

University of Nebraska at Omaha

Course: BSAD 3160, Managerial Statistics for Business
Term: Fall 2009, Tuesday and Thursday, 10-11:45 am, RH 301
Professor: Dr. Catherine Y. Co
Office: RH 508 L
Office Hours: Tuesday and Thursday, 12 noon to 1 pm; Thursday 4:30 pm to 5:30 pm; or, by appointment
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** When sending e-mail to me be sure to write "Managerial Statistics for Business" in the subject heading. Otherwise, your messages may be tagged as spam. Also, I occasionally send messages to the class and will be using your UNO e-mail address (or the e-mail address on UNO's Blackboard system). Thus, be sure to check your e-mail account regularly.

Catalog Description:

An accelerated course covering statistical methods used in business analysis. Topics include descriptive statistics, graphical and tabular presentation of data, probability, analysis of discrete and continuous data, regression analysis, and forecasting methods. **Prerequisites:** MATH 1320 (College Algebra) with 'C' (2.0) or better, and 2.5 GPA.

Note: 1. Effective Fall 2002, students may enroll in each core business course only two times.* 2. All prerequisites for a course must be completed before enrolling in a course. If it is discovered that a student lacks a prerequisite, CBA will administratively withdraw the student from the course. 3. A grade of 'C' (2.0) or better is required in all core courses. A grade less than 'C' (2.0) cannot be used as a prerequisite for any CBA course. *Withdrawal after 5:00 p.m. of the Friday of the first week of classes counts as an enrollment.

Course Objectives:

This course will give students an understanding of some of the uses of Statistics in economic and business settings. It will provide students with marketable skills in data collection and data analysis for decision-making.

Required Text:

Anderson, D. R., D.J. Sweeney and T. A. Williams, Essentials of Statistics for Business and Economics, Fifth Edition, South-Western College Publishing: OH, 2009.

Lecture Notes/In-class Exercises:

These are available at the class's Blackboard page (under **Course Documents**), go to <http://myuno.unomaha.edu/webapps/portal/frameset.jsp>.

Course requirements	Weights
First Exam	0.20
Second Exam	0.20
Third Exam	0.20
Final Exam (sort of cumulative)	0.30
In-class exercises	0.05
Homework	<u>0.05</u>
	1.00

Grading Norm:

A+: 97-100%; **A:** 93-96%; **A-:** 90-92%; **B+:** 87-89%; **B:** 83-86%; **B-:** 80-82%; **C+:** 75-79%; **C:** 70-74%; **D+:** 67-69%; **D:** 63-66%; **D-:** 60-62%; **F:** less than 60%

Your course grade will be calculated as follows:

$G = (\%score \text{ in first exam} * weight) + (\%score \text{ in second exam} * weight) + (\%score \text{ in third exam} * weight) + (\%score \text{ in final exam} * weight) + (\%score \text{ in-class exercises} * weight) + (\%score \text{ homework} * weight)$

For example, $G = (80 * 0.20) + (78 * 0.20) + (82 * 0.20) + (88 * 0.30) + (95 * 0.05) + (90 * 0.05) = 83.65$, which is in the **B** range.

Exams:

The schedule of each of the **four** examinations:

First Exam—September 17, 2009 (Thursday)

Second Exam—October 15, 2009 (Thursday)

Third Exam—November 12, 2009 (Thursday)

Final Exam—December 15, 2009 (Tuesday; 10 am to 12 noon)

You do **not** need to memorize formula. You can use **one** 4x6 index card during each of the exams as your formula sheet. The Final Exam is sort of cumulative—it will cover materials from **Chapters 9 to 13** but you will need to remember concepts from Chapters 1 to 8.

"Accommodations are provided for students with verified disabilities. For more information contact Services for Students with disabilities in EAB 117 or 554-2872, TTY 554-3799."

Early Exams:

If you know ahead of time that you will not be able to make it to an exam because of scheduled University-sponsored activities or job-related obligations (must be verifiable), let me know as soon as possible and we can arrange for you to take the exam **early**. If you missed an exam without prior notification, you will receive a **zero**. Only upon presentation of a **legitimate** and **verifiable** excuse will I reconsider this rule.

Exam Philosophy:

My exams will be of two types: method questions and application problems (more weight). In general, the latter will test your understanding of the material through business related empirical applications rather than your ability to memorize the material.

As mentioned, you can use the statistical methods you learn in this class as an aid to business decision-making. To effectively accomplish this objective, in the applications part of the course, materials will be presented using *Microsoft Excel* and you are required to know how to interpret Excel results for exam purposes.

In-class Exercises:

These are open-book in-class exercises. You will only receive credit when you are in-class and are working on problems.

Homework:**Graded Homework**

Most (if not all) of these will require the use of a software package that can do statistical analysis (e.g., 2007 Microsoft Excel's Data Analysis feature).

Regular Homework

I will assign problems regularly. These will **not** be graded; however, doing them will greatly enhance your understanding of the material. Answers to selected problems are in the appendix of the textbook, see pp. 610-639. We will discuss answers to some problems in class. A tentative list of in-text problems appears on pages 4-5 of the syllabus. Note: Your text comes with a CD containing most of the data sets in the textbook.

You **cannot** cram this course. Future topics build on past materials. The best way to study is to go over the material everyday even for just a few minutes. Finally, no form of academic dishonesty will be tolerated.

