

Scientific Thinking & Methods in Psychology
Psychology 3500
Spring 2009
T 5:15 PM – 7:45 PM

Professor: Dr. Christopher Johnson
Office: Social Sciences 207-D (Snow College Campus)
Office Hours: W 8:00PM – 10:00PM (held online via Blackboard/Wimba)
Phone: (435) 633-3211 (mobile)
Email: christopher.johnson@usu.edu
Contact Policy: I am as accessible to my students as possible through phone, email, and online video chat.

- You may contact me: (a) at any time via email and (b) from 8:00 AM to 10:00 PM Mon. – Fri. by phone.
- Regarding email, I prefer that you contact me at christopher.johnson@usu.edu rather than using the email features in Blackboard. You will receive a more timely response. Begin each email message with a salutation and end with a complimentary closing.
- Additionally, regular weekly chat and video chat sessions are held online via Blackboard/Wimba to clarify any questions that you may have during the semester.
- I encourage you to seek help or bring to my attention any issues that arise during the semester. I am committed to your intellectual development and scholarly success!

GENERAL INFORMATION

Required Reading:

1. Bordens, K. S., & Abbott, B. B. (2008). *Research Design and Methods: A Process Approach* (7th ed.). New York: McGraw-Hill.
ISBN-13: 978-0-07-312906-8
2. Pirsig, R. M. (2008). *Zen and the Art of Motorcycle Maintenance: An Inquiry into Values*. New York: HarperCollins.
ISBN-13: 978-0-06-167373-3
3. American Psychological Association. (2001). *Publication Manual of the American Psychological Association* (5th ed.). Washington, DC: Author.
ISBN-13: 978-1557987914

Additional Readings: Additional readings will be assigned throughout the semester and will be available via Blackboard (<http://bb.usu.edu>).

Course Description & Objectives:

This course will cover the theory, terminology, concepts, and methods used to conduct research in psychology. Students will learn (a) how to conduct research, including how to plan research studies, (b) various research designs and techniques, (c) and how to search and interpret research literature. Special emphasis will be placed on interpretation and consumption of data and research findings. We will examine the basic concepts of scientific thinking and the methods researchers use in psychology.

I have set the following primary objectives for you this semester:

1. Gain a working knowledge of research design and methods used in the social and behavioral sciences
2. Understand how psychology is a ***scientific*** approach to exploring the many facets of human thought, behavior, and social interactions
3. Be able to distinguish scientific claims from pseudoscientific claims
4. Develop critical thinking skills that enable responsible evaluation of scientific results
5. Become familiar with the specific aspects of the approaches and techniques that psychologists use in the conduct of research
6. Gain a working vocabulary and understanding of the key concepts important to understanding psychological research methods
7. Develop a proficiency in working with computerized databases to identify scientific articles and reports
8. Become familiar with writing and reporting psychological research and write an APA-style research proposal

COURSE REQUIREMENTS

Your grade for this course will be calculated from several areas, as detailed below. Your final evaluation will be comprised of exams (contributing 35% to your final grade), a proposal project (contributing 35% to your final grade), and quizzes/assignments (contributing 30% to your final grade). Final grades will be determined by the number of points earned during the course and assigned a letter grade according to the scale shown in the table.

Percentage	Grade
94 - 100	A
90 - 93.99	A-
87 - 89.99	B+
83 - 86.99	B
80 - 82.99	B-
77 - 79.99	C+
73 - 76.99	C
70 - 72.99	C-
67 - 69.99	D+

1. EXAMS (35%):

One pretest (5%) and two exams (30%) will be given throughout the semester. Make-up exams will NOT be given unless arrangements are made in advance. Your total exam average counts towards 35% of your final course grade. Exams are based on material from your readings as well as lecture material. My lectures draw from various resources and may only partially overlap with the book. ANY material that is covered in lecture or class discussion may be on the exams. Thus, attending lecture is HIGHLY recommended. Exam items may be multiple-choice, matching, fill-in-the-blank, short answer, or essay.

