

Course	BUSN 5760 / JC / Applied Business Statistics
Term	Spring 2, 2010 – Thursday – 6:00 pm – 10:00 pm 3/18, 3/25, 4/1, 4/8, 4/15, 4/22, 4/29, 5/6, 5/13
Instructor	Name: Christina Joyner Home Phone: (904) 744-2092 Mobile: (904) 424-3603 Email: chjoyner@fscj.edu or joyner@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 Required
Course Level Learning Outcomes	Outcome
	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.

<p>Materials</p>	<p>Levine, D.M., Stephan, D., Berenson, M.L. and Krehbiel, M.L. (2008). Statistics for Managers Using Microsoft Excel. (5th Edition). Prentice Hall. ISBN# 0-132-29545-8</p> <p style="text-align: center;">To Order Textbooks go to the local North FL website www.webster.edu/jack and click on Order Textbooks to select a vendor</p> <p style="text-align: center;">Note: Textbooks must be ordered 2 weeks prior to class to ensure delivery</p> <p>Supplemental Reading:</p> <ul style="list-style-type: none"> • <u>Research Paper Guidelines and Sample Paper</u> – See website @ www.webster.edu/jack and click on the Student Resources category. 																												
<p>Grading</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Assignments</th> <th style="text-align: right;">Maximum Points</th> </tr> </thead> <tbody> <tr> <td>• Exams (4 @ 20 ea)</td> <td style="text-align: right;">80 Points</td> </tr> <tr> <td>• Passports Internet Proficiency</td> <td style="text-align: right;">5 Points</td> </tr> <tr> <td>• Blackboard Vista</td> <td style="text-align: right;">5 Points</td> </tr> <tr> <td>• Class Participation and Attendance</td> <td style="text-align: right;"><u>10 Points</u></td> </tr> <tr> <td>TOTAL</td> <td style="text-align: right;">100 Points</td> </tr> </tbody> </table> <p>Letter grades will be assigned pursuant to the following scores based on the percent of the total possible points (weighted according to the scale above) that you earned in the course.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th>Percentage of Total Points</th> <th>Grade</th> </tr> </thead> <tbody> <tr> <td>95%-100%</td> <td>A</td> </tr> <tr> <td>90%-94%</td> <td>A-</td> </tr> <tr> <td>88%-89%</td> <td>B+</td> </tr> <tr> <td>84%-87%</td> <td>B</td> </tr> <tr> <td>80%-83%</td> <td>B-</td> </tr> <tr> <td>70%-79%</td> <td>C</td> </tr> <tr> <td>Below 70%</td> <td>F</td> </tr> </tbody> </table>	Assignments	Maximum Points	• Exams (4 @ 20 ea)	80 Points	• Passports Internet Proficiency	5 Points	• Blackboard Vista	5 Points	• Class Participation and Attendance	<u>10 Points</u>	TOTAL	100 Points	Percentage of Total Points	Grade	95%-100%	A	90%-94%	A-	88%-89%	B+	84%-87%	B	80%-83%	B-	70%-79%	C	Below 70%	F
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<p>Activities</p>	<p>The activities in this course will involve:</p> <ul style="list-style-type: none"> • Cases that allow students to employ the statistical techniques learned in the class and emphasize the practical interpretation and application of statistics in real-world settings. • Assigning selected problems from the back of each chapter as homework. • Use Excel as often as possible to show students how to efficiently employ their statistical skills on raw data sets. <p>Exams:</p> <ul style="list-style-type: none"> • Part one of each exam will involve problems to be accomplished outside of class, and can be accomplished in teams. You will bring your output to class. Questions pertaining to part one will be approximately 40% of the total exam grade. • Part two of each exam will consist of 1) Excel problems similar to those on part one, and 2) questions addressing the student's understanding of the solutions and of related statistical concepts (theory). This portion of the exams is open book / open notes, will be conducted in class, and is to be an individual effort. • Exams will be given