TENTATIVE COURSE SCHEDULE***

Chapter 1	Data and Statistics
Chapter 2	Descriptive Statistics: Tabular and Graphical Presentations
Chapter 3	Descriptive Statistics: Numerical Measures

First Exam—September 17, 2009 (Thursday)

Chapter 4	Introduction to Probability
Chapter 5	Discrete Probability Distributions
Chapter 6	Continuous Probability Distributions

Second Exam—October 15, 2009 (Thursday)

Last Day of Withdrawal—November 6, 2009 (Friday)

Chapter 7	Sampling and Sampling Distributions
Chapter 8	Interval Estimation
Chapter 9	Hypothesis Tests

Third Exam—November 12, 2009 (Thursday)

Chapter 10	Comparisons Involving Means, Experimental Design, and ANOVA
Chapter 11	Comparisons Involving Proportions and a Test of Independence
Chapter 12	Simple Linear Regression
Chapter 13	Multiple Regression

Final Exam—December 15, 2009 (Tuesday; 10 am to 12 noon) (Note: The Final Examination covers Chapters 9 to 13)

*** Note: There are materials in the textbook that I do not cover (you will not be tested on these materials); there are materials **not** in the textbook that I cover in class (you will be tested on these materials). Thus, you need to attend class regularly, read the lecture notes, read all the relevant sections of the textbook, and do as many problems as you can.

Statistical Lab Hours (For additional extra help)

Professor Janet Pol, RH 305a

Hours: Monday, 10 am to 5 pm; Tuesday through Thursday, 11 am to 5 pm.

Tentative Homework List

***Answers to selected problems are in the textbook (pp. 610-639)

- pp. 19- #2,3,6,8,13,19,20,23 (Ch 1)
pp. 31- #6**,9**,10 (Ch 2, qualitative data)
pp. 41- #15,17**,20**,21** (Ch 2, quantitative data)
pp. 55- #31,32,35,36** (Ch 2, cross-tabulation, scatter)
pp. 87- #5,9**,10,11**,12 (Ch 3, mean, etc.)
pp. 95- #17,21,22abde**,24 (Ch 3, standard deviation, etc.)
pp. 102- #32,33,35 (Ch 3, z-scores)
pp. 116- #49,50**,51 (Ch 3, covariance, etc.)
- pp. 151- #8,9,10,11,12 (Ch 4, counting rules)
pp. 154- #14,18,19,20 (Ch 4, events)
pp. 161- #23,26,28,29 (Ch 4, probability rules)
pp. 167- #30,33c-e,35b-d,38 (Ch 4, conditional probability)
pp. 189- #3,5 (Ch 5, random variables)
pp. 192- #9,10,12,13,14 (Ch 5, discrete)
pp. 197- #17,21,22,23 (Ch 5, expected value, variance)
pp. 208- #25,28,29,31,33,37 (Ch 5, binomial)
pp. 240- #11,12,14,15,16,17,20,22 (Ch 6, normal)
pp. 248- #34,35,36,37 (Ch 6, exponential)
- pp. 262- #6,9 (Ch 7, sampling)
pp. 265- #13,14,16,17 (Ch 7, point estimation)
pp. 276- #18,20,21,24,27,29 (Ch 7, sampling distribution of the sample mean)
pp. 282- #31,32,35,38,40 (Ch 7, sampling distribution of the sample proportion)
pp. 299- #5,7,8,10 (Ch 8, interval estimation of the population mean, σ known)
pp. 308- #12,14,16,17,18a-c,20 (Ch 8, interval estimation of the population mean, σ unknown)
pp. 312- #28,29 (Ch 8, sample size determination)
pp. 316- #31,36,38,39,41 (Ch 8, interval estimation of the population proportion)
pp. 336- #1,2 (Ch 9, introduction to hypothesis testing)
pp. 338- #5,6,7 (Ch 9, type I and II error)
pp. 350- #12cd,13ab,14bc,15,17,20,22 (Ch 9, hypothesis test, population mean, σ known)
pp. 357- #25bc,26ab,27,28,29,34 (Ch 9, hypothesis test, population mean, σ unknown) **skip p-value questions in this set of problems
pp. 362- #36cd,38,41,43 (Ch 9, hypothesis test, population proportion)
- pp. 383- #1,2,4,5,6 (Ch 10, difference between the means of two populations, σ_1 and σ_2 known)
pp. 391- #9,10abd,12,13,14abd, (Ch 10, difference between the means of two populations, σ_1 and σ_2 unknown)
pp. 397- #20,22,23,25,26 (Ch 10, matched samples)
pp. 413- #27ef,36,37,38 (Ch 10, ANOVA)
pp. 474- #2,5**, 9**,10**,13,14 (Ch 12, simple regression)
pp. 484- #20**,21** (Ch 12, coefficient of determination)
pp. 496- #28,29,31 (Ch 12, model and coefficient significance tests)
pp. 502- #36,37,38 (Ch 12, prediction)
pp. 508- #44
pp. 540- #5**,8** (Ch 13, multiple regression)
pp. 546- #15(Ch 13, multiple regression)
pp. 554-#25abc** (Ch 13, multiple regression)
pp. 563-#34,38** (Ch 13, dummy variable)
pp. 568-#42,43abcdeh