Research Design

PSY 3441

Professor Information:

Name: Dr. Nathan Sparkman, Ph.D.

Department: Psychology

Office: ED 215P

Office Phone: 936-468-4402* - email is better

e-mail: sparkmannl@sfasu.edu

Office Hours:

to be announced

If you need an appointment outside office hours, please email me to set up a meeting.

Required Text:

Research Methods for the Behavioral Sciences -- Gravetter and Forzano

Thomson Wadsworth, 5th edition (4th ed is also okay)

Course Description:

Psychology 3441: Research methods, emphasizing use of experimental control and analysis of data for reporting experimental results in the psychological study of human and non-human behavior.

Program Learning Outcomes:

The student will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation

Proficiency Level : Mastery

The student will respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.

Proficiency Level : Mastery
The student will value empirical evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a science.

Proficiency Level : Mastery

**STUDENT LEARNING OUTCOMES**

By the end of this course, students should be able to…

The main goal for this course is for you to become a better consumer of research. You can achieve this goal by mastering the following objectives:

- Develop critical thinking skills.
- Know the differences between scientific and nonscientific explanations of behavior.
- Know the different methods of acquiring knowledge.
- Understand ethics in experimental research.
- Identify independent, dependent, and confounding variables, operationally define them, and place them on their appropriate scale of measurement.
- Distinguish experimental and correlational research and use the appropriate statistical test for each.
- Describe groups using measures of central tendency and variability and interpret group differences in terms of statistical significance.
- Construct and analyze graphs.
- Know the differences between two types of research designs: between-subjects and within-subjects, and to determine the appropriateness of using a particular design.
- Learn how to critically evaluate articles found in scientific journals and mainstream magazines.
- Understand how construct validity, internal validity, external validity, reliability, and reactivity directly speak to the credibility and applicability of findings disseminated through scientific journal articles and popular media.

**Prerequisites:** Psy133 and Psy200, and Psy330, Minimum C in all courses

**COURSE REQUIREMENTS:**

**Grading Policy:**

Final grades for the course are based on the coursework described below. All grades will be posted in the D2L website.

**Evaluation and Grading:**
COURSEWORK PERCENTAGE

3 Unit Tests (67%)
Quizzes (3%)
Completed Research Proposal (10%)
Assignments, Drafts & Lab Reports (20%)

Total 100%

Grading Scale:
A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 0%-59%

Unit Tests: There will be 3 unit tests. Each test is comprised of material from the lectures and assigned readings/media/activities and assignments. Each exam is of equal weight. Exams are timed 75 minutes and student should be well-prepared.

Assignments, Lab Reports, & Presentations: In class and lab assignments will be weighted in accordance with assignment length and required effort. Lab reports may consist of a short APA style report that includes an introduction to the topic (including the hypothesis), a result section with graphs and a short discussion with references.

Research Proposal: Each student over the course of the semester will develop an APA style research proposal. The proposal will focus on designing a study based upon a sufficient review of the literature. Students will formulate a hypothesis and design the study that could test it. Additionally, students will discuss the implications of their anticipated study results; how it extends the literature, potential problems that may arise along with future directions.

Mastery Quizzes: Each unit has a mastery Quiz. These are short, untimed quizzes that you may take twice. You will receive the grade for the higher of your two attempts.

Guidelines for the Course
Late and Make-Up Test/Work Policy

Late work will not be accepted; however, you should talk to the professor regarding any missed work.

If a student misses a test, makeup tests will be scheduled in the event that documentation is provided to the instructor showing that the student was incapacitated during the time in which the test was offered. Students must provide documentation of a University-recognized excused absence to be eligible to take a make-up test. Make-up tests must be completed within a week. In order to do this, the student must contact the instructor, provide documentation of a University-recognized absence, and schedule a time to makeup the test. It is the student’s responsibility to contact the instructor. If a student fails to do so or fails to meet with the instructor in a timely manner (1 week), he/she forfeits his/her opportunity to complete the work and grade of zero will remain in the grade book.

Withheld Grades - Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Academic Integrity (A-9.1)

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. All forms of academic dishonesty will be dealt with seriously and immediately. Please respect SFASU, yourself and me enough not to participate in academic dishonesty.

