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| <b>Course</b>                         | BUSN 5760 Applied Business Statistics  |     |
| <b>Term</b>                           | Fall 2, 2009   |     |
| <b>Instructor</b>                     | Name: Michael R. Anderson, Ph.D.<br>Phone: Phone: 913-422-3020<br>Email: Email: <a href="mailto:manderson96@webster.edu">manderson96@webster.edu</a><br>Alternate Email: <a href="mailto:manderson113@kc.rr.com">manderson113@kc.rr.com</a>  |     |
| <b>Catalog Description</b>            | The student examines the application of statistical analysis, hypothesis testing, and regression analysis in business decision-making. The course focuses on the utilization of statistical methods as applied to business problems and operations.  |     |
| <b>Prerequisites</b>                  | None   |     |
| <b>Course Level Learning Outcomes</b> | <b>Outcome</b>   |     |
|                                       | 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.   |     |
| <b>Materials</b>                      | Book Title: Practical Business Statistics (Fifth Edition)<br>Author: Andrew F. Siegel<br>Publisher: McGraw-Hill Irwin<br>Other: <b>with CD (ISBN: 0-07-282125-6)</b><br><br>Text is available through MBS Direct Books at 1-800-352-3252 or <a href="http://www.mbsdirect.net">www.mbsdirect.net</a> . Checks and credit cards accepted. |     |
| <b>Grading</b>                        |  | %   |
|                                       | Weekly Quizzes (Best 6 of 7)   | 25% |
|                                       | Exercise/Problem Set 1   | 15% |
|                                       | Exercise/Problem Set 2   | 15% |
|                                       | Exercise/Problem Set 3   | 15% |
|                                       | Final Exam   | 25% |
|                                       | Participation & Effort   | 5%  |

|   | <table border="1" data-bbox="467 226 1052 533"> <tr> <th colspan="2">Grading Scale</th> </tr> <tr> <td>94-100</td> <td>A</td> </tr> <tr> <td>90-93</td> <td>A-</td> </tr> <tr> <td>87-89</td> <td>B+</td> </tr> <tr> <td>84-86</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>0-69</td> <td>F</td> </tr> </table> <p data-bbox="467 611 1455 642"><b>The GRADUATE catalog provides these guidelines and grading options:</b></p> <ul data-bbox="516 653 1438 1213" style="list-style-type: none"> <li>• <b>A/A–</b> Superior graduate work</li> <li>• <b>B+/B/B–</b> Satisfactory graduate work</li> <li>• <b>C</b> Work that is barely adequate as graduate-level performance</li> <li>• <b>CR</b> 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.</li> <li>• <b>F</b> Work that is unsatisfactory</li> <li>• <b>I</b> Incomplete work</li> <li>• <b>ZF</b> 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.</li> <li>• <b>IP</b> In progress</li> <li>• <b>NR</b> Not reported</li> <li>• <b>W</b> Withdrawn from the course</li> </ul> | Grading Scale |  | 94-100 | A | 90-93 | A- | 87-89 | B+ | 84-86 | B | 80-83 | B- | 70-79 | C | 0-69 | F |
|---|--|---------------|--|--------|---|-------|----|-------|----|-------|---|-------|----|-------|---|------|---|
| Grading Scale                                     |  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 94-100  | A  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 90-93   | A-   |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 87-89   | B+   |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 84-86   | B  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 80-83   | B-   |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 70-79   | C  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| 0-69  | F  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| <b>Activities</b>                                 | PowerPoint, digital projection, Excel demonstrations, and white board explanations will be used to present content and support learning objectives. Additionally, homework exercises will be used to support learning objectives.  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |
| <b>Policy Statements:<br/>University Policies</b> | <p data-bbox="467 1409 1455 1545">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 data-bbox="467 1556 724 1587"><b>Academic Honesty</b></p> <p data-bbox="548 1591 1406 1766">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 data-bbox="467 1776 797 1808"><b>Drops and Withdrawals</b></p> <p data-bbox="548 1812 1446 1879">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</p>  |               |  |        |   |       |    |       |    |       |   |       |    |       |   |      |   |

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|                        | <p>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><b>Special Services</b><br/>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><b>Disturbances</b><br/>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.</p> <p><b>Student Assignments Retained</b><br/>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><b>Contact Hours for this Course</b><br/>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> |
| <b>Course Policies</b> | Syllabus may be revised at the discretion of the instructor without prior notification or consent of the student.   |

