

INTRODUCTION TO BUSINESS STATISTICS

MS 204 SPRING 2011

Section 01 12:15-1:20 PM MWF 112 Oelman Hall

I. PREREQUISITE: MATH 127

II. MS 204 Staff – Web Site; www.wright.edu/~joseph.coleman

NAME	TITLE	OFFICE NUMBER	PHONE NUMBER	HOURS
Joseph W. Coleman	Professor	245 Rike Hall	775-2648 775-2895 (ISOM Dept to leave messages)	M/W/F 1:30–2:30 PM OR BY APPT.
Robert (Rob) Remlinger	Graduate Assistant	293 Rike Hall	775-3738 775-2895 (ISOM Dept. to leave messages)	M 2:00–4:00 PM T 12:00–2:00 PM W 1:30–3:30 PM F 10:00–12:00PM OR BY APPT.

III. TEXTS: Basic Business Statistics: Concepts and Applications, Eleventh Edition, Berenson, Levine and Krehbiel, Prentice Hall, 2009.

SOFTWARE: MY STAT LAB Software (Required) (**Course ID: coleman34701**). This software license is included with a new text. For a used text (or just an electronic copy), the software must be purchased separately. Homework will be assigned and submitted using this software.

EXCEL 2003 or Above. Software is available in the Dunbar Library.

PH STAT2 (©2010). This software comes with the Text or (a copy is available in ISOM Department – 251 Rike Hall).

OTHER COURSE MATERIAL:

CALCULATOR (Required): Students are expected to possess a calculator capable of computing the mean and standard deviation for sample and population data.

IV. COURSE INFORMATION:

A. Course Description

In MS 204 a number of basic concepts are developed. We begin with the basic framework for problem solving and go from description statistics to the application of statistical methods. These concepts are useful and powerful, in and of themselves, and become even more meaningful when they are integrated into the problem solving tools which are studied in MS 205. As an illustration, regression analysis (in MS 205) is a major tool for solving not only technical and scientific problems, but it is very useful in studying a variety of more businesslike problems, i.e. sales forecasting and predicting failures for preventive maintenance. Regression analysis incorporates and integrates all of the following MS concepts: population, sample, random variable, probability estimation, and probability theory.

B. Course Assumptions

This course has been designed with the following assumptions:

1. That you are our customer.
2. This is a college level course and requires the appropriate amount of work to be completed.
3. That a student taking MS 204 will need to spend two or more hours outside of class for each hour spent in class.
4. That students are mature adults who can accept the responsibility for completing their assignments and for the consequences of their actions when they do not.
5. That the problem sessions and the graduate assistants can be an excellent resource for you, but should not be considered as a substitute for class.

C. Course Objectives

The objectives of this course:

1. To provide a solid base for understanding the application of statistics to business situations.
2. To provide the student with the ability to use packaged computer programs to analyze data.
3. To provide the opportunity for each student to obtain a good grade, dependent on student effort.

D. Course Structure

The structure of this course is:

1. A clearly defined work load in terms of the material to read, the assignments required, and the dates they are due.
2. Periodic segments of lectures, homework, pop quizzes and tests covering separate segments of the course.
3. A comprehensive final exam.
4. The accessibility of an instructional team made up of instructor and graduate assistants instead of a single instructor.
5. There will be assigned seating. The seat number will be used on your assignments, quizzes, and tests.

V. GRADING SYSTEM:

- A. TESTS: There will be three tests and a comprehensive final given which may be comprised of True/False, multiple choice, essay, fill in blank, and calculation problems. Tests may contain questions from prior areas. You may use a calculator which cannot be shared. The lowest score of the three tests and the comprehensive final will be dropped. If you must miss a test for any reason (other than a personal medical illness with a doctor's excuse, an illness of a dependent with a doctor's excuse or a business trip/school activity with a note from your supervisor, advisor or coach), that will be your dropped quiz. **All tests missed for acceptable reasons must be made up before the tests are returned to the students. Under most circumstances, graded tests will be returned to the students the following class period.** Any questions concerning the grading of a problem should be directed to Dr. Coleman. (Practice tests are on the Web site.)

FOR ALL TESTS:

1. All students are required to bring their Wright State ID with picture (or similar picture ID) to the tests and the final exam. These ID's will be inspected when you turn in your tests.
2. Put your name and seat number in ink on all test sheets.
3. Round all calculations to two places to the right of the decimal.
4. Test etiquette:
 - a. No hats on test day
 - b. CHEATING
WRIGHT STATE UNIVERSITY DOES NOT TOLERATE ACADEMIC DISHONESTY. Quoting from the WSU Student Handbook: "Academic dishonesty includes but is not limited to plagiarism or dishonest conduct during an examination (including tests or notes not authorized by the instructor or of a device prepared specifically for the purposes of cheating; communication with another person other than the instructor by any means; looking at another person's paper; violation of procedures prescribed to protect the integrity of an examination; or cooperation with another person in academic dishonesty)." Any student caught cheating on a quiz will receive a zero and will not be permitted to retake that quiz. Any student caught cheating on the final will receive an "F" for the course.
5. CRIB SHEETS
The policy of the Information Systems and Operations Management Department is to NOT allow the use of student prepared crib sheets in MS 204 and MS 205. However, a crib sheet with applicable formulas will be provided. A copy of the crib sheet is attached to this syllabus. It is your responsibility to know how and when to apply each formula.

