Business Statistics: Data Sources, Presentation, & Analysis

COURSE DETAILS

Course Designator and Number: DBLN 2551
Number of Credits: 4
Language of Instruction: English
Contact Hours: 60
Instructor: On-Site Faculty

COURSE DESCRIPTION

This course provides students with an understanding of and ability to apply (1) exploratory data analysis, (2) basic inferential procedures, (3) regression analysis, and (4) experimental design. The methods to be covered have been selected for their relevance to managerial decision making and problem solving and to other courses in the undergraduate curriculum. Beyond simply teaching the application of these methods, a primary objective of the course is to improve students' "statistical thinking abilities."

Course Objectives

- Interpret and analyze, and be able to display and describe data graphically and numerically
- Solve problems involving basic probability and probability distributions
- Perform estimation, hypothesis tests, and analysis of variance
- Understand and analysis simple regression, correlation, and multiple regression analysis
- Apply the above statistical techniques to economic and financial datasets

Methodology

This course will consist of weekly lectures, readings and problem sets. Attendance is required, and several problem sets will be assigned for each lecture, in order to practice and learn the techniques. Some of the problem sets are for practice and will not be turned in, and some will be assigned as homework due the following week. Pre and post-lecture readings will also be assigned. Midterm and final exams will test your knowledge throughout the semester.

Required Readings/Materials

- McClave, Benson, & Sincich, Statistics for Business and Economics (13th Edition), Pearson Prentice-Hall, 2018. (required)
- Boudreau, Student Solution Manual (13th Edition), Pearson Prentice-Hall, 2018. To Accompany Statistics for Business and Economics. This manual contains worked out answers to the odd-numbered text exercises. (optional).

Grading

Grading Rubric

Letter grade	Score or percentage	Description
A	93–100	Achievement that is outstanding relative to the level necessary to meet course requirements.
A-	90–92	Achievement that is significantly above the level necessary to meet course requirements.
B+	87–89	
B	83–86	
B-	80–82	Achievement that meets the course requirements in every respect.
C+	77–79	
C	73–76	
C-	70-72	Achievement that is worthy of credit even though it fails to meet fully the course requirements.
D+	67-69	
D	60-66	
F	0-59	Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

Summary of How Grades are Weighted

Assignments	Percentage of grade
Midterm I	20%
Midterm II	20%
Final exam	60%
Overall grade	100%

Assessment Details

Lecture
You are responsible for class attendance. Pre-lecture reading is encouraged but not required. After-lecture reading, however, is an important part of study.

Suggested Exercises
The best way to learn the analytic techniques of this course is through practice. For each lecture, several problems are suggested on the schedule part of this syllabus. These problems are not to be turned in for grading, but examinations will to some degree use questions from the set of suggested exercises. Your "Student Solutions Manual" has the answers worked out to these problems.

Weekly Assignments and Class Tests
You will be assigned a few problems during each lecture, which you are required to answer for the next lecture. The problem sets will help to prepare you for the in-class Midterms and Final Exam.

COURSE CONTENT

Unit 1

Introduction Describing Data—Graphical & Numerical Methods
- Readings: Ch 1: 1–7, Ch 2: 1–10
- Suggested Exercises: 1.19, 1.29, 1.31, 1.33, 2.27, 2.39, 2.51, 2.57, 2.69, 2.79, 2.81, 2.87, 2.89, 2.115, 2.117

Unit 2

- Readings: Ch 3: 1–6
- Suggested Exercises: 3.7, 3.21, 3.35, 3.45, 3.55, 3.103, 3.113, 3.119

Unit 3

In-Class Midterm I

Unit 4

Discrete & Continuous Random Variables
- Readings: Ch 4: 1–3 Ch 4: 5–8
- Suggested Exercises: 4.1, 4.13, 4.15, 4.17, 4.25, 4.39, 4.59, 4.159, 4.179; 4.85, 4.93, 4.99, 4.111, 4.125, 4.133, 4.147, 4.187

Unit 5

Sampling Distributions & Estimation with Confidence Intervals
- Readings: Ch 5: 1–4 Ch 6: 1–5
- Suggested Exercises: 5.3, 5.5, 5.9, 5.13, 5.21, 5.29, 5.37, 5.45, 5.49, 5.65, 5.67; 6.1, 6.3c, 6.13, 6.21, 6.27, 6.39, 6.41, 6.47, 6.53, 6.69, 6.73, 6.129

Unit 6

Tests of Hypotheses
- Readings: Ch 7: 1–6
- Suggested Exercises: 7.11, 7.15, 7.23, 7.27, 7.33, 7.41, 7.43, 7.53, 7.59, 7.65, 7.69, 7.77, 7.81

Unit 7

Tests of Hypotheses 2
- Readings: Ch 7: 1-6
- Suggested Exercises: 7.11, 7.15, 7.23, 7.27, 7.33, 7.41, 7.43, 7.53, 7.59, 7.65, 7.69, 7.77, 7.81

Unit 8

Review Week

Unit 9

In-Class Midterm Exam

Unit 10

Inferences Based on Two Samples
- Reading: Ch 8: 1-5
- Suggested Exercises: 8.1, 8.3, 8.7, 8.17, 8.19, 8.29, 8.37, 8.49, 8.57, 8.61, 8.63, 8.101, 8.111

Unit 11

Design of Experiments & Analysis of Variance
- Reading: Ch 9: 1-4
- Suggested Exercises: 9.5, 9.9, 9.17, 9.29, 9.49, 9.55, 9.59, 9.93, 9.95

Unit 12

Simple Linear Regression
- Reading: Ch 11:1-7
- Suggested Exercises: 11.17, 11.25, 11.37, 11.53, 11.57, 11.69, 11.107, 11.111

Unit 13

Multiple Linear Regression
- Reading: Ch 12:1-4 Ch 12:5-6, 10-12
- Suggested Exercises: 12.3, 12.9, 12.15, 12.19, 12.21, 12.29, 12.3312.39, 12.43, 12.63, 12.121, 12.129, 12.161

Unit 14

In-Class Final Exam

POLICIES

Attendance Policy

Students are expected to be on time and attend all classes while abroad. Many instructors assess both attendance and participation when assigning a final course grade. Attendance alone does not guarantee a positive participation grade; the student should be prepared for class and engage in class discussion. See the on-site syllabus for specific class requirements.

University of Minnesota Policies & Procedures

Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own can result in disciplinary action. The University Student Conduct Code defines scholastic dishonesty as follows:

Scholastic Dishonesty

Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.

Within this course, a student responsible for scholastic dishonesty can be assigned a penalty up to and including an "F" or "N" for the course. If you have any questions regarding the expectations for a specific assignment or exam, ask.

Student Conduct

The University of Minnesota has specific policies concerning student conduct. This information can be found on the Learning Abroad Center website.