

Course	BUSN 5760 - Applied Business Statistics	
Term	Fall 1, 2008	Elgin Campus
Instructor	Name: Robert Reass Email: rreass@mchenry.edu	Phone: (815) 479-7791 Fax: (815) 479-7550
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	An understanding of basic algebra operations.	
Course Level Learning Outcomes	Outcome	Expectation
	1. Students understand the basics of data collection and random sampling.	Students can describe basic statistics concepts and apply proper sampling methods.
	2. Students understand basic calculations of descriptive statistics.	Students can compute basic descriptive statistics.
	3. Students understand the basic properties of the normal distribution and sampling distributions in general.	Student can describe a normal distribution and apply the concepts of the normal distribution to that of sampling distributions.
	4. Students understand confidence intervals.	Students can construct confidence intervals for both numerical and categorical data, and can apply to a real-world business scenario.
	5. Students understand hypothesis testing.	Students can use numerical or categorical data to assess the validity of statements made in a business setting.
	6. Students understand regression analysis.	Students can perform simple and multiple regression analysis.
	7. Students understand the expected wealth hypothesis.	Students can determine expected wealth in an uncertain business climate.
	8. Students understand the concept of forecasting.	Students can apply various advanced forecasting techniques.
Materials	Berenson, Mark, Levine, David, & Krehbiel, Timothy, 2009, <i>Basic Business Statistics</i> w/CD 11 th Edition, Prentice Hall, ISBN: 0-13-603260-5 Available via MBS Direct: (800) 325-3252 or http://bookstore.mbsdirect.net/webster.htm	

<p>Course Policies</p>	<p>This syllabus may be revised at the discretion of the instructor without the prior notification or consent of the student. The schedule below presents an approximate expectation of course progress. The instructor reserves the right to add, delete, or modify any weeks of this schedule. The instructor also reserves the right to change the overall course grade weighting. Any changes will be announced in class.</p> <p>If you miss class you are responsible for getting notes and assignments. <i>No late homework will be accepted and missed exams will receive scores of zero unless prior approval to miss class is obtained from the instructor.</i> Makeup exams will be scheduled only if arranged in advance of the scheduled exam date.</p>
<p>Weekly Schedule</p>	<p>Week 1 Descriptive Statistics including frequency distributions, contingency tables, time-series plots, measures of Central Tendency, Variation and Shape for both sample and population data. Chapters 1-3</p> <p>Week 2 Probability (both discrete and continuous,) conditional probability, Counting Rules, Covariance, Binomial Distributions, Poisson Distributions, Hyper geometric Distributions, Normal Distributions, Exponential Distributions Chapters 4-6</p> <p>Week 3 Sampling Distributions of the mean and proportion, Survey Sampling methods, Confidence Interval Estimation, determining Sample Size Chapters 7-8 Research Project 1 A) is due</p> <p>Week 4 Hypothesis Testing, (large and small sample sizes,) Two-Sample testing, Difference between Two Variances (F test.) Chapters 9-10 Research Project 2 A) is due</p> <p>Week 5 Analysis of Variance, Randomized Design, Factorial Design Chapter 11 Midterm Exam on Chapters 1-10</p> <p>Week 6 Chi-Square tests for difference between two or more proportions, Test for Independence, Test for Goodness of Fit, Wilcoxon Rank Sum Test, Simple Linear Regression, Multiple Regression Chapters 12-14 Research Project 1 B) is due</p>

	<p>Week 7 Time Series Forecasting, Index Numbers, various smoothing techniques, payoff tables, decision trees, expected value in decision making Chapters 16-17 Research Project 2 B) is due</p> <p>Week 8 Statistical Applications in Productivity Management, Total Quality Management and Statistical Process Control Chapter 18</p> <p>Week 9 Final Exam</p>
Additional Information	None