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| Weekly Schedule | Session 1 | <p><b><u>Class Introduction/Overview.</u></b> Expectations regarding attendance and class participation are outlined, as are expectations regarding “take home” exercise sets. Grading and other requirements are detailed from those outlined in the course syllabus. The use of quizzes, problem sets, and exams are discussed as they relate to learning and assessment objectives.</p> <p><b><u>Begin Discussion of Descriptive Statistics.</u></b><br/> <b>In class:</b> Discussion of Chapters 1 (Introduction), 2 (Data Structures), and 3 (Histograms).<br/> Discuss EXCEL Primer &amp; StatPad software.<br/> Receive Exercise Set 1.<br/> <b>Assignments:</b><br/> <u>Reading:</u> Text, Chapters 4 and 5 (and Chapters 1, 2, and 3 if not read before first class session).<br/> <u>Take Home:</u> Begin work on Exercise Set 1 is due at beginning of Session 4.<br/> Prepare for Quiz #1.</p> |
|                 | Session 2 | <p><b><u>Continuation and Conclusion of Descriptive Statistics.</u></b><br/> <b>In class:</b> Review of Session 1 content.<br/> Quiz # 1.<br/> Discussion of Chapter 4 (Landmark Summaries) and Chapter 5 (Variability).<br/> <b>Assignments:</b><br/> <u>Reading:</u> Chapters 6 and 7.<br/> <u>Take Home:</u> Continue work on Exercise Set 1.<br/> Prepare for Quiz # 2.</p>  |
|                 | Session 3 | <p><b><u>Begin Probability &amp; Random Variables.</u></b><br/> <b>In class:</b> Review of Session 2 content.<br/> Quiz # 2.<br/> Discussion of Chapter 6 (Probability) &amp; start Chapter 7 (Random Variables).<br/> Receive Exercise Set 2.<br/> <b>Assignments:</b><br/> <u>Reading:</u> Chapters 7 &amp; 8.<br/> <u>Take Home:</u> Conclude work on Exercise Set 1, which is due at the beginning of session 4.<br/> Optional - Begin work on Exercise Set 2, which is due at the beginning of session 7.<br/> Prepare for Quiz # 3.</p>  |

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|  | <b>Session 4</b> | <p><b><u>Conclude Random Variables; Begin Statistical Inference</u></b></p> <p><b>In class:</b> Turn in Exercise Set 1.<br/>Review of Session 3 content.<br/>Quiz # 3.<br/>Discussion of Chapter 7 (Random Variables) and Chapter 8 (Random Sampling)</p> <p><b>Assignments:</b><br/><u>Reading:</u> Chapter 9.<br/><u>Take Home:</u> Begin or continue work on Exercise Set 2.<br/>Prepare for Quiz # 4.</p>   |
|  | <b>Session 5</b> | <p><b><u>Continue with Statistical Inference</u></b></p> <p><b>In class:</b> Review of Session 4 content.<br/>Quiz # 4.<br/>Discuss Chapter 9 (Confidence Intervals)</p> <p><b>Assignments:</b><br/><u>Reading:</u> Chapter 10.<br/><u>Take Home:</u> Continue work on Exercise Set 2, which is due at the beginning of session 7.<br/>Prepare for Quiz # 5.</p>  |
|  | <b>Session 6</b> | <p><b><u>Conclude Statistical Inference</u></b></p> <p><b>In class:</b> Review of Session 5 content.<br/>Quiz # 5.<br/>Discuss Chapter 10 (Hypothesis Testing).<br/>Receive Exercise Set 3.</p> <p><b>Assignments:</b><br/><u>Reading:</u> Chapter 11.<br/><u>Take Home:</u> Conclude work on Exercise Set 2, which is due at the beginning of session 7.<br/>Optional: Begin work on Exercise Set 3, which is due at the beginning of session 9.<br/>Prepare for Quiz # 6.</p> |
|  | <b>Session 7</b> | <p><b><u>Correlation &amp; Simple Linear Regression.</u></b></p> <p><b>In class:</b> Submit Exercise Set 2 for grading.<br/>Review of session 6 content.<br/>Quiz # 6.<br/>Discuss Chapter 11 (Correlation &amp; Regression)</p> <p><b>Assignments:</b><br/><u>Reading:</u> Chapter 12 (portion) &amp; Chapter 14 (portion).<br/><u>Take Home:</u> Continue or begin work on Exercise Set 3, which is due at the beginning of session 9.<br/>Prepare for Quiz # 7.</p>          |

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|                                      | <p><b>Session 8</b></p>   | <p><b><u>Multiple Regression &amp; Time Series</u></b><br/> <b>In class:</b> Review of Session 7 content.<br/> Quiz # 7.<br/> Discuss portion of Chapter 12 (Multiple Regression) &amp; Chapter 14 (Time Series)<br/> <b>Assignments:</b><br/> <u>Reading:</u> Skim all prior reading assignments.<br/> <u>Take Home:</u> Conclude work on Exercise Set 3, which is due at the beginning of session 9.<br/> Prepare for Final Exam</p> |
|                                      | <p><b>Session 9</b></p>   | <p><b><u>Review of Important Statistical Concepts; FINAL EXAM.</u></b><br/> <b>In Class:</b> Submit for grading Exercise Set 3.<br/> Review of Session 8 content.<br/> Review of major statistical concepts covered &amp; brief discussion of chapters not covered.<br/> Discussion of class Session 1-8 topics as requested prior to Final Exam.<br/> <b>FINAL EXAM.</b></p>  |
| <p><b>Additional Information</b></p> | <p>Students must maintain a Webster Connections account in support of class activities.</p> |  |