EDGS 5610: Quantitative Research in Education
Section 02, R 5-8 pm (L125)

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Office: DBH 348A (also known as P348A)
E-mail: dpoole@csustan.edu (Please write 5610 in the subject line of the message)

Spring Office Hours: Feel free to stop by without an appointment during these times.
Mondays 3:00-4:30
Tuesdays 3:30-5:00
Thursdays 3:30-4:45 except on 2/18, 2/25, 3/18, 4/15 and 5/13
Others by appointment; please email me or call me to arrange another time.

Course Description
The course prepares students for conducting quantitative research with educational topics. Students learn about appropriate research design methods, perform statistical analyses, and determine appropriate analyses given the research design. Prerequisite: EDGS 5510.

Course Objectives
1. To generate testable hypotheses.
2. To understand how issues of validity and reliability factor into research design.
3. To understand various types of quantitative research methodology, and apply principles of sound research in designing studies.
4. To understand which statistical analyses should be used to test various hypotheses.
5. To utilize statistical analysis software to analyze research findings, and to understand what the statistical data mean.
6. To interpret and apply assessment measures in educational settings.

College of Education Mission Statement: Preparing Leaders in Learning
The mission of the College of Education is to engage faculty and students in instruction, scholarship, and professional experiences that provide subject-specific, pedagogical, and practical knowledge essential for planning, implementing, and assessing educationally-related activities. We are committed to the development of diverse educational leaders who meet the needs of a multicultural and multilingual society. Our programs are designed to advance the ethical behaviors and professional leadership capacities of students through participation in coursework, field experiences, and scholarly activities that together cultivate reflection and encourage innovation in educational settings. We provide multiple and systematic opportunities for students to make connections between their professional responsibilities and their roles as educational leaders in the larger society, and to serve as advocates for children, families, and communities.

College of Education Vision Statement: Enhancing Lifelong Learning
The preparation programs in the College of Education strive to instill professional habits that result in lifelong learning. We endeavor to prepare educators who impact positively and optimally on the academic achievement and well-being of all of their P-14 pupils. To this end, we model a culture of educational accessibility and respect for diversity, we foster a climate of intellectual engagement and rigor, and we model systematic use of assessment and reflection to inform decision-making. We strive to ensure that College of Education students, faculty, and
staff reflect the diversity of our local communities, posses the competence and confidence to provide leadership in their professional roles, and actively pursue personal and professional lifelong learning.

**Required Materials**


   OR


3. Storage Media. USB Flash drive needed (also called Thumb drives and Pen Drives); these are available from any computer, office, or department store. If you are using the storage mostly for class materials, buy the cheapest one you can find. You are wise to save backups of your work in another spot such as Blackboard or your home hard drive.

**Use of sample assignments for accreditation purposes**
The instructor and the College of Education may keep submitted student work and use it as examples for accreditation purposes. Every effort will be made to ensure that student name and other identifiers are removed from documents and projects that will be used for this purpose. Students who decline to have their work kept on file for this purpose must notify the instructor in writing within the first two weeks of the course.

**General Information**

- All written work must be word processed and submitted to Blackboard ([http://blackboard.csustan.edu](http://blackboard.csustan.edu)).
- All assignments are due *prior to* the class indicated on the schedule. A 5% reduction of points *per day* will be incurred for late work, up to a maximum 50% reduction. Nothing will be accepted after the scheduled class meeting during finals week. No late submissions will be accepted for the Statistics Exam.
- No incompletes will be given in the course unless extenuating circumstances (as outlined in the CSU Stanislaus handbook) warrant this grade.
- All work must be your own, with appropriate citations included as necessary. By enrolling in this course, you agree that your graded materials will be submitted to Turnitin.com to review and evaluate for originality and intellectual integrity. A description of the services, terms, conditions of use, and privacy policy of Turnitin.com is available at [http://www.turnitin.com](http://www.turnitin.com). All work submitted to Turnitin.com will be added to its database of papers. If the results of the Turnitin.com review support an allegation of academic dishonesty, the coursework in question
as well as supporting materials may be submitted to the Office of Judicial Affairs. The result may be a grade of 0 for the assignment and possibly a grade of F in the course.

- Please be prompt for class. Tardiness is disruptive to everyone.
- Please turn cell phones off during class since it is important for all of us to focus on the course content during our sessions.
- The midterm and final exams will be taken during class on the dates listed on the schedule.
- Participation and attendance will not factor specifically into your grade. However, classes are designed to be interactive and learner-oriented. Missing class or choosing not to participate deprives you from learning opportunities. If you are absent from class, it is your responsibility to check with other students regarding missed content.
- The reading assignment should be completed before each scheduled class so that you are prepared for the content of each session.