Exams will be administered outside of regular class time. Exams will be completed online via Blackboard and therefore can be taken at your convenience. In most cases, you will have 90 minutes to complete each exam once you have begun.

PRETEST: You are required to take a pretest for this class during the first week of classes. You will NOT be penalized in any way for having a low score or a high score. You will receive credit equating to 5% of your grade just for taking the exam, no matter what your score. Do the best that you can—you are not expected to know everything covered on the pretest. Your grade will NOT be affected in any way by the difference between the pretest and the other exams.

2. PROPOSAL PROJECT (35%):

You will be required to write an APA-style research proposal. The proposal project is designed to increase your knowledge in research methods and scientific thinking as well as to provide experience applying that knowledge. Various portions of the project will be due throughout the semester—it is critical that you do not fall behind in order to succeed. **Assignments turned in after the due date will not be accepted and will not receive credit.** Please turn your work in on time. Requirements and details for the proposal project are described in the last section of the syllabus.

3. QUIZZES (30%)

Typically, quizzes will cover readings from Pirsig's book as well as any additional assigned readings or course material, including class discussion. I will drop your lowest quiz score and therefore no make-up quizzes will be offered. Quizzes will be "pop" quizzes in the sense that they will not be scheduled on the syllabus. You will be notified of quizzes by in-class announcements and/or announcements posted on Blackboard. You will take the quizzes online via Blackboard outside of class time.

4. EXTRA CREDIT:

Extra credit assignments will NOT be given under any circumstance. However, I may occasionally include bonus questions on your exams or quizzes that will count as “extra credit” on that score.

5. CLASS ATTENDANCE POLICY:

Class will start promptly each day, barring any unforeseen and/or uncontrollable circumstance. I do not have an attendance policy (i.e., you will NOT get points “just for showing up”) for this course. However, I will take roll. Additionally, you will not do well if you miss class regularly. **This course is an INTERACTIVE course, not an online course.** Therefore, attending lectures/discussions is expected. If excessive absences (including arriving late or leaving early) become a problem, I will first notify you so that you may make the appropriate efforts to attend class. If absenteeism remains a problem, I may refer you to the USU Administration or drop you from the course according to any existing USU policy.

Should circumstances result in your missing a class, it is YOUR responsibility to obtain information presented or materials distributed while you were absent. This is particularly important because lecture material will come from sources other than your textbook. Although I do not share my personal lecture notes or PowerPoint files, I am available to discuss any borrowed notes obtained from classmates that you may not fully understand.

TIPS FOR SUCCESS IN THIS COURSE

1. Read BEFORE coming to class. This will improve your exam average as well as prepare you for intelligent class discussions. You will be called upon to participate during class.
2. Attend lecture and be punctual. Missing lectures and/or being late will disturb the instructor and your classmates. Please arrive on time.
3. Ask questions. This is an interactive course. Student participation is highly encouraged. Don't be afraid to ask questions where you need clarification or don't understand something.
4. Get to know your classmates. This will improve your learning as you discuss the material/course. Your classmates are also a good resource for getting lecture notes should you miss a class.
5. Stay up to date. Come to class prepared for discussion every day.
6. Study several times per week rather than cramming the night before an exam.
7. See the instructor should you have problems with the course or need special accommodations.

MISCELLANEOUS

1. Please be courteous to your classmates and the instructor by TURNING OFF ALL CELL PHONES AND PAGERS before coming to class.
2. Any instances of academic dishonesty are taken seriously. By participating in this course, you agree to abide by USU's Honor System and Honor Pledge as outlined in the Student Code (<http://www.usu.edu/student-services/pdf/StudentCode.pdf>).
3. In coordination with the Disability Resource Center, reasonable accommodation will be provided for qualified students with disabilities. Please contact the instructor during the first week of class to make arrangements.
4. You will work hard in this course, but you will also learn a lot!

COURSE SCHEDULE

The following is a **tentative** schedule for the course. **The schedule may change.** Because success in this class is partially dependent upon informed class discussion, it is critical to remain up to date with the reading.

