Introduction to Statistics

Course # DMNS 2035

Credits 6

Prerequisites and/or Corequisites: Calculus

Course Description

This course provides economics students with the fundamental statistical concepts and tools necessary for empirical economic analysis. The focus is on the application of statistical methods to economic data, the interpretation of results, and an understanding of their limitations. Topics include descriptive statistics, probability, probability distributions, sampling, estimation, hypothesis testing, correlation, and simple linear regression. Students gain practical experience using statistical software to analyze real-world economic datasets.

Course Learning Outcomes

Upon the completion of the course, students will be able to:

- Calculate and interpret descriptive statistics for economic data.
- Explain the concepts of probability and random variables as they apply to economic uncertainty.
- Utilize common probability distributions (Normal, Binomial) in economic contexts.
- Explain the principles of statistical inference (estimation and hypothesis testing).
- Construct and interpret confidence intervals for population means and proportions.
- Formulate and conduct hypothesis tests for single and two samples.
- Perform and interpret a simple linear regression analysis.
- Use statistical software (e.g., Excel, R, or Stata) to manage data and perform basic analyses.
- Critically evaluate statistical claims made in economic reports and news media.

Course Assessments and Grading

Item	**Weight**
Homework	10 %
Participation in discussions	5 %

Quizzes	24 %
Midterm exam	25 %
Group Project	8 %
Final exam	28 %