at the start of the period and are NOT comprehensive. <p>Passports Internet Proficiency:</p> <ul style="list-style-type: none"> • This exercise focuses on exploring the statistical databases available in Passport, and will be discussed further in class. <p>Blackboard Vista:</p> <ul style="list-style-type: none"> • This exercise will ensure everyone understands how to use Blackboard Vista. Students will be expected to communicate with each other in discussions, view their grades, and use the course resources. Students are expected to master this skill before the second class. <p>Class Participation and Attendance:</p> <ul style="list-style-type: none"> • Students are expected to attend all class sessions of every course for the full 36 contact hours. In the case of unavoidable absence, the student must contact the instructor. The student is subject to appropriate academic penalty for incomplete or unacceptable makeup work, or for excessive or unexcused absences. Generally, a student who misses more than one four-hour course period (per course) without a documented military or medical excuse and advanced permission of the instructor should withdraw from the class. The University reserves the right to involuntarily drop enrolled students from classes, which they do not attend. PLEASE BE ADVISED: <u>Students who do not attend the first class session, who have not made prior arrangements with the instructor for being absent, will be dropped from their courses.</u> • Attendance the last day of class is mandatory to ensure that all work is completed and to be awarded a passing grade. An Incomplete will not be acceptable without documental proof (Death Notice, Doctor's Letter, etc.) as to absence relating to non-completion of class work. These must be faxed 904-262-1459 or dropped off to Webster University by the Monday after the term ends.
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	<ul style="list-style-type: none"> • Participants are expected to arrive on time and be actively involved in the learning experience. Each student should desire to learn, participate, and proactively contribute to the learning of others during each discussion and exercise. • Students are to participate in classroom discussions. The discussions are an opportunity for students to reveal their understanding of the assignments made for the current and previous classes. • Assignments are given to prepare the student to participate in class discussions; therefore, it is imperative that reading assignments and associated questions for discussion be completed prior to class. • A maximum of 10 points will be awarded based on the level and quality of participation and preparation. • Failure to turn in an assignment within one week will result in a grade of "0" for that assignment. In addition, failure to submit an assignment will lower the final grade by an additional two points. • All assignments are due as detailed in the Course Schedule. • Late assignments will be accepted, if they are turned in <i>no later</i> than one week later, but will be penalized one letter grade. Furthermore, late assignments will lower the student's final grade by an additional one point. • Late assignments will not be accepted for the final assignments the last week of the course to allow timely completion and grades to be submitted.
<p>Policy Statements:</p> <p>University Policies</p>	<p>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:</p> <p>Academic Honesty</p> <p>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.</p> <p>Drops and Withdrawals</p> <p>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.</p> <p>Special Services</p> <p>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.</p> <p>Disturbances</p> <p>Since every student is entitled to full participation in class without</p>

