



LAM FAMILY
COLLEGE *of* BUSINESS
SAN FRANCISCO STATE UNIVERSITY

San Francisco State University
Lam Family College of Business
Undergraduate Curriculum Committee

DS 212 – Business Statistics I
Undergraduate Curriculum Committee Course Outline

DS 212 - Course Outline

- I. **COURSE NUMBER and TITLE:** DS 212: Business Statistics I
- II. **COURSE DESCRIPTION:** DS212 (Business Statistics I) is a 3-unit class that entails the following: Statistical methods essential in solving business problems including probability distributions, estimation and tests of hypotheses, and regression analysis.
- III. **PREREQUISITES:** Grade of C- or better in DS 110 (Calculus with Business Applications) or Math 110 (Business Calculus) or Math 226 (Calculus I) or Math 108 (Mathematics for Business Calculus II).
- IV. **Learning Goals:** BSBA Learning Goals, as shown in [Appendix B](#), were significantly updated in September 2012. DS212 supports learning goals 1 and 3 in our undergraduate business program.
 - 1(a) Students will demonstrate the discipline-based knowledge in economics, accounting, operations/statistics, finance, information systems, management and marketing
 - 3(a) Students will solve business problems using appropriate quantitative and analytical techniques and technologies
 - 3(b) Students will demonstrate the ability to identify and analyze alternatives in a business context
 - 3(c) Students will demonstrate the ability to articulate and defend a course of action
- V. **EFFECTIVE DATE:** Spring 2019
- VI. **COURSE OBJECTIVES:** The purpose of this course is to introduce the student to typical topics associated with business statistics, techniques to perform statistical inference, and proper understanding of probability rules. After successfully completing this course, the student should:
 - A. Understand the distinction between categorical and quantitative data, and the concepts of variability and randomness.
 - B. Be able to create and interpret graphical representations of different types of data, as well as find numeric measures of the center, spread, and shape of data.
 - C. Know the basic rules of probability and how to work with various probability distributions to answer questions about the likelihood of different events.
 - D. Understand the concepts and applications of estimation and hypothesis testing.
 - E. Be able to analyze the relationship between two quantitative variables by creating and examining plots, computing correlation, and using linear regression.
 - F. Recognize when and know how to apply all of the above concepts to address a variety of business problems.
- VII. **COURSE CONTENT:**
 - A. Introduction to Data, Graphical Representations, and Descriptive Statistics (2 weeks)
 - B. Basic Probability Rules (2 weeks)
 - C. Discrete (e.g. Binomial) and Continuous (e.g. Normal) Distributions (2 weeks)
 - D. Sampling Distribution and the Central Limit Theorem (2 weeks)
 - E. Statistical Inference: Confidence Intervals and Hypothesis Testing (3 weeks)
 - F. Linear Regression Analysis (2 weeks)
- VIII. **PREREQUISITE KNOWLEDGE:** Intermediate algebra, graphing functions, derivatives, maximization, minimization, summation, linear models.

IX. TEACHING METHODS and MATERIALS:

METHODS: Lecture, group discussions, problem sets, demonstrations with datasets.

CANDIDATE TEXTS: N. Sharpe, D. DeVeaux & P. Velleman, Business Stats;

Anderson, Sweeney & Williams, Essentials of Statistics for Business and Economics;

Black, Business Statistics: For Contemporary Decision Making.

OTHER MATERIALS: 2-variable calculator.

X. GRADING: Class Participation, Quizzes, Exams, Homework and Projects.