I. LOCATOR INFORMATION:
INSTRUCTOR: Dr. Thomas E. Van Cantfort
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Web address http://faculty.uncfsu.edu/tvancantfort/

II. COURSE DESCRIPTION:
An advanced statistics course including such topics as probability, the binomial and Poisson distribution, linear regression and multiple correlational techniques, analysis of variance, and several non-parametric tests of significance.

III. REQUIRED TEXTBOOKS:


CALCULATOR:
You will need a scientific calculator to do your homework assignments and take the exams in this course. A business calculator will not work since all but the most expensive ones do not have the simple statistical functions you will need. At the minimum, your calculator must be able automatically to compute $\sum x^2$ and the $\sum x$. I recommend the Texas Instruments TI36X.

IV. COURSE OBJECTIVES:
The successful student is expected to master the following competencies:

1. Be able to compute and interpret descriptive statistics.
2. Be able to compute and interpret probabilities.
3. Be able to setup and test statistical hypotheses.
4. Be able to estimate and interpret population parameters.
5. Be able to compute and interpret tests between two independent samples.
6. Be able to compute and interpret tests between two dependent samples.
7. Be able to compute and interpret tests among multiple independent samples.
8. Be able to compute and interpret tests among multiple dependent samples.
9. Be able to use SPSS to do above analyses.
V. STUDENT EVALUATION AND GRADING:

1. There will be a minimum of three (3) exams (each exam is a comprehensive exam), each worth 50 points. Consult the syllabus for the dates of these exams.

2. There will be a homework assignments. You must show all of your work. Partial credit will be given if the method is correct but the computation is incorrect. If only correct answers are provided, no credit will be given. Late assignments will not be accepted.

3. There are NO make-ups for any missed exams. The final grade will be based on the three (3) exams and the homework assignments.

4. If you miss one (1) exam you cannot pass the course.

5. The total points that can be earned in this class is 150 plus the homework. Final grades will be determined according to the following schedule:

   A $\geq 90\%$ of highest total points
   B $\geq 80\%$ and $< 90\%$ of highest total points
   C $\geq 70\%$ and $< 80\%$ of highest total points
   F $< 70\%$ of highest total points

INTRODUCTION

Aug.  29 T.  Basic Concepts
        Review of Basic Statistics with SPSS
                              Ch.  1, pp.  1 - 14 H
                              Ch.  1, pp.  1 - 23 LBM
Sept.  5 T.  Describing and Exploring Data
        Exploratory Data Analysis
                                      Ch.  2, pp. 15 - 72 H
                                      Ch.  2, pp. 24 - 45 LBM
Sept. 12 T.  Correlation & Regression
        Measures of Reliability
                                      Ch.  9, pp. 243 - 294 H
                                      Ch.  4, pp.  63 - 75 LBM
Sept. 19 T.  The Normal Distributions
                                      Ch.  3, pp.  73 - 90 H
Sept. 26 T.  Sampling Distribution
                                      Ch.  4, pp.  91 - 114 H
Oct. 3 T. TEST I
Oct. 10 T. Probability
                                      Ch.  5, pp. 115 - 140 H
Oct. 17 T. Testing Means
        Selecting and Interpreting Inferential Statistics
                                      Ch.  7, pp. 177 - 222 H
                                      Ch.  3, pp.  46 - 62 LBM
Oct. 24 T. Power
                                      Ch.  8, pp. 223 - 242 H
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<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Chapters</th>
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<tbody>
<tr>
<td>Oct. 31</td>
<td>T.</td>
<td>Analysis of Variance</td>
<td>Ch. 11, pp. 319-368 H</td>
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<td>Nov. 7</td>
<td>T.</td>
<td>Multiple Comparison</td>
<td>Ch. 12, pp. 369-420 H</td>
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<td>Nov. 14</td>
<td>T.</td>
<td>TEST II</td>
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<td>Nov. 21</td>
<td>T.</td>
<td>Factorial Analysis of Variance</td>
<td>Ch. 13, pp. 421-470 H</td>
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<td>Nov. 28</td>
<td>T.</td>
<td>Repeated Measures</td>
<td>Ch. 14, pp. 471-532 H</td>
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<td>Dec. 5</td>
<td>T.</td>
<td>Multiple Regression</td>
<td>Ch. 15, pp. 533-602 H</td>
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<td>Dec. 6</td>
<td>T.</td>
<td>TEST III</td>
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VII. TEACHING STRATEGIES:

This course will be taught using both lecture and computer lab experience.

VIII. BIBLIOGRAPHY:


