College of Education Norms

I take 100% responsibility.
I seek equity of voice.
I am willing to talk about sensitive issues.
I listen for understanding.
I appreciate the strengths and contributions of others.
I bring positive energy and encouragement to the team.
I commit to the mission of the college.

EDPR 7/8542 Statistical Methods Applied to Education II

Class: Wednesdays 5:00 PM – 8:00 PM, Ball Hall 107
Instructor: Yonghong Jade Xu, Ph. D.
Office: Ball Hall 300C
Office Hours: Wednesdays 2:00 P.M. - 5:00 P.M. or by appointment
Email: yxu@memphis.edu (preferred method of contact)
Office Phone: (901) 678-5026
Course URL: https://umdrive.memphis.edu/yxu/public/

Students are responsible for checking this location on a regular (at least weekly) basis for information.

Required Text:


Recommend Text:

IBM SPSS for Introductory Statistics: Use and Interpretation, Fifth Edition

The SPSS (the official name is now changed to PASW after the company was purchased by IBM. However, in this class, I will continue to call it SPSS) manual is not required for this course – you will be given the information that you need to use SPSS for course assignments. However, if you think that you will in the future be involved in research projects requiring extensive data manipulation and analyses, I would recommend that you purchase the SPSS Syntax Reference
Guide (for the appropriate version). This book documents and gives examples of all the commands, subcommands, and keywords. Keep in mind that it is not terribly user friendly, but you may find it a valuable addition to your reference library. I would also suggest the SPSS Brief Guide for the appropriate SPSS version.

Additional recommended texts, useful web sites, etc. will be suggested and/or introduced throughout the course of this semester.

**Additional Items Needed for the Course:**

You will need to have a University of Memphis email account, which allows you access to the University’s computer system (where SPSS is located). You will need to have a calculator with basic statistical functions (e.g., Texas Instruments TI 30 Xa or Casio FX-260), as some calculations will be done by hand (bring your calculator to class). You will also need a data storage device (i.e., USB drive or CD-RW) to save your files.

**Description:**

This course continues the introduction to the inferential statistical procedures for understanding and analyzing research data in education and behavioral science. It is assumed that you have recently taken EDPR 7/8541 (within the last two years) and EDPR 7521 or their equivalence and have a good understanding of the major concepts and processes underlying educational research and basic statistical concepts including descriptive statistics, correlation and simple regression, t tests, etc. The focus of this course includes analysis of variance (ANOVA), multiple regression, and Analysis of Covariance (ANCOVA). This course is intended to integrate the analysis of data utilizing these statistical methodologies with the design of research in educational settings.

The general format for this course is for the instructor to introduce the statistical concepts under consideration through lecture and by providing research examples (when applicable) as to how the concepts are used. The concepts are then developed systematically leading to the formula for computing the statistic. It is important to note that this is NOT a “plug the numbers into a formula and get the correct answer” course. The emphasis is on UNDERSTANDING the statistic and the concepts rather than on mindless computation.

**Key Objectives:**

1. Introduce students to the analysis of variance, analysis of covariance, and multiple regression statistical procedures used in quantitative research in behavioral sciences.
2. Provide foundation, essential knowledge, and background for higher-level multivariate statistical courses.
3. Help students to be able to read and comprehend the research literature in his/her field and to take initial steps in the development of a thesis/dissertation proposal.
4. Introduce students to statistical computer software. All of the statistical procedures will be discussed using standard pedagogy as well as the Statistical Package for the Social Sciences (SPSS), a comprehensive package for statistical analyses.
5. Introduce students to complex study design and data modeling issues within the context of multivariate statistics.

Course Grades:

Grades will be determined by your performance on the assignments, the exams, and the final project. The University’s +/- grading scale will be used in this course. The grading scale is absolute, not relative (not based on a curve), so that one student’s grade does not influence another student’s grade.

<table>
<thead>
<tr>
<th>Assignments &amp; Exams</th>
<th>Proposed Date</th>
<th>% of Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two (2) assignments</td>
<td>See class schedule</td>
<td>200 (100 points each)</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>Oct 2\textsuperscript{nd}, 2013</td>
<td>300</td>
</tr>
<tr>
<td>Final Project</td>
<td>Dec 4\textsuperscript{th}, 2013</td>
<td>100</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Dec 11\textsuperscript{th}, 2013</td>
<td>350</td>
</tr>
<tr>
<td>Bonus Assignment</td>
<td>Dec 11\textsuperscript{th}, 2013</td>
<td>50</td>
</tr>
<tr>
<td>Class participation</td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

98 – 100 % = A+
93 – 97 % = A
90 – 92 % = A-
87 – 89 % = B+
83 – 86 % = B
80 – 82 % = B-
77 – 79 % = C+
73 – 76 % = C
70 – 72 % = C-
67 -69 % = D+
60 -66 % = D
Below 60 % = F

I reserve the right to make adjustment to the grading schema as needed.

