

## Research Design

Instructor: Dr. Claudia Stanny

Office Hours: Monday & Wednesday 1:30 PM - 3:30 PM  
Tuesday & Thursday 9:30 - 11:30 AM  
Room 214 / Building 41  
Phone: 474 - 3163

e-mail address: cstanny@uwf.edu

Class Meets: 4:00 PM - 5:15 PM Monday & Wednesday  
Room 145 / Bldg 77 (Pensacola)  
Distance Learning Classroom - FWB

### Required Texts:

- Abelson, R. P. (1995). *Statistics as principled argument*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- American Psychological Association. (2001). *Publication Manual of the American Psychological Association (5th ed.)*. Washington, D. C.: Author.
- Booth, W.C., Colomb, G. C., & Williams, J. M. (2003). *The craft of research (2<sup>nd</sup> ed)*. Chicago: University of Chicago Press.
- Bordens, K. S., & Abbott, B. B. (2001). *Research design and methods (5th ed.)*. Boston, MA: McGraw-Hill.

### COURSE PREREQUISITES

Students should complete EXP 3082, EXP 3082L, and STA 2023 or their equivalents before enrolling in this course.

### Course Description and Objectives

This course is designed to give students an understanding of the logical and philosophical foundations of scientific research. Researchers must have a thorough knowledge and understanding of the relevant literature if they hope to frame meaningful research questions. Part of the course will focus on techniques for researching the literature and developing research questions. Particular attention is given to the selection of procedures for obtaining empirical data that provide meaningful answers to research questions and to the relation between experimental design and statistical analysis. Students will learn to design and evaluate empirical research and communicate research methods and results in standard technical format (APA style). A major component of the course is a written research proposal in which the student is expected to demonstrate his or her ability to review the psychological literature, develop a testable research hypothesis, design a sound experiment to test this hypothesis, identify the appropriate statistical analysis for the data this design would generate, and provide an interpretation of results.

### Student Learning Outcomes

Students who successfully complete this course should exhibit competence in the following areas:

Understand the role of scientific methodology as the foundation for our knowledge in

psychology and appreciate psychology as an empirical discipline.  
 Understand and appreciate the value of an empirical approach to addressing psychological questions in both theoretical and applied domains.

Appreciate the relation between sound methodology and the ability to obtain unambiguous answers to research questions.

Conduct data base searches of the psychological literature to identify resources relevant to a research question.

Evaluate the theoretical and scientific merit of published research and the relevance of work to a particular research question.

Describe, understand, and apply methods for making objective, reliable and valid observations and measurements in psychology.

Recognize and understand how to address ethical dilemmas that arise in the conduct of scientific research and publication.

Demonstrate knowledge and understanding of the methodological tools available for designing empirical research in psychology, including factorial laboratory designs, survey and correlational research, quasi-experimental designs, and small-n designs.

Understand the use of inferential statistics to make decisions about research questions based on empirical evidence.

Write a research proposal that identifies a substantive and testable research question that is meaningfully related to a body of knowledge in psychology, provides a suitable rationale for the importance of such a study, and describes the appropriate statistical analysis for data generated by such a study. (Students may use this proposal as the basis for their thesis research project.)

Write a research proposal that correctly follows the technical style of the American Psychological Association.

**Exams and Grading**

Letter grades will be assigned as follows:

93% or better	A	77% to 79%	C +
90% to 92%	A -	73% to 76%	C
87% to 89%	B +	70% to 72%	C -
83% to 86%	B	60% to 69%	D
80% to 82%	B -	50% or less	F

Final grades will be based on a combination of exams, a major written paper (the research proposal), and class assignments. Course work will be weighted as follows:

Exams (3)	20% each
Written Research Proposal	20%
Assignments	20%

## UNIVERSITY POLICY ON ACADEMIC CONDUCT

Honesty in our academic work is vital, and we will not knowingly act in ways which erode that integrity. Accordingly, we pledge not to cheat, nor to tolerate cheating, nor to plagiarize the work of others. (UWF Student Handbook, page 46)

Academic dishonesty is a serious offense and will be taken seriously. Please refer to the UWF Student Handbook (page 48) for information about procedures that will be followed with cases of academic dishonesty.