Definition of Academic Dishonesty

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.
Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

NOTE: ALL WORK IN THE COURSE HAS THE POTENTIAL TO BE ELECTRONICALLY CHECKED FOR PLAGARISM. The check includes all known published works in the public sphere, as well as classmates’ and students’ work at other institutions.

Student Behavior

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Students who do not attend class regularly or who perform poorly on coursework may be referred to the iCare Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Students with Disabilities

These disabilities could consist of physical, psychiatric, and/or learning impairments. To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Financial aid and student class attendance

In compliance with federal regulations governing financial aid, instructors are required to report students who have never attended or participated in class. Attendance can be defined by physical attendance or participation in an academically related activity such as submission of an assignment, examination, or participation in group or online discussion. Instructors may use key assessment points such as projects, papers, discussions, etc. as benchmarks for participation. Students marked as never attended will be dropped from class if they receive financial aid. Federal laws for Financial Aid have dictated that any student who is not attending class will not receive financial aid. In order to comply, any student marked as never attended will be dropped and financial aid altered. Instructors will have to verify enrollment if a student is incorrectly marked as never attended upon request by the student.

Course Schedule and Reading Assignments

PSYC 3441 “Research Design” (4 credits) is a writing-intensive course which is designed to introduce students to research design in psychology by covering the application of research methods emphasizing use of experimental control and analysis
of data for reporting experimental results in the psychological study of human and non-human behavior. The course typically meets 150 minutes a week in two 75-minute segments or three 50-minute segments for 15 weeks, and also meets for a 2-hour final examination period. The course lab typically meets an additional 75 minutes a week in one time segment in which students learn how to design experiments and write in APA style culminating in the development of an original empirical research paper. Students typically have significant weekly reading assignments, writing assignments, are expected to take regular tests, and a final examination. These activities average at a minimum 8 hours of work each week to prepare outside of classroom hours. Online course sections contain extensive written content that includes the same information students in a face-to-face lecture sections receive, requiring students to engage the online modules for at least four hours per week. For every hour a student spends engaging with the online content, he/she spends at least two hours completing associated activities and assessments.

Schedule of topics covered and assignments are listed below. You are expected to have read and be familiar with assigned readings prior to class. Assignments will be made throughout the course and may include inclass activities and homework.

*Note: All dates and assignments are tentative and the professor reserves the right to change them. To stay up to date on topics and due dates you should be checking D2L daily.*

<table>
<thead>
<tr>
<th>Week #</th>
<th>Lecture Topic/Chapter (Research Methods for the Behavioral Sciences -- Gravetter and Forzano)</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Getting Started/Introduction, Acquiring Knowledge, and the Scientific Method.</td>
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<tr>
<td></td>
<td>Read Associated Chapter/Review Online Materials</td>
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<td></td>
<td>Complete Assignments/Discussion/Lab</td>
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<td></td>
<td>Take Mastery Quiz</td>
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<td>2</td>
<td>Research Ideas and Hypotheses</td>
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<tr>
<td></td>
<td>Read Associated Chapter/Review Online Materials</td>
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<tr>
<td></td>
<td>Complete Assignments/Discussion/Lab</td>
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<tr>
<td></td>
<td>Take Mastery Quiz</td>
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<tr>
<td>3</td>
<td>Defining and Measuring Variables</td>
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<tr>
<td></td>
<td>Read Associated Chapter/Review Online Materials</td>
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<tr>
<td></td>
<td>Complete Assignments/Discussion/Lab</td>
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</table>
Take Mastery Quiz

4  Correlations
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

5  Selecting Research Participants
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion
Take Mastery Quiz/Lab

Exam 1

6  The Experimental Research Strategy.
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

7  Factorial Designs

8  Factorial Designs
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

9  Ethics
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz
Experimental Designs: Between-Subjects Designs.
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

Experimental Designs: Within-Subjects Designs.
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

Exam 2
Descriptive Research
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

Research Strategies and Validity
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

The Nonexperimental and Quasi-Experimental Strategies: Nonequivalent Group, Pre-Test
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

Single Subject Design
Read Associated Chapter/Review Online Materials
Complete Assignments/Discussion/Lab
Take Mastery Quiz

COMPLETED RESEARCH PROPOSAL DUE