Course Assignments:

Two (2) take-home assignments will make up 20% of your overall course grade. Each assignment will be a representative amount of practice questions corresponding to the class materials. You are required to turn in the completed assignment on time for full credit. Late work will only be accepted within a week for half-credit.

I would strongly encourage you to work independently on the assignments and discuss your answers in a group of two or three since you can learn a great deal from one another. Since one of the aims of this course is to develop knowledge and comfort with the use of computer to analyze data, some assignments are designed to give you the opportunity to practice working with data using SPSS. The assignments will also help prepare you for the class exams.

Course Exams:

There will be a midterm and a final exam covering the lecture material, chapter readings, suggested practical exercises, and any supplemental handouts (including syntax and output). Both exams will be in class, but you are allowed to take an “information sheet” -- one piece of letter-size paper with the information you think you will need for the exam. The exams will have multiple-choices questions and involve calculation and problem solving. The midterm exam will be worth 30 percent of the course grade, and the final will be 35 percent of the course grade. All
exams are expected to be independent work. Collaboration will result in no credit for all parties involved.

*Note:* If you must miss an exam, it is your responsibility to let me know at least one week before the exam’s scheduled date to make alternate arrangements. Make-up exams will incorporate essay-type questions as part of the test format.

**Final Project**

The final project will be worth 15% of the course grade. The goal is to provide you a chance to practice independent data analysis in order to complete a quantitative research project. If you have your own research interest with appropriate data available, you can conduct a statistical analysis of the data and present a brief research paper as your final project report. For those who do not have an appropriate data set, I will provide you access to some national datasets and assist you with your data selection. I will provide detailed instruction during the second half of the semester.

**Class Participation**

The 50 points on class participation is to encourage you to follow classroom rules, come to class on time, engage in class activities (e.g., discussion, group exercises), take full responsibility in learning, interact with the instructor and classmates in a professional manner, appreciate equity and show understanding in communication, and commit to academic integrity and excellence.

**Academic Integrity and Student Conduct:**

Expectations for academic integrity and student conduct are described in detail on the website of the Office of Student Judicial and Ethical Affairs ([http://saweb.memphis.edu/judicialaffairs](http://saweb.memphis.edu/judicialaffairs)). Please take a look, in particular, at the sections about “Academic Dishonesty,” “Student Code of Conduct and Responsibilities,” and “Disruptive Behaviors.” I will expect students to be aware of these guidelines and to conduct themselves accordingly.

**Notes and Reminders:**

Please read the *Policy Statements* on the course website at [https://umdrive.memphis.edu/yxu/public/policy.html](https://umdrive.memphis.edu/yxu/public/policy.html) for information regarding professional conduct, attendance policy, and disability accommodations.

This class will start and end on time. Please make every effort not to come in late and I will make every effort not to keep you late. If you must arrive late or leave early, please let me know in advance by email.

This course covers a lot of material in a relatively short period of time. In order to keep up and do well, you need to 1) attend all of the class meetings, 2) read the assigned chapters at least twice (once before the lecture and once again after), and 3) participate in class discussions and activities.
Additional readings/handouts may be distributed or made available on my UMDrive throughout the course of the semester.

Any areas that are not covered in this syllabus (as well as any adjustments/changes or corrections) will be addressed as they present themselves during the semester.

**ALL PAGERS AND CELL PHONES MUST BE TURNED OFF DURING THE CLASS!**

**Americans with Disabilities Act:**

The University of Memphis does not discriminate on the basis of disability in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of any of its programs and activities, as specified by federal laws and regulations. *The student has the responsibility of informing the course instructor (at the beginning of the course) of any disabling condition, which will require modification to avoid discrimination.* Faculty are required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.

**Written Assignments and Academic Misconduct:**

All written work submitted must be the student’s original work and conform to the guidelines of the American Psychological Association (APA) available online and via their publications. This means that any substantive ideas, phrases, sentences, and/or any published ideas must be properly referenced to avoid even the appearance of plagiarism. Plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full or clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency in the selling of term papers of other academic materials. It is the student’s responsibility to know all relevant university policies concerning plagiarism. Any documented cases of plagiarism can and will result in dismissal from the course with a failing grade, and may result in other more serious sanctions by the College of Education.

Your written work may be submitted to Turnitin.com, or a similar electronic detection method, for an evaluation of the originality of your ideas and proper use and attribution of sources. As part of this process, you may be required to submit electronic as well as hard copies of your written work, or be given other instructions to follow. By taking this course, you agree that all assignments may undergo this review process and that the assignment may be included as a source document in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents. Any assignment not submitted according to the procedures given by the instructor may be penalized or may not be accepted at all. Please refer to the University’s “Code of Student Conduct” for actions that may result from student academic misconduct.