## ASSISTANCE FOR STUDENTS WITH SPECIAL NEEDS

Students with special needs who require specific accommodations for examinations or other course activities should contact Barbara Fitzpatrick, Director of Disabled Student Services (DSS) (e-mail: [dss@uwf.edu](mailto:dss@uwf.edu), telephone: 474-2387). DSS will provide the student with a letter for the instructor that will specify recommended accommodations.

## Assignments

Assignments are designed to assist students understand the research process and develop their research proposals. These assignments are described below. Due dates for each assignment are given in the schedule of lectures and readings. Assignments *must* be turned in on time. Late assignments will be penalized (2 points per calendar day for assignments; 5 points per calendar day for the research proposal).

1. **Library Research Assignment.** (30 points)
  - a. **Brief statement of the topic area for your research proposal.** Describe the general area of interest that you will address when you develop your research proposal. If your topic area requires a specialized subject population, describe this population and discuss how these individuals would be accessed for research. (one or two paragraphs). (5 points)
  - b. **Search Strategies**
    - (1) **Identify 5-6 keywords and subject terms** (from the *Thesaurus of Psychological Index Terms*) that could be used to construct searches of electronic data bases. (3 points)
    - (2) **Indicate how many hits combinations of these terms produced when you conducted your searches.** You should search for additional terms or refine your search strategy if your searches produces too few or too many hits. (3 points)
  - c. **Annotated Bibliography**
    - (1) **Identify one current review article on your topic area (within the last 5 years).** (3 points)
    - (2) **Identify one article that discusses methodological issues related to research in your topic area.** This article might address a measurement issue related to your topic (e.g., information about the reliability and validity of a test instrument, presentation of normative data for stimulus materials), a discussion of special design problems encountered in your research area and how to address these problems, or a discussion of statistical techniques for analyzing the type of data generated). *Psychological Bulletin* frequently publishes articles that are methodological critiques of research methods currently in use for a topic area. *Psychological Methods* publishes articles on statistical procedures for data analysis. (3 points)
    - (3) **At least 10 scholarly sources that you believe will be useful for your proposal.** These are intended as “starter” sources for your reading. You will be expected to consult additional sources discovered as you learn more about your topic. A typical literature at the graduate level will cite 15-30 scholarly works. Provide the full citation using correct APA style and give a brief annotation

about the content: identify the problem studied, the variables manipulated and measured, a brief summary of the findings, and why you think this article is relevant to your topic. (10 points)

- (4) **3 “near misses.”** These are sources that look promising when they show up in a data base search but are found to not actually be suitable as sources for your proposal. Provide the full citation using correct APA style and explain why you thought the article might have been useful and why you decided it was not. (3 points)

The bibliography should be prepared using APA format for citations.

2. ***Integrative Journal Summary.*** (25 points)

Select two related articles that report empirical findings from your annotated bibliography. Write a 2-3 page paper based on these two articles in which you do the following:

- Identify the research problem that the two studies addressed. (Related articles will address similar research questions.) (5 points)
- Give a brief summary of how each study approached the research problem, including a discussion of how the authors manipulated variables to create a meaningful comparison to answer the research question, the dependent measures used, and the important findings were used to support the answer they provide for the research question. (10 points)
- Describe how the two studies are related. Studies might be related in a variety of ways. For example, one study might support the findings of the first study and show how they might be extended to a new domain. Or one study might identify a problem in the way the first study was carried out and provide evidence that different outcomes and conclusions emerge when different procedures are used. (5 points)
- Evaluate the relative merits of the two studies and suggest how the combined findings should be interpreted. Support your assertions. (3 points)
- Provide the full APA citation for the articles using correct APA format in a Reference section. (2 points)

**Attach photocopies of the articles summarized (these will be returned).**

Journal Reaction Papers should be typed and should be approximately 2-3 pages in length. Summaries must only follow APA format for citation of references and use of language. Other APA guidelines are not relevant for these summaries.