Week	Date	Lecture Topic/**Exams	Reading	Project
1	January 6, 2009	**Pretest (completed on or before Jan. 12) Course Introduction	--	
2	January 13, 2009	Explaining Behavior	Ch.1, <i>Zen</i> - Part I	
3	January 20, 2009	Developing and Evaluating Theories	Ch. 2, <i>Zen</i> - Part II	Assignment 1 Due by Midnight, Fri. Jan. 23
4	January 27, 2009	Developing Research Ideas	Ch. 3, <i>Zen</i> - Part III	
5	February 3, 2009	Making Systematic Observations	Ch. 5, <i>Zen</i> - Part IV	Assignment 2 Due by Midnight, Fri. Feb. 6
6	February 10, 2009	APA Style - Introduction/Literature Review	Ch. 16, APA Chs. 2-5	
7	February 17, 2009	NO CLASS - due to President's Day	--	
8	February 24, 2009	Choosing Research Participants	Ch. 6	Assignment 3 Due by Midnight, Fri. Feb. 27
9	March 3, 2009	**Exam 1 (completed on or before Mar. 9) Choosing a Research Design	Ch. 4	
10	March 10, 2009	NO CLASS - SPRING BREAK	--	
11	March 17, 2009	Nonexperimental Research	Ch. 8.	Assignment 4 Due by Midnight, Fri. Mar. 20
12	March 24, 2009	Survey Research	Ch. 9	
13	March 31, 2009	APA Style - Methods Section	Ch. 16 APA Chs. 2-5	
14	April 7, 2009	Between- and Within-Subjects Designs	Ch. 10	
15	April 14, 2009	Specialized Research Designs	Ch. 11	Assignment 5 Due by Midnight, Fri. Apr. 17
16	April 21, 2009	Ethical Issues in Research	Ch. 7	
Finals Week	April 28, 2009	**Exam 2 (completed before or during regular class time)		Assignment 6 Due by Midnight, Tue. Apr. 28

PROPOSAL PROJECT ASSIGNMENTS

The proposal project is worth 300 points (weighted to represent 35% of your final grade). The project will include a variety of tasks, each evaluated as the semester progresses. NOTE: Do not fall behind on the assignments. It is very difficult to succeed in this portion of the class if you do not stay up to date.

Project Assignment #1: Research Question. For this assignment, an individual student-instructor meeting and a document—submitted via email—are required. The objective of the meeting is to provide guidance to students during the formative stages of their project, and to evaluate progress. Prior to the meeting, students are required to provide a single-page document that includes (a) specification and brief discussion of the research question under consideration, and (b) a list of 5 relevant sources. Searching the literature and identifying sources is covered in Bordens and Abbott (Ch 3) and will also be covered in class. The final, submitted, document should be a revision of the meeting-document.

- *Meeting:* By appointment, anytime prior 1/23.
- *Document Due:* Midnight, 1/23; submitted via email.
- *Evaluation:* 20 points. 10 points for meeting preparedness, 10 points for quality of submitted document.

Project Assignment #2: Review the Literature. An outline of the literature review, plus 10 relevant sources from the scientific literature are required for project assignment #2. Searching the literature is covered in Bordens and Abbott (Ch 3). Each source must be from a primary source, data-based, and from an academic journal.

- *Due:* Midnight, 2/06; submitted via Blackboard.
- *Evaluation:* 35 points, based on completeness and quality.

Project Assignment #3: Literature Review. For Project Assignment #3, students are to write an introduction/literature review to their proposed study. The purpose of an introduction of a study is to justify the study that will be proposed. The 3,000 word (just over 10 full pages: 12 pt Times New Roman, 1" Margins) review and synthesis of the literature on the research question will include an integration of at least 15 sources from the psychological literature. Each source must be a primary source, data-based, and from an academic journal. Writing a literature review is covered in Bordens and Abbott (Ch 16, pages 488-495, 516-523), the Publication Manual of the American Psychological Association (15-17, chapters 3-5), and will also be covered in class.

- *Due Date:* Midnight, 2/27; submitted via email.
- *Evaluation:* 100 points, based on project rubric.

