



COURSE OUTLINE

Course Number Bus 205	Course Title BUSINESS STATISTICS I	Credits 3
Hours: Lecture/Lab/Other 3/0	Co- or Pre-requisite	Implementation Semester & Year Spring 2022

Catalog description:

Emphasis on the application of statistical inference in business and economics, with attention to descriptive statistics, probability theory, sampling distribution and inference statistics. Additionally, includes testing of hypotheses and confidence intervals.

General Education Category:

Not GenEd

Course coordinator:

Professor Framarz Khoushab
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Required texts & Other materials:

- Business Statistics and Analytics in Practice - Bowerman, Drougas, Duckworth, Froelich, Hummel, Moninger and Schur, McGraw-Hill, 9th edition.
ISBN: Rental - 9781260187496 and Loose Leaf - 9781307661149

Course Student Learning Outcomes (SLO):

This course is the first half of a one-year course in statistics for business and economics. The aim is for students to perform statistical analysis on various inferential real-life problems.

Upon successful completion of this course, students will be able to:

1. Demonstrate descriptive statistics (**Supports ILG 1, 2, 11; PLO 1, 2, 3**)
2. Apply basic probability theory (**Supports ILG 1, 2, 11; PLO 1, 2, 3**)
3. Demonstrate sampling distribution and probability distribution function (**Supports ILG 1, 2, 11; PLO 1, 2, 3**)
4. Calculate confidence interval and perform hypothesis Testing (**Supports ILG 1, 2, 11; PLO 1, 2, 3**)

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 1. Written and Oral Communication in English. Students will communicate effectively in both speech and writing.

Institutional Learning Goal 2. Mathematics. Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills to understand, analyze, or apply information or solve problems.

Program Learning Outcomes for:

Business Administration (AS) degree, Global Business Concentration (AS) and Sport Management Concentration (AS)

1. Acquire effective business communication skills, including computer literacy;
2. Formulate an analytical and quantitative approach to problem solving;
3. Demonstrate critical thinking and problem solving skills

Units of study in detail – Unit Student Learning Outcomes:

Unit I Descriptive Statistics [Supports SLO 1]

Learning Objectives

The student will be able to:

- Organize numerical data
- Develop table and provide graphical presentation for numerical and categorical data
- Calculate, mean, median, mode, variance, standard deviation, coefficient of skewness and co-efficient of variation

Unit II Probability theory and probability distribution [Supports SLO 2]

Learning Objectives:

The student will be able to:

- Identify the problem as involving either a permutation or a combination and solve the problem
- Identify the events (possibly using a Venn Diagram) as either dependent, independent, or mutually exclusive and solve the problem
- Compute conditional probability
- Use Bayes' theorem to revise probability
- Compute probabilities from Binomial and poisson distribution
- Use binomial and Poisson distribution to solve business problems. Compute probabilities from the normal distribution

Unit III Sampling Distribution and Interval Confidence [Supports SLO 3]

Learning Objectives

The student will be able to:

- Understand the concept of sampling distribution
- Compute the probability related to the sample mean and sample proportion
- Develop confidence interval for population mean and population proportion

Unit IV Hypothesis Testing [Supports SLO 4]

Learning Objectives

The student will be able to:

- Use hypothesis testing to test mean, and proportion
- Test hypothesis including one tail and two tail test
- Use hypothesis testing to solve problems

Evaluation of student learning: [SLOs #1, 2, 3, 4]

Quizzes	40%	
Mid-Term	30%	Unit 1&2
Final	30%	Unit 3&4