

Econ 245: Business Statistics I Spring 2005

Class times and locations: T, Th 2:15-3:30 pm, Carlson Hall 1004
T 6:30-9:00 pm, Carlson Hall 1004

Instructor: Mina Kim
Carlson Hall 4052
Phone - 472-1747
mmkim2@wisc.edu

Office hours: T 3:45-5:45 pm, Carlson Hall 4052
or by appointment

Course website: <http://www.ssc.wisc.edu/~minakim/econ245>

Course description

This course gives an introduction to statistics as applied to business and economics problems. Topics will include descriptive statistics, probability, hypothesis testing, and regression analysis. The emphasis will be on the application and interpretation of these statistical techniques.

Prerequisites

Finite Mathematics for Business and Social Sciences (Math 143)

Required materials

1. Anderson, Sweeney and Williams, Essentials of Statistics for Business and Economics, 3rd edition, 2003, Southwestern.
2. Basic calculator
3. Access to Microsoft Excel, or Stata if you prefer, for homework assignments
4. Additional materials will be available on the course website.

Optional materials:

Student Work Book - The department has 5 copies on reserve at Andersen Library.

Attendance policy

Class attendance is not required, but poor attendance may result in grade reduction. You are free to attend either section, except during exams.

Course requirements

If you need special help in taking notes or exams, please inform me early in the semester.

There will be one midterm and a final. **No make-up exams will be given**, except in extreme circumstances, as judged by the instructor. If you miss the midterm then the final exam will be given additional weight. For exams, you must attend the section for which you are registered.

Relevant tables from the text will be given to students during the exams. In addition, students will be allowed to construct their own formula sheet and notes on one 5" x 8" index card per exam. No other notes or scrap paper will be permitted during the exams. Students will need to bring a basic calculator and a pencil for the tests. Scientific or programmable calculators are not allowed. Any additional materials are unauthorized and constitute academic misconduct.

To help students prepare for the exams, periodic problem sets will also be assigned and graded at the instructor's discretion. **Late assignments will not be accepted for credit.**

Grading

Grades will be determined as follows:

Participation – 15%

Homework – 15%

Midterm – 30%

Final – 40%

Statement on Student Rights and Responsibilities

The University of Wisconsin-Whitewater is dedicated to a safe, supportive and non-discriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University Sponsored Events. (For details please refer to the Undergraduate and Graduate Timetables; the "Rights and Responsibilities" section of the Undergraduate Bulletin; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Bulletin; and the "Student Academic Disciplinary procedures" [UWS Chapter 14]; and the "Student Nonacademic Disciplinary Procedures" [UWS Chapter 17]).

Course Outline

The following outline is **tentative and subject to change** throughout the course. However, the final exam date will not be altered.

Please note on your calendars that **class will be cancelled on February 17, 2005**.

In this outline, I've suggested textbook problems that will give you good practice for the exams.

Chapter 1: DATA AND STATISTICS

Data, Data Sources, Descriptive Statistics, Statistical Inference

Exercises: 2,4,6,8,10,14,18,20,22,24

Chapter 2: DESCRIPTIVE STATISTICS: TABULAR AND GRAPHICAL METHODS

Summarizing Qualitative Data, Summarizing Quantitative Data,
Cross Tabulations and Scatter Diagrams (Omit Section 2.3)

Exercises: 2,4,8,10,12,14,16,20,30,34,40,46,48

Chapter 3: DESCRIPTIVE STATISTICS: NUMERICAL METHODS

Measures of Location, Measures of Variability, Measures of Relative Location and
Detecting Outliers, Exploratory Data Analysis, Measures of Association, Weighted
Means

Exercises: 2,4,8,14,16,18,20,24,28,30,32,48,50,52

Chapter 4: INTRODUCTION TO PROBABILITY

Experiments, Events and their Probabilities, Basic Probability Relationships,
Conditional Probabilities (Omit Section 4.5)

Exercises: 2,4,6,10,12,14,16,18,20,22,24,28,30,32,34,36

Chapter 5: DISCRETE PROBABILITY DISTRIBUTIONS

Random Variables, Discrete Probability Distributions, Expected Value and Variance

Exercises: 2,4,6,8,10,12,16,18,20,24,26,28,30,32

Chapter 6: CONTINUOUS PROBABILITY DISTRIBUTIONS

The Continuous Uniform, Normal, and Standard Normal Probability Distributions
(Omit Section 6.3) pp.212-234;

Exercises: 2,4,6,8,10,12,14,16,18,22

MIDTERM EXAM: Tuesday, March 15, 2005

Chapter 7: SAMPLING AND SAMPLING DISTRIBUTIONS

Sampling Methods & Sampling Distribution of the Sample Mean

(Omit Section 7.6)

Exercises: 2,8,10,12,14,18,20,22,24,26,28,32

Chapter 8: INTERVAL ESTIMATION

Interval Estimates for the Population Mean, Determining Sample Size

(Omit Section 8.4)

Exercises: 2,4,6,8,12,14,16,18,24,26,28

Chapter 9: HYPOTHESIS TESTING

Null and Alternative Hypothesis, Types of Errors, One and Two Tailed Tests

(Omit Section 9.6)

Exercises: 2,4,6,8,10,12,14,16,18,22,24,28,30,34,36,38

Chapter 12: SIMPLE LINEAR REGRESSION

Simple Linear Regression Model, Least Squares Method, Coefficient of Determination, Model Assumptions, Testing for Significance, Estimation and Prediction, Computer Solution, Residual Analysis

Exercises: 2,4,8,12,24,32,34,40,42

Chapter 13: MULTIPLE REGRESSION

Multiple Regression Model, Least Squares Method, Coefficient of Determination, Model Assumptions, Testing for Significance, Estimation and Prediction, Qualitative Independent Variables

Exercises: 2,4,20,28

FINAL EXAM for 2:15 Class: Thursday, May 12, 2005, 10:00 am – 12:00 pm

FINAL EXAM for 6:30 Class: Tuesday, May 10, 2005, 6:00 pm – 8:00 pm