UNIVERSITY OF OKLAHOMA
DEPARTMENT OF EDUCATIONAL LEADERSHIP
AND POLICY STUDIES

EACS 6023 Applied Quantitative Research Methods

Instructor:

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The Program Area Mission:

The mission of the Educational Administration, Curriculum and Supervision (EACS) Program Area is to promote critical inquiry that addresses important issues relating to teaching, learning, and leadership in order that service and collaboration among colleagues and the professional communities may be enhanced.

Special Needs Students:

Any student requiring special accommodation in the class due to disability is advised to inform the instructor of his/her special needs. Every effort will be made to ensure that the proper accommodations are made to enhance the learning environment for every student.

Course Description:

The course is designed to introduce basic concepts and techniques related to quantitative data analysis, including statistics. Successful completion of the course would help provide students with the analytical tools necessary to become effective, critical consumers of educational research.

Course Objectives:

At the conclusion of the course, the student will be able to:

1. Understand fundamental concepts of quantitative research design;
2. Analyze inferential, quantitative research studies;
3. Design a quantitative research study; and,
4. Develop competency as a critical consumer of quantitative educational research.
**Course Text:**


**Recommended Software Package:**

SPSS (Statistical Package for Social Sciences), most recent version.

**Online Content Area:**

EACS 6023 is supplemented with an Online Content Area. Link to learn.ou.edu. Login and select this course and section number. The course Content Area is available through the 'Content' link. The Content Area includes descriptions of the course assignments, along with other useful links (including references that will help in completing course assignments). The 'Links' 'Discussions' Dropbox' and ‘Grades’ links are also active, as is the 'Scheduling Tool' on the left side of the ‘Course Home’ page.

If you have substantive (content) questions, please email the professor at maiden@ou.edu. For technical questions, please contact the OU IT Help desk at learn@ou.edu or 405.325.4636 (or search the OU IT Online Support Center at https://webapps.ou.edu/support/).

**Course Requirements:**

1. Each student should attempt to attend every class. Regular attendance should enhance the opportunity for success in the course.

2. Each student shall critique two studies of his/her choosing that include a quantitative research design. One study should be a published dissertation and the other should be an article published in a refereed academic journal. The latter should not be the journal version of the concomitant dissertation. Please provide a two to three page critique of the design and analysis utilized by the author(s). Submit the critiques electronically to maiden@ou.edu. More information about the critiques is available near the end of this syllabus.

3. Each student shall complete a class project. The parameters of the project are included at the end of this syllabus.

4. **OPTIONAL:** Complete a series of data simulations using SPSS. The simulations materials are available in the Online Content Area. Completion of the simulations should assist in reaching a higher level of conceptual understanding.
**Grading:**

The final grade will be based on the combination of the attendance and participation score, article critique scores, and the project score. Specifically, attendance and participation will constitute 20% of the course grade, the article critique scores collectively will constitute 30%, and the project 50%. The formula used to calculate grades will be as follows:

\[ G = (0.2 \times A) + (3 \times C) + (0.5 \times P) \]

Where \( G \) = the final numerical grade in the course;
\( A \) = the attendance score;
\( C \) = mean critique score;
\( P \) = the project score.

The following represents the scale used to convert final numerical grades into final letter grades:

- 90% - 100% A
- 80% - 89% B
- 70% - 79% C
- 60% - 69% D

**Course Outline:**

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Critiques:

Included below are guidelines that may assist in the development of the dissertation (and perhaps the article) critiques. The characteristics listed in RED are germane mostly to design and method, and should be the focus of the critiques for Quant 1.

Common Elements of a High Quality Dissertation with a Quantitative Design

- Well-articulated, appropriate problem statement supported by references
- A clear purpose of the research
- Researchable questions/hypotheses that emerge from the problem statement
- Identify a theory base and identify connections to theory
- Literature review that flows logically from general to specific
- Critical analysis of the existing scholarly literature
- Well-articulated design that is clear to the consumer
- Delineation of the feasibility and practicality in design of study
- Data Collection procedures, including sources of data and sample selection
- Methodology that is appropriate to the research question(s)/hypothesis(es)
- Findings that are connected to the methodology
- Findings that are displayed for ease of consumption
- Conclusions that are based on the findings
- Conclusions that are connected to theory
- Conclusions that reflect the literature review

Course Project:

The project is a critical requirement of the course. Choose a topic/problem that is of interest to you (this may be derived from the problem statement that you developed in Pro Seminar) and develop a quantitative research proposal. The final product to be submitted to the instructor will include two separate components:

1) A written research proposal, approximately 10 - 15 pages in length (give or take).
2) An IRB proposal, to include an abstract of #1.

The written proposal will include three sections, roughly equivalent to three chapters of a dissertation (standard format):
1. Problem
2. Theory/literature
3. Design

For the purposes of this class, the proposal will be HEAVILY SKEWED in favor of the third part, the design. The Problem section, roughly equivalent to chapter one of a dissertation, should be relatively brief (perhaps a page or two). Include a problem statement, rationale, and research question(s) and/or hypothesis(es). The theory section (chapter 2) should include just enough literature to transition from part 1 to part 3 (again, perhaps a page or two).

The design section is the most important for this class. Include the following sub-components:

- A description of the research context;
- Sources of data;
- Sampling procedures;
- Methodology used to answer the research question(s).

The methodology section should include the proposed procedures (t-tests, regression, etc). Include the variables that will be used and how these will be measured. Include a rationale for the use of this particular methodology.