3. ***Draft of Introduction for Peer Review.*** (5 points; graded S/U).

Prepare a draft of your introduction. Bring **two copies** of this draft to class. Refer to the *Guidelines for Authors of Research Proposals, Prospectuses, Theses, and Research Reports* for guidance on the content of the introduction. I will review one copy and the second copy will be read by another student.

4. ***Peer Review Feedback for the Introduction.*** (10 points)

Each student will be asked to critique the draft introduction of a fellow student. Make 2 copies of your review. One will be given to the student and I will receive the other. Reviews will be graded for the usefulness and relevance of the comments made.

- Has the author meet the goals described in the *Guidelines* for an Introduction? Special attention should be paid to the completeness (breadth and depth) of the literature reviewed, presentation of a clear rationale for the importance of a problem and the likelihood that the author can generate data that will address this problem in a meaningful way. Since there will be no method section presented, peer reviewers should ask whether the author’s review and rationale suggest a meaningful research project that will help answer the questions posed.
- All assertions (except those involving the most basic psychological phenomena) should be supported by data presented in a primary resource and this source should be cited appropriately. Have assertions been supported by citations from the literature?

- c. Comment on the author's use of language. Note any errors in grammar or spelling. Indicate passages that are unclear or difficult to follow.
5. **Draft of Methods** for proposed research, with a brief statement of the problem. (5 points)  
This assignment should follow APA guidelines. It should include the following components:
- a *brief* overview of the research problem (one paragraph)
  - Participants
  - Design
  - Procedures
  - Apparatus and Materials
  - Statistical Analysis Proposed (Results)
- Attach a copy of an **Informed Consent Form** for subjects for your project.
6. **Draft of Research Proposal for Peer Review.** (5 points; graded S/U)  
Bring **two** copies of your proposal to class. These copies will be given to two other students for peer review. You will receive copies of proposals written by two other students to review.
7. **Peer Review feedback for two Research Proposals.** (10 points per review)  
See guidelines for peer reviews (above).

Meeting deadlines for timely peer reviews is critically important. You *must* submit your proposal for peer review on the date indicated so that peer reviewers will have adequate time to do their reviews. In addition, your peer reviews must be completed and returned by the deadline so that fellow students will have time to revise their manuscripts.

Total points for assignments: 100

## Research Proposal

A substantial part of your grade in this course is determined by the written research proposal. It is critical that you get an early start on this project. It is important that you begin thinking of a topic for your research proposal immediately and begin work on the literature review as soon as possible. A separate handout discusses this paper.

Many students use this course as a mechanism to assist them in the development of their thesis research. If you are planning to do a thesis (a good strategy if you are interested in Ph.D. programs), the research proposal is an excellent opportunity to review the literature and develop a thesis study. You may review past theses done for the psychology department for ideas for your research proposal. Copies of these are kept on file in the main office.

### Use of Research Proposal to Satisfy Objective #1 for Internships

The following information is taken from the guidelines for internship presented in the Psychology Student Handbook:

**OBJECTIVE #1:** *Student must demonstrate abilities to conduct a thorough literature review that includes a critique of extant studies for a particular psychological topic; to design an empirical investigation of the topic which includes testable hypotheses; to prepare and discuss a plan for data analysis; and, to prepare this proposal in a manner that conforms to the APA style manual.*

**Mechanism for Achieving Objective:** *Achievement of this objective begins when the student enrolls in Research Design (PSY 6217). The student must successfully complete Research Design with a grade of B or better on the research proposal. Subsequently, the student must present this proposal to his/her internship committee (along with any other*

