

Statistics 6010 – Statistics for Managerial Decisions (Fall 2009)

Instructor:	Dr. R. N. “Herb” McGrath
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Office Hours:	To be determined (See Blackboard)
Class Meetings	Mondays 9:00-10:20 BAA1005, Wednesdays, 9:00-10:20 Education 363

Text: Statistics for Management and Economics, 8th Edition, Keller, Cengage Learning, 2008. Special softcover edition for BGSU (chapters 1-18) is available from the bookstore

Course Description: Descriptive Statistics, Estimation and testing, Regression, Analysis of variance

Software: MINITAB 15 will be used extensively throughout the course. The software is available in all BA computer labs and some other labs on campus. If you have your own PC, you may want to purchase (or rent) Minitab. Minitab may be rented for a semester or a full year for your own computer (if you have one). See <http://www.e-academy.com/minitab> for information. You may use other software you are familiar with (e.g. SAS, SPSS, R, Excel) for homework or the project but do not rely on help using these programs. You will be expected to perform some procedures without software, some with software, and some both ways.

Course Structure: We will discuss statistical methods that are commonly used in business decision-making. We will begin with some basic, yet very important techniques used to summarize, describe, and draw inference. Using real data, we will attempt to answer questions that a manager might ask. In order to do so, the necessary theory and tools needed to answer the posed questions will be developed. As such, we will not follow the textbook chapter by chapter, but will reference pertinent sections as we progress. A tentative course outline is attached. You will be expected to understand how and when each technique is used, and to be able to clearly interpret the output. I anticipate those who view the course as a mathematics course, i.e. plug in the numbers, get an answer and stop, will have difficulty.

Homework: Homework will be assigned each week. Generally, the problems will be broken into two groups -- practice and graded. The practice problems have the answers provided in the back of the text book. You are strongly encouraged to do these problems before you attempt the ones to be graded. If you have any difficulty with the practice problems, I will be happy to help you. I will not provide help with any of the problems to be graded. If you would like help from someone else, free tutoring is available through the Math (Stat) Lab at 208 Moseley Hall or see <http://www.bgsu.edu/offices/acen/mathlab>. Although collaboration among students for homework is acceptable (even encouraged), each student is responsible for their own work, written in their own words. Homework is due at the beginning of class and late homework will be penalized. If you are not able to attend a class when homework is due, you must email the assignment (if entirely electronic) or fax it to (419) 372-2875 by the due date and time.

Computer files: The textbook comes with a CD containing data files. These same files are posted on the BA lab drive at T:\class\asor\Keller8\Minitab with each chapter having its own folder. Other files that I provide will be posted in my folder at T:\class\asor\mcgrath\stat601 and/or on Blackboard.

Case Studies: Two short case studies will be used to enable real-life application of statistical techniques. These case studies may be completed individually or in small groups, will be discussed in class, and graded.

Project: A group project involving obtaining your own data and fully analyzing it will be assigned. A professionally-written report will be produced and a short presentation on your findings will be given to the class at the end of the semester.

Exams: There will be a midterm exam and a comprehensive final exam. As a department policy, no make-up exams will be given unless the instructor is informed of the reason for the conflict in writing in advance of the exam, with the exception of emergencies. Acceptable official verification must be presented before a make-up exam will be scheduled.

Grading:

Homework	15%
Case Studies	20%
Midterm Exam	20%
Project (written report and presentation)	20%
Final Exam	25%

Blackboard:

I will be using the course management system Blackboard for this course. From <http://www.bgsu.edu>, click on MyBGSU Web Portal. After logging in you may select this course, Stat 6010. I will post all assignments here under the Assignments link. Handouts will be posted under Course Documents. I will also post all announcements on Blackboard. You should check this site regularly.

Disability Services for Students
413 South Hall

The goal of the Disability Services for Students Office is to help provide equal access and reasonable accommodations to BGSU students with disabilities. Students wishing to discuss their eligibility for such accommodations are encouraged to contact the office.

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Stat 6010 Fall 2009 Course Outline (Subject to change):

Date	Subject	Textbook Material (To be read BEFORE the given date)
August 24, 26	Types of data, basic graphical displays, measures of location, measures of variability	Chapter 1 all Chapter 2 pages 11-44 Chapter 4 pages 96-122
August 31, September 2	Probability, random variables, normal distributions, confidence intervals for a population mean	Chapter 6, pages 170-173 Chapter 7 pages 209-211 Chapter 8 pages 252-262 Chapter 9 pages 295-307 Chapter 10 all Chapter 12 pages 381-391
September 7	Labor Day (no class)	
September 9, 14	Testing hypotheses about a population mean	Chapter 11 pages 344-365 Chapter 12 pages 381-391
September 16, 21	Confidence intervals and hypothesis tests for two means	Chapter 13 pages 438-474
September 23, 28	One-way analysis of variance	Chapter 14 pages 513-537
September 30, October 5	Randomized Complete Block Design, Multifactor analysis of variance	Chapter 14 pages 539-561
October 7	Optional Q&A	All of the above
October 12	Fall Break (no class)	
October 14	Midterm Exam	All of the above
October 19, 21	Bivariate quantitative data: Scatterplots, correlation, simple linear regression	Chapter 2 pages 65-72 Chapter 4, pages 124-137 Chapter 16 all.
October 26,28	Multiple regression	Chapter 17 pages 671-696
November 2, 4	Model building	Chapter 18 pages 715-738, 746-750
November 9	Qualitative data: Binomial distribution,	Chapter 7 pages 234-240
November 11	Veterans Day (no class)	
November 16	Confidence intervals and hypothesis tests for a proportion	Chapter 12 pages 404-420
November 18, 23	Confidence intervals and hypothesis tests for two proportions, contingency tables	Chapter 13 pages 482-493 Chapter 15 pages 580-599
November 25	No class (Thanksgiving Break)	
Nov. 30, Dec. 2	Statistical process control, Six Sigma	Not in softcover text
December 7, 9	Project Presentations	
December 17	Final Exam (8:30-10:30)	