-69%	C-
83%-86%	B+	63%-66%	D+
80%-82%	B	60%-62%	D
77%-79%	B-	Below 60%	F

Special Instructions

- There is zero tolerance for cheating at East West University. Students caught with cheat sheets in their possession, whether used or not used, and/or copying from cheat sheets, writing on the palm of hand, back of calculators, nearby walls, chairs etc. will be treated as cheating during an examination. The only penalty for cheating is expulsion from EWU.

- Class participation is highly desirable and in the past students who didn't attend classes regularly performed poorly, regardless of their prior capabilities.

- Lab attendance and assignments are mandatory; students will lose points if they are absent.

- No makeup exams are allowed except for compelling reasons by special arrangement ahead of time.

- No comprehensive exams. Each exam will consist of its own respective part.

- Students are advised to switch off phones during class time.

- Students are advised to go to teaching assistants to work regularly and work together in groups.