*evidence of research competency). The internship committee will either (a) accept the original research proposal as is or (b) require revisions of the proposal to include research evidence that was overlooked during the original literature review. The internship committee may accept this paper any time following completion of the Research Design course.*

*Students who do not complete Research Design with a grade of B or better on the research proposal must work with their internship committee either to revise the original research proposal or to prepare an entirely new research proposal, which the internship committee judges to merit a grade of B or better. (Psychology Student Handbook (1993-1994), p. 30)*

**Research Design - Lecture Topics, Readings, and Assignments**

<b>Dates</b>	<b>Lecture Topics, Readings, and Assignments</b>
Aug 23	Overview and Course Mechanics: Discuss research proposal and course assignments Developing Research Ideas
Aug 25	Explaining Behavior: Scientific Approaches to Explanation & Understanding Brainstorming exercise for research proposal topics <b>Reading: Bordens &amp; Abbott (B&amp;A), Chapter 1 Booth, Colomb, &amp; Williams (BC&amp;W), Chapters 1-6</b>
Aug 30	LIBRARY ORIENTATION AND WORKSHOP Searching the Scientific Literature, Reading & Writing Research Reports <b>Reading: B&amp;A, Chapters 3 &amp; 15; BC&amp;W Chapters 7 - 11</b>
Sept 1	Philosophy of Science <b>Reading: B&amp;A, Chapter 2</b>
<b>Sept 6</b>	<b>Labor Day - classes cancelled</b>
Sept 8	Philosophy of Science (cont)
Sept 13 & 15	Overview of Design: Choosing a Design <b>Reading: B&amp;A, Chapter 4; Abelson, Chapter 9</b>
Sept 20 & 21	Observation and Measurement <b>Reading: B&amp;A, Chapter 5</b>
Sept 27 & 29	Selection of Subjects, Informed Consent, IRBs, and Ethical Issues <b>Reading: B&amp;A, Chapter 6; BC&amp;W, Chapters 12 - 16</b>
<b>Oct 4</b>	<b>EXAM 1</b>
Oct 6, 11, & 13	Experimental Designs <b>Reading: B&amp;A, Chapter 9; Abelson, Chapters 1 &amp; 2</b>
Oct 18 & 20	Non-Experimental Designs <b>Reading: B&amp;A, Chapter 7</b>
Oct 25 & 27	Specialized Designs <b>Reading: B&amp;A, Chapter 10</b>
<b>Nov 1</b>	<b>EXAM 2</b>
Nov 3, 8 - 17	Analysis of Data <b>Reading: B&amp;A, Chapters 12, 13, &amp; 14; Abelson, Chapter 3 - 6</b>
Nov 22 & 24	Survey Research <b>Reading: B&amp;A, Chapter 8</b>
<b>Thanksgiving Holiday: Nov 25-26</b>	
Nov 29	Single-Subject (Small-n) Designs <b>Reading: B&amp;A, Chapter 11</b>
Dec 1	Single-Subject Designs (cont)
Dec 8	<b>EXAM 3 Wednesday, Dec 8 2:00 PM - 4:30 PM (Note change in time!)</b>

<b>Date</b>	<b>Assignment Due Dates</b>
Sept 15	Literature Search Results & Bibliography
Sept 29	Integrative Journal Summary
Oct 20	Draft of Introduction for Peer Review (bring 2 copies: one for your peer reviewer & one for Dr. Stanny)
Oct 27	Peer Reviews of Introduction (bring 2 copies: one for the student and one to turn in to Dr. Stanny)
Nov 3	Draft of Method (one copy only - reviewed by Dr. Stanny)
Nov 17	Draft of Proposal for Peer Review (bring 2 copies to distribute to peer reviewers)
Nov 24	Peer Reviews of Proposal Draft (bring 2 copies of each peer review: one for the student and one to turn in to Dr. Stanny)
Dec 1	Research Proposal