	<p>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.</p> <p>Student Assignments Retained</p> <p>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.</p> <p>Contact Hours for this Course</p> <p>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.</p>
<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 quizzes 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>Make-Up Requirements</p> <ul style="list-style-type: none"> • For each class hour missed, statistical problems will be assigned that reflect the content covered for that hour. All work, spreadsheets, and answers should be submitted by the end of the term. • This problem will be graded and incorporated in the class participation grade. If the make-up work is not submitted, the student's final grade will be reduced one (1) letter grade. • (Students are responsible for any class material presented during their absence, and any assignments due should be submitted prior to the absence, if possible).
<p>Weekly Schedule</p>	<p>Pre-Assignments for Session 1:</p> <ul style="list-style-type: none"> • Read Pages 18-30 of textbook (Excel Companion to Chapter 1) - not necessary if you are already familiar with Excel • Read Chapters 1-2, and 7 (Sections 1-2)

	Session 1	<p>THEME: Introduction to Statistics</p> <p>Topics:</p> <ul style="list-style-type: none"> • Introduction / Overview • Sampling Techniques / Research Methodologies • Sampling Errors (planning to fail) • Levels of Data (the right statistics for the right data) • Misuses of Statistics (figures never lie, but liars figure) • Graphing Data (misuses in Technicolor) • Blackboard Vista • Exploring the Statistical Databases on Passport • In-Class MS Excel Exercises <p>Assignments for Session 2:</p> <ul style="list-style-type: none"> • Read Chapter 3 (Sections 1-4) • Blackboard Vista (<i>to be discussed</i>) • Recommended Homework Problems (<i>to be discussed</i>)
	Session 2	<p>THEME: Descriptive Statistics</p> <p>Topics:</p> <ul style="list-style-type: none"> • Organizing Data with Frequency Distributions • Measures of Central Tendency (mean, median, etc.) • Measures of Dispersion (standard deviation and more) • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario with two small (five numbers each) sets of data (with same average and different standard deviations), identify the managerial impact of having the larger standard deviation</i> <p>Assignments for Session 3:</p> <ul style="list-style-type: none"> • Read Chapter 4 (Sections 1-2) • Recommended Homework Problems (<i>to be discussed</i>) • Passport Research on Statistical Databases • Complete Exam 1 – Part 1 • Prepare for Exam 1 – Part 2

	<p>Session 3</p>	<p>THEME: Introduction to Probability</p> <p>Topics:</p> <ul style="list-style-type: none"> • Exam 1 – Part 2 • Probability (a formula-free approach to Vegas) • Counting Techniques (understanding the Lottery) • Binomial Distributions (it's not all heads or tails.) • Discrete Probability • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario with a historical data distribution, identify the probability of a specified event.</i> <p>Assignments for Session 4:</p> <ul style="list-style-type: none"> • Read Chapter 5 (Sections 1 and 3), 6 (Sections 1-2), and 7 (Section 4) • Recommended Homework Problems (<i>to be discussed</i>)
	<p>Session 4</p>	<p>THEME: The Normal Distribution</p> <p>Topics:</p> <ul style="list-style-type: none"> • Solving Probability Problems with the Normal Distribution • Solve ANY Probability Problems with the Central Limit Theorem • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario with normal distribution (mean and standard deviation given), (1) calculate the probability that corresponds to a specified value, (2) calculate the value that corresponds to a specified probability.</i> <p>Assignments for Session 5:</p> <ul style="list-style-type: none"> • Read Chapter 8 • Recommended Homework Problems (<i>to be discussed</i>) • Complete Exam 2 – Part 1 • Prepare for Exam 2 – Part 2

	<p>Session 5</p>	<p>THEME: Confidence Intervals / Sample Size Topics:</p> <ul style="list-style-type: none"> • Exam 2 – Part 2 • Confidence Intervals (the secret behind election polls) • Sample Sizes (more is not necessarily better) • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario including sample size, average and standard deviation, (1) differentiate standard error from standard deviation, (2) calculate the 95% confidence interval for the population average.</i> <p>Assignments for Session 6:</p> <ul style="list-style-type: none"> • Read Chapters 9-10 • Recommended Homework Problems (<i>to be discussed</i>)
	<p>Session 6</p>	<p>THEME: Hypothesis Testing Topics:</p> <ul style="list-style-type: none"> • • Intro to Hypothesis Testing for Research (proving your point) • Errors in Hypothesis Testing (convicting the innocent vs. acquitting the guilty) • Hypothesis Testing on Means & Proportions • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario including sample size, average and standard deviation, determine statistical significance from the average in question and managerial implications.</i> <p>Assignments for Session 7:</p> <ul style="list-style-type: none"> • Read Chapter 13 • Recommended Homework Problems (<i>to be discussed</i>) • Complete Exam 3 – Part 1 • Prepare for Exam 3 – Part 2
	<p>Session 7</p>	<p>THEME: Regression Analysis Topics:</p> <ul style="list-style-type: none"> • Exam 3 – Part 2 • Correlation • Simple & Multiple Regression (causes and relationships) • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario and regression output, (1) interpret the slope and intercept coefficients, (2) determine how much a coefficient might vary, (3) determine whether or not to include an outlier in generating a prediction, (4) determine the significant coefficients, (5) determine the managerial interpretation of coefficients, (6) predict range</i>

