EDRM 710: Educational Statistics I

I. Descriptive Information

A. Course number and title: EDRM 710: Educational Statistics I
B. Bulletin description: Introductory course in statistics for graduate students in education and the other social sciences. Central tendency and variability, normal distribution, simple correlation and regression, z and t tests for one and two samples, and the chi-square test. Use of statistical software.
C. Course credit: 3
D. Prerequisite: None
E. Intended audience: Full admission to graduate standing in all programs at the University.
F. Huynh Huynh; 138 Wardlaw College; 803.777.7364; hhuynh@mailbox.sc.edu

II. Statement of Learning Outcomes

- To master a statistical vocabulary typically found in empirical research
- To demonstrate an understanding of some basic statistical techniques and their underlying assumptions
- To be able to select and carry out an appropriate statistical technique for a given situation
- To be able to perform data analysis using computer software

These learning outcomes serve as fundamental elements in quantitative research methodology. They will enhance integrity in designing and implementing a research project, correctly conducting data analyses, and making appropriate interpretation of the results.

III. Textbook and Software

Textbook


Software

Instruction is based on SPSS. Output for examinations is also based on SPSS. Students are allowed to use SAS for homework assignments. Use of statistical software for homework assignments as requested is mandatory. There are no exceptions.

There are “public” stations at the Thomas Cooper library and at Wardlaw 272 (Instructional Technology Center) that students can get access to SPSS and SAS.
IV. Academic Course Requirement and Assessment

Detailed topics are provided in Blackboard for each lesson. Students are expected to be familiar with all the topics. Emphasis will be put on understanding of the basic concepts rather than memorization of formulas and complex calculations. Use of statistical software is required.

V. Administrative Course Requirement

Instructional materials including homework assignments are posted in Blackboard. Students are expected to check these materials regularly. Students are expected to attend classes on a regularly basis, submit homework, and take all exams. Three or more absences will lower the course grade by one letter unit. Partial absences are considered as absences for this purpose.

**Student with Disabilities**

"Any student with a documented disability should contact the Office of Student Disability Services at 777-6742 to make arrangements for appropriate accommodations."

VI. Evaluation and Grading

**Homework**

Grades are assigned only on the basis of ten graded homeworks (HW total = 15 points), two tests, Test 1 and Test 2 (25 points each), and the final exam (35 points). Under no circumstances extra work will be given to individual students for additional credits toward the final grade. All graded HW must be submitted in hard copies on or prior to the due date.

**Examinations**

Test 1 and Test 2 consist of small problems and, on occasion, some multiple-choice items on topics presented up to the week before the test. The final exam is comprehensive and comprises of multiple-choice items and small problems. All exams are open book. Students are permitted to consult textbooks and hand-written notes. Calculators and laptops are permitted. All electronic communications must be turned off. Cell phones and similar communication devices cannot be used as calculators.

**Course Grade Scale**

Course grades are assigned on the basis of the total score (Tests 1 and 2 + Final Exam + HW score; maximum total score = 100). The following schedule is used:

A: (90-100)  B+: (80-89)  B: (70-79)  C: (60-69)  F: (59 or less)

Changes in the above schedule, if any, will benefit the students. Except for emergency due to hospitalization or death in the immediate family, no incomplete grade (I) will be given.
### VII. Major Topics of the Course

<table>
<thead>
<tr>
<th>Topics</th>
<th>Date</th>
<th>Text by Agresti/Finlay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td></td>
<td>Chapters 1, 2, 3, &amp; Sections 4.1 to 4.3</td>
</tr>
<tr>
<td>Sampling and Measurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descriptive Statistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Normal Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Test 1</strong> (Class resumes at 6:00pm)</td>
<td><strong>September 28 (4:30 to 5:45)</strong></td>
<td></td>
</tr>
<tr>
<td>Sampling Distribution of Sample Means</td>
<td></td>
<td>Section 4.4 and Chapters 5, &amp; 6</td>
</tr>
<tr>
<td>Statistical Inference: Estimation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistical Inference: Significance Tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Test 2</strong> (Class resumes at 6:00pm)</td>
<td><strong>October 26 (4:30 to 5:45)</strong></td>
<td></td>
</tr>
<tr>
<td>Comparison of Two Groups</td>
<td></td>
<td>Chapters 7, 8, &amp; 9</td>
</tr>
<tr>
<td>Analyzing Association between Categorical Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear Regression and Correlation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Final exam</strong></td>
<td><strong>December 7 (5:30-7:30)</strong></td>
<td></td>
</tr>
</tbody>
</table>

### VIII. Modes of Instruction

Details about each lesson are provided in advance in Blackboard for each lesson. Instruction will be provided via lectures by the instructor. Students will work on small statistics problems in class.

### IX. Bibliography

None