B. HOMEWORK: The purpose of homework is to learn the methods of statistics thus preparing you for the tests. NOTE: The homework problems are a sample of the ways for applying and learning the methods covered. They are not offered as a complete treatment of the material. **Remember, concepts and basic definitions are as important as "plug and chug" problems!** WAITING TO BEGIN STUDYING UNTIL THE DAY BEFORE A TEST WILL PROBABLY BE TOO LATE!

MY STAT LAB is an online program that provides many student services that will aid in mastering business statistics. MY STAT LAB also provides homework assignments and will be used to submit homework. Since one of the main purposes of homework is to prepare for exams, MY STAT LAB will not accept homework after the start of the test. Your grade will be based on the homework completed by test time.

C. POP QUIZZES: Attendance is important in MS 204. Missing lectures may mean missing concepts. Although attendance will not be taken each class, pop quizzes will be periodically given in class. There will be no make-up for pop quizzes.

D. **COMPUTER ASSIGNMENT:** The computer assignment will be explained later in the quarter. The due date also appears in this syllabus. The computer assignments should have your name, class, and SEAT NUMBER clearly indicated on the first page of your printout and will only be accepted on the appropriate date in class. **Late assignments will NOT be accepted and grade of zero will be given if the assignment is not handed in on the due date. Enter your NAME and your SEAT NUMBER in the top margin on all EXCEL printouts and papers handed in, and use STAPLES to attach all papers.**

NOTE: Tests, homework, and computer assignments that are not picked up in class on the day scheduled for return will be available for pick up in the tutor room (293 Rike Hall) for a period of 2 weeks where they are filed by your SEAT NUMBER in folders. However, it is recommended that you pick up your graded work etc. in class the day it is to be handed back.

E. **FINAL EXAM:** The final exam will be comprehensive. The format of the exam will be the same as the quizzes.

F. You are expected to hold onto ALL graded assignments until you receive an official transcript of your grade.

GRADING PERCENTAGES:

GRADING STRUCTURE:

TESTS (Top three of Test 1 Test 2, Test 3 & FINAL)	65%	90 - 100 = A
COMPUTER ASSIGN.	10%	80 - 89 = B
HOMEWORK	20%	70 - 79 = C
POP QUIZZES	5%	60 - 69 = D
		0 - 59 = F

MS 204 Outline

AREA 1

TOPIC	READING ASSIGNMENTS	HOMEWORK
A. Introduction and Data Collection	Chapter 1 (E1 & P1) & Chapter 7 (Sects. 1 & 2)	Chapter 0, Chapter 1 & Chapter 7-1
B. Presenting Data in Tables and Charts	Chapter 2 (Sects. 2.2, 2.3 & 2.6)	Chapter 2
C. Numerical Descriptive Measures	Chapter 3 (Omit Sect. 3.6) & Appendix B	Chapter 3 & Group Data

AREA 2

TOPIC	READING ASSIGNMENTS	HOMEWORK
A. Basic Probability	Chapter 4 & Read Section 2.4	Chapter 4, Bayesian, Tree diagrams (Turn in on Test Day) & Counting Rules

AREA 3

TOPIC	READING ASSIGNMENTS	HOMEWORK
A. Discrete Probability Distributions	Chapter 5 (Sects. 5.1, 5.3, 5.4 & 5.5)	Chapter 5, Binomial, Poisson & Hypergeometric
B. Normal Distribution	Chapter 6	Chapter 6
C. Sampling Distributions	Chapter 7 (Sects. 7.3, 7.4 & 7.5)	Chapter 7 & Proportions

THE INSTRUCTOR RESERVES THE RIGHT TO MAKE CHANGES TO THIS SCHEDULE AS DEEMED NECESSARY. ANY CHANGES MADE WILL BE ANNOUNCED IN CLASS AND LISTED ON THE WEB SITE: www.wright.edu/~joseph.coleman.

IMPORTANT DATES

First Day of Spring Classes.....	MARCH 28
Last date to drop without a grade	APRIL 12
TEST 1	APRIL 15
TEST 2.....	MAY 6
Last date to drop with a "W"	MAY 13
Computer Assignment Due.....	MAY 16
Memorial Day (University Closed).....	MAY 30
TEST 3.....	JUNE 1
Last Day of Spring Classes.....	JUNE 4
FINAL (1:00 – 3:00 PM Wednesday)	JUNE 8

COMPUTER ASSIGNMENT

Machine A

140	139	158	135	132	136	138
146	141	139	140	145	143	149
148	142	133	140	141	136	138
153	148	144	138	150	149	142
134	142	133	149	144	136	162
141	142	131	142	140	146	140
141	143	134	141	156	135	

Machine B

148	142	145	145	121	147	153
144	140	138	139	147	139	145
148	138	145	145	142	144	144
145	143	137	142	146	140	140
141	143	143	141	140	140	148
146	141	142	144	137	140	140
145	148	139	136	141	140	143
139	141	137	141	132	145	139
175	158					

- 1) Enter the two data sets separately as two variables following the instructions on the Excel handout. When entering the readings for each set, make sure to place them under separate column headings.
- 2) Use Excel and PHStat to get the following printouts for each data sets:
 - a) Stem-and-Leaf Diagram
 - b) Boxplot
 - c) Descriptive statistics
 - d) Histogram
- 3) Using WORD, compare and contrast the outer dimensions in these two samples in 100 or more words. How are the two sets of data different? (i.e. distribution, mean, mode, range, etc.)
- 4) Turn in the computer printouts (clearly labeled) with your written explanation.
BE SURE TO PUT YOUR NAME AND SEAT NUMBER IN THE TOP MARGIN OF EACH PAGE USING EXCEL!