**Grading**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Labs (11 x 5 points)</td>
<td>55</td>
<td>Final grades will be awarded based on the following percentages of points earned:</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>50</td>
<td>A: 93+</td>
</tr>
<tr>
<td>Final Exam</td>
<td>50</td>
<td>A-: 90-92</td>
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<tr>
<td>Statistics Exam</td>
<td>50</td>
<td>B+: 87-89</td>
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<tr>
<td>Research Proposal</td>
<td>45</td>
<td>B: 83-86</td>
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<tr>
<td>TOTAL</td>
<td>250</td>
<td>C+: 77-79</td>
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<td>C: 73-76</td>
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<td></td>
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<td>C-: 70-72</td>
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<td></td>
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<td>D+: 67-69</td>
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<td></td>
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<td>D: 63-66</td>
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**Labs**

These are assignments involving applications of course material using SPSS. The labs will be introduced in class and there will be time to begin the assignments during class. Some of you may finish in class while others may need additional time to complete the work; time needed is dependent upon competency with SPSS, computer literacy in general, and proficiency with course content. Answers for the labs will be posted in Blackboard so you can self-check. It is your responsibility to ensure that you fully understand the material, including the complete conclusions for statistical analyses. Each lab is worth 5 points.

**Midterm Exam**

The exam will include multiple choice and short answer items on material covered from assigned readings and in the first six class meetings. It is a closed-book, closed-note individual exam.

**Final Exam**

The exam will include multiple choice and short answer items on material covered from assigned readings and class sessions after the midterm. It is a closed-book, closed-note individual exam.

**Statistics Exam (Take-Home)**

This is an open-book, open-note individual exam. You may not work with other members of the class or others on the exam. The test will require you to perform statistical analyses using SPSS and write up the results in a word processor. No late submissions accepted.

**Research Proposal**

The research proposal will build upon what you have already written in EDGS 5510, unless you have changed topics since then. Though it is a working document during the class, the final version should be close to ready, after consultation with your thesis chair, for IRB review should you wish to carry out a quantitative study. The Proposal will be submitted in two phases, with the second phase building upon the first. As such, you will have an opportunity for instructor feedback two times during the class. Although it is considered a working document, what is submitted at each level is expected to not only be well-written, but also reflective of content.
covered in the course up to that point. *More information about the proposal is included in Blackboard, including scoring rubrics for each phase.*

**Schedule**

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<thead>
<tr>
<th>Date</th>
<th>Topic(s)</th>
<th>Activity</th>
<th>Due</th>
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<tbody>
<tr>
<td>2/18</td>
<td>Overview, Empirical Research</td>
<td>Take survey, Data Entry</td>
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<tr>
<td>2/25</td>
<td>Population, Sampling, Variables</td>
<td>Graphs, Tables, Calculations</td>
<td>Lab 1: Data Entry</td>
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<tr>
<td>3/4</td>
<td>Descriptive Research</td>
<td>Mean, Median, Frequency, SD</td>
<td>Lab 2: Descriptive Stats</td>
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<tr>
<td>3/11</td>
<td>Correlational Research</td>
<td>Pearson, Spearman</td>
<td>Lab 3: Graphs</td>
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<tr>
<td>3/18</td>
<td>Hypothesis Testing, Instruments</td>
<td>Instrument Validity and Reliability</td>
<td>Lab 4: Correlations</td>
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<tr>
<td>3/25</td>
<td>Survey Research</td>
<td>Chi Square</td>
<td>Lab 5: Instruments</td>
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<tr>
<td>4/1</td>
<td><strong>Midterm Exam</strong></td>
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<td>Lab 6: Chi Square</td>
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<td>4/8</td>
<td>No class; Spring Break</td>
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<td>4/15</td>
<td>Causal-Comparative Research</td>
<td>Independent and Paired t-test</td>
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<td>4/22</td>
<td>Experimental and Quasi-Experimental Designs</td>
<td>ANOVA, ANCOVA</td>
<td>Lab 7: t-tests</td>
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<td><strong>Proposal Part I</strong></td>
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<td>4/29</td>
<td>Single Case Research</td>
<td>Factorial ANOVA, Single Case Analysis</td>
<td>Lab 8: ANOVAs</td>
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<tr>
<td>5/6</td>
<td>Linear Regression</td>
<td>Linear Regression</td>
<td>Lab 9: Factorial ANOVA</td>
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<tr>
<td>5/13</td>
<td>Stats Review</td>
<td>Mixed problems</td>
<td>Lab 10: Linear Regression</td>
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<td><strong>Proposal Part II</strong></td>
<td>Distribute Stats Exam</td>
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<tr>
<td>5/20</td>
<td>Multiple Regression</td>
<td>Multiple Regression</td>
<td>Stats Exam Due</td>
</tr>
<tr>
<td>5/27</td>
<td><strong>Final Exam</strong></td>
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<td>Lab 11: Multiple Regression</td>
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