Webster UNIVERSITY

The School of Business & Technology

Course Syllabus

Course	BUSN 5760 Applied Business Statistics
Term	Summer 2008
Instructor	Name: Chris Wiley Phone: 816-721-4861 Email: cwiley@webster.edu
Catalog Description	The student examines the application of statistical analysis, hypothesis testing, and regression analysis in business decision making. The course should focus on the utilization of statistical methods as applied to business problems and operations.
Prerequisites	None
Course Level Learning Outcomes	1. Students can describe basic statistics concepts and apply proper sampling methods. 2. Students can compute basic descriptive statistics. 3. Student can describe a normal distribution and apply the concepts of the normal distribution to that of sampling distributions. 4. Students can construct confidence intervals for both numerical and categorical data, and can apply to a real-world business scenario. 5. Students can use numerical or categorical data to assess the validity of statements made in a business setting. 6. Students can perform simple and multiple regression analysis. 7. Students can determine expected wealth in an uncertain business climate. 8. Students can apply various advanced forecasting techniques.
Materials	Andrew F. Siegel, *Practical Business Statistics*, McGraw-Hill Irwin ISBN 0072821256 Andrew F. Siegel, *Excel Guide* for this text, McGraw-Hill Irwin. ISBN 0072499095 Each student should bring a pocket calculator to each class. Text is available through MBS Direct Books at 1-800-352-3252 or www.mbsdirect.net. Checks and credit cards accepted.
Grading	Your course grade will be based on your scores on your examinations, papers, assignments, and your contributions to class discussions. These different components will be weighted as follows: Midterm Examination: 40% Final Examination: 40% Assignments and Papers: 20%

	The GRADUATE catalog provides these guidelines and grading options: • **A/A–** Superior graduate work • **B+/B/B–** Satisfactory graduate work • **C** Work that is barely adequate as graduate-level performance • **CR** Work that is performed as satisfactory graduate work (B– or better). A grade of "CR"is reserved for courses designated by a department, involving internships, a thesis, practicums, or specified courses. • **F** Work that is unsatisfactory • **I** Incomplete work • **ZF** An incomplete which was not completed within one year of the end of the course. ZF is treated the same as an F or NC for all cases involving G.P.A., academic warning, probation, and dismissal. • **IP** In progress • **NR** Not reported • **W** Withdrawn from the course
Activities	Classes will include lectures, exercises, and discussions of statistical problems. Some individual exercises may be completed during class, but most will be completed outside class. Any group exercises will be completed during class, and obviously cannot be made up individually later—you will simply not get credit for those missed group exercises. For all classes other than the first class, you are expected to have read the assigned chapters before class each week. This will enable you to participate in any exercises and to ask questions about material you didn't understand. There will be one midterm examination and a final examination. The examinations will consist primarily of short answers to problems and short essay questions. The examinations will cover all of the assigned readings, even if the material was not discussed in class. In addition, you may be tested on information introduced in lectures or readings not found in the textbook.
Policy Statements: **University Policies**	University policies are provided in the current course catalog and course schedules. They are also available on the university website. This class is governed by the university's published policies. The following policies are of particular interest: ***Academic Honesty*** The university is committed to high standards of academic honesty. Students will be held responsible for violations of these standards. Please refer to the university's academic honesty policies for a

definition of academic dishonesty and potential disciplinary actions associated with it.

Drops and Withdrawals

Please be aware that, should you choose to drop or withdraw from this course, the date on which you notify the university of your decision will determine the amount of tuition refund you receive. Please refer to the university policies on drops and withdrawals (published elsewhere) to find out what the deadlines are for dropping a course with a full refund and for withdrawing from a course with a partial refund.

Special Services

If you have registered as a student with a documented disability and are entitled to classroom or testing accommodations, please inform the instructor at the beginning of the course of the accommodations you will require in this class so that these can be provided.

Disturbances

Since every student is entitled to full participation in class without interruption, disruption of class by inconsiderate behavior is not acceptable. Students are expected to treat the instructor and other students with dignity and respect, especially in cases where a diversity of opinion arises. Students who engage in disruptive behavior are subject to disciplinary action, including removal from the course.