		<p><i>of a value, (7) explain managerial implications of a dummy variable, (8) write the objective function of the Linear Programming model.</i></p> <ul style="list-style-type: none"> • CMBA prep: <i>Given a scenario including correlation coefficient and graphs, match the correlation coefficient to appropriate graphs.</i> <p>Assignments for Session 8:</p> <ul style="list-style-type: none"> • Read Chapters 14 (Sections 1-3), 15 (Section 4), and 16 (Sections 1-3, and 7) • Recommended Homework Problems (<i>to be discussed</i>)
	<p>Session 8</p>	<p>THEME: Putting It All Together</p> <p>Topics:</p> <ul style="list-style-type: none"> • Forecasting • Analysis of Variance (one test for the price of many) • Chi Square Tests (categorically speaking) • In-Class MS Excel Exercises • CMBA prep: <i>Given a scenario including three groups with their averages, sample sizes, standard deviations and ANOVA p-value, determine the managerial impact if the group means are statistically significantly different.</i> <p>Assignments for Session 9:</p> <ul style="list-style-type: none"> • Recommended Homework Problems (<i>to be discussed</i>) • Complete Exam 4 – Part 1 • Prepare for Exam 4 – Part 2
	<p>Session 9</p>	<p>THEME: Final Exam</p> <p>Topics:</p> <ul style="list-style-type: none"> • Course Evaluations • Homework Review • Exam 4 – Part 2
<p>Additional Information</p>	<p>Determination of Grades is Based on the Following Criteria:</p> <p><u>Minimum Requirements:</u> Products (papers, case studies, projects) must be on time, in the correct format, corrected for spelling and grammar, appropriate materials included and referenced to-the-point and on topic and conclusions must be supported.</p> <p>Examinations must be complete, accurate, neat, evidence clear thought, and exhibit concise and to-the-point responses.</p> <p>Behavior in class discussions and group activities should be responsible, should exhibit open communication, be constructive, and helpful.</p> <p><u>Mastery Level (Grade of “B”): Professional Achievement</u> Products must meet the requirements stated above for minimum requirements and additionally meet professional criteria. For example, documentation should be included to support research papers, the APA format should be used</p>	

	<p>consistently throughout the paper, and substantially more than the minimum number of references should be included. Presentations should be logical, organized, and comprehensive.</p> <p>Examinations should be organized, in depth, comprehensive, logical and complete, and evidence thorough understanding of the subject /topic through application of principles.</p> <p>Classroom behavior should exhibit very focused activity and thought on the subject at hand, be motivated, and assist in discovery of new insights and relationships concerning the subject/topic of discussion.</p> <p><u>Mastery Level Plus (Grade of “A”): <i>Creative Achievement</i></u></p> <p>Products must meet all requirements stated above and additionally meet creative criteria. These criteria include unique topic or subject selection, synthesis of ideas, evaluation of subject matter and positions found in the literature, be creative in approach, establish new relationships with ideas and provide new insights.</p> <p>Examination responses indicate insightfulness of understanding, a synthesis of information and unique ideas, and rationale for application of principles following careful analysis.</p> <p>Classroom behavior should exhibit very focused activity and thought on the subject at hand, be motivated, and assist in discovery of new insights and relationships concerning the subject/topic of discussion.</p> <p>The grade of “A” represents the best work of students, accomplished in a unique and professional manner.</p> <p>Note:</p> <p>To achieve the objectives of this course, this syllabus may be revised at the discretion of the instructor without prior notification or consent of the student.</p>
<p>Reviewed by: <u> <i>J. Ewing</i> </u></p> <p>Job Title: <u> Faculty Coordinator </u></p> <p>Date: <u> 12/10/07 </u></p>	

Revised 12/6/07