Course Title: Experimental Research and Data Analysis in Doctoral Study

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Students: Michael Sanchez

Course Description: Building on an already approved dissertation proposal, this course will guide doctoral students through the experimental phase of their research. During the semester, the student will work independently on developing skills to acquire proficiency in the use of relevant software or tools for data analysis, e.g., SPSS, R, Python. By semester's end, the student should have collected all data, initiated rigorous analysis, and be prepared to present preliminary findings to the doctoral committee.

Course Objectives:

1. Execution of the research experiment with methodological rigor.
2. Collection of high-quality data.
3. Mastery of analytical techniques appropriate to the research.
4. Development of initial findings and conclusions.
5. Presentation of results to the doctoral committee.

Biweekly Breakdown:

Weeks 1-2: Review of the Approved Proposal and Methodological Refinement

- Activities: Revisit the approved proposal to ensure clarity in execution. Address any last-minute logistical or methodological concerns.
- Deliverable: A refined experimental plan or checklist detailing steps for execution.

Weeks 3-4: Initiation of the Experimental Phase

- Activities: Commence with the data collection process.
- Deliverable: Progress report on data collection, including any encountered challenges and resolutions.

Weeks 5-6: Mid-point Check and Data Quality Assurance

- Activities: Ensure that the data being collected aligns with the study's objectives and maintains the required quality.
- Deliverable: Mid-point data review, ensuring quality and consistency.

Weeks 7-8: Conclusion of Data Collection
- Activities: Wrap up the experimental phase and conclude all data collection processes.
- Deliverable: A complete dataset ready for analysis, along with a brief report on the collection process.

Weeks 9-10: Introduction to Data Analysis
- Readings: Relevant texts and articles on data analysis techniques pertinent to the student’s research.
- Activities: Begin data cleaning, preliminary analyses, and exploratory data analysis.
- Deliverables:
  a) Evidence of proficiency in the use of relevant software or tools for data analysis, e.g., SPSS, R, Python.
  b) Initial findings from the exploratory data analysis.

Weeks 11-12: Deepening Data Analysis and Deriving Insights
- Activities: Delve deeper into data analysis, employing appropriate statistical or qualitative methods.
- Deliverable: Detailed analysis results, including figures, tables, and preliminary conclusions.

Weeks 13-14: Preparing for Presentation to the Committee
- Activities: Synthesizing analysis insights, preparing visual aids, and honing presentation skills.
- Deliverable: A draft presentation of results for the doctoral committee.

Final Week: Submission and Reflection
- Deliverable: Submission of a report detailing the experimental process, data analysis, initial findings, and challenges faced. Additionally, a reflective journal or brief on lessons learned during the experimental phase.

Resources:
1. Primary texts available at UTEP Library
2. Q1 & Q2 journal publications
3. APA Publication Manual
4. College librarian
5. PubMed, Web of Science, EBSCO & Science Direct