Student Assignments Retained

From time to time, student assignments or projects will be retained by The Department for the purpose of academic assessment. In every case, should the assignment or project be shared outside the academic Department, the student's name and all identifying information about that student will be redacted from the assignment or project.

Contact Hours for this Course

It is essential that all classes meet for the full instructional time as scheduled. A class cannot be shortened in length. If a class session is cancelled for any reason, it must be rescheduled.

Course Policies

- Attend Class. Class attendance is expected. If, for any reason, you are unable to make it to class to turn in an assignment, make arrangements with a classmate to turn in your work or e-mail it to me **prior** to class. ***You*** are responsible for what takes place or is announced in class.
- Students are expected to participate actively in class in regard to analysis and discussion of reading material, lecture material, problems, and cases.
- Required articles may be distributed in class, be on reserve in the library, or students may be required to find the article.
- All assignments must be typed.

This course may have a significant on-line portion. Students may be required to complete some quizzes online as well as other assignments. There may be an active discussion forum available to students to assist each other in the completion of the homework assignments and other course requirements. Connections will be used for most outside the classroom communication. It will also be used to post material used in class.
This syllabus may be revised at the discretion of the instructor without prior notification or consent of the student.

Weekly Schedule

SIEGEL BOOK

Week	Topics	Chapters in Text
1	**DESCRIPTIVE STATISTICS** Chapters 1, 3, 4, & 5. Chapter 1 will serve as the introduction and overview of the course. Chapter 3 will introduce the student to the use of Histograms to display data. Chapters 4 and 5 introduce the basic techniques used in describing a data set. We will also begin using EXCEL as a tool for data analysis. Problem Set 1 assigned.	1-5
2	**DISCRETE PROBABILITY DISTRIBUTIONS** Chapters 6 and 7. The focus is on working with basic probability concepts. Chapter 6 introduces the concepts of probability. In chapter 7 we will work on sections 7.1, 7.2 and 7.5. Section 7.1 deals with using expected value in the decision making process. Sections	6-7

		7.2 and 7.5 will introduce you to two probability distributions and show you how these can be used to help make business decisions. Problem set 1 will be reviewed at the beginning of the class. Problem set 2 will be assigned	
	3	**THE NORMAL DISTRIBUTION AND SAMPLING DISTRIBUTIONS** Chapters 7 and 8. Sections 7.3 and 7.4 will introduce you to the normal distribution and how to find the area under the normal curve. In chapter 8 we will begin using the normal distribution to make inferences about population data sets using sampling. Problem set 2 will be reviewed at the beginning of the class. Problem set 3 will be assigned	7-8
	4	**CONFIDENCE INTERVALS AND SAMPLE SIZE** Chapter 9. Chapter 9 develops the use of sampling to answer business questions about populations where the mean is unknown. Problems involving means and proportions will be addressed. We will also learn how to choose a sample size to obtain adequate information for making a decision. Problem set 3 will be reviewed at the beginning of the class. Problem set 4 will be assigned	9
	5	**HYPOTHESIS TESTING** Chapter 10. Sampling will be used to address problems where the population mean is known and testing is done to see if the mean is unchanged. Problem set 4 will be reviewed at the beginning of the class.	10

		The mid-term exam will be assigned and is due at the beginning of class week 6.	
	6	**HYPOTHESIS TESTING** Mid-term exam due. Chapters 10 and 18. The class will continue with the discussion of hypothesis testing. Problem set 5 will be assigned	10-18
	7	**CORRELATION AND FORECASTING** Chapter 11. We will explore both the type and strength of the relationship between two variables. Building on the topic of correlation we will begin to use one variable to predict another in a linear regression model. We will look at the measurements for the error in the regression model. Review of problem set 5. Problem set 6 will be assigned	11
	8	**FORECASTING** Chapters 11 and 12. The class will continue the study of forecasting techniques used in business. The use of a seasonal index will be demonstrated. Multiple regression and its use as a forecasting tool will be explored. Problem set 6 will be reviewed at the beginning of the class. The final exam will be assigned and is due the Saturday after the final class.	11-12
	9	Multiple Regression and course wrap-up.	
Additional Information	None		