Project Assignment #4: Peer Feedback. For Project Assignment #4, students are to provide (and receive) feedback for a peer: the drafts submitted for Project Assignment #3 will be “shuffled” and redistributed to classmates for peer-feedback. How to provide this feedback will be covered in class.

- *Due Date:* 3/20; submitted via email.
- *Evaluation:* 35 points, based on quality of the feedback provided to peer.

Project Assignment #5: Method Section. Much of the course is dedicated to this process and students will need to make specific decisions regarding their study strategy and design before proceeding to the next step. For Project Assignment #6, students will write an APA-Style methods section; a ‘how to’ class session will be devoted to the topic. Students will email a draft methods section prior to the second formal student-instructor project meeting. Students should be prepared to talk about a research strategy and design.

- *Meeting:* By appointment, anytime prior 4/17.
- *Due:* Midnight, 4/17; submitted via email.
- *Evaluation:* 50 points, 10 for meeting attendance and preparedness, 40 for quality of method and quality of written document.

Project Assignment #6: Final Submission. Students will submit an electronic version of their final proposal project. Final submissions will include: a title page, an introduction, a methods section, a references page, and should incorporate feedback from previous drafts of all assignments.

- *Due:* Midnight, 4/28; submitted via email.
- *Evaluation:* 60 points, evaluated based on project rubric.

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	Does Not Meet Expectations "D" Level	Meets Expectations "C"/"B" Level	Exceeds Expectations "A" Level
Reasoning/Organization	<ol style="list-style-type: none"> 1. Incoherent organization fails to lead the reader to the intended conclusions. Poor or nonexistent transitions. 2. Inferences are unsupported by evidence. 3. Ideas are presented without attention to synthesis. 	<ol style="list-style-type: none"> 1. Logical, orderly presentation is apparent; generally good although obvious organization. Good transitions 2. Inferences are supported by evidence. 3. Effort is made to synthesize ideas from different sources. 	<ol style="list-style-type: none"> 1. The writing is logical, orderly, internally consistent, and well developed. Elegant. 2. Inferences are well supported by evidence. 3. Ideas are well synthesized, following an established outline.
Content/Focus	<ol style="list-style-type: none"> 1. Unclear main idea or main idea is too broad. 2. No evidence of purpose or direction. 3. Major gaps in coverage of literature 	<ol style="list-style-type: none"> 1. Clear or clearly implicit main idea and partially limited topic. 2. Purpose and direction discernible. 3. Good coverage of literature; few gaps. 	<ol style="list-style-type: none"> 1. Very clear and effectively limited and manageable topic. 2. Clear purpose and direction. 3. No gaps in coverage of the literature.
Communication	<ol style="list-style-type: none"> 1. Word choice is inappropriate to the intended audience. Causal or colloquial tone. 2. Writing is choppy, with many awkward passages. 3. Heavy reliance on quotations or paraphrasing. 4. Error of grammar and spelling substantially detract from the communication. 	<ol style="list-style-type: none"> 1. Word choice is acceptable for the intended audience. Generally formal in tone. 2. Sentences and paragraphs relate to each other, though connections are occasionally mechanical or choppy. 3. Original writing supported with occasional quotations, paraphrasing. 4. Errors of grammar and spelling are minimal and do not detract from the communication. 	<ol style="list-style-type: none"> 1. Word choice is particularly well matched to the intended audience. 2. Writing "flows" and easy to follow. 3. Limited quotations and paraphrasing well integrated with original writing. 4. The document is free of grammar and spelling errors.
APA Style	<ol style="list-style-type: none"> 1. Several features of APA style are ignored. 	<ol style="list-style-type: none"> 1. Few errors in APA style; most are inconsequential. 	<ol style="list-style-type: none"> 1. APA style is employed perfectly.
References	<ol style="list-style-type: none"> 1. Inappropriate references and/or fewer than 15 sources. 2. Many errors in the form of citations in either the body or the reference section. 3. Many references that appear in the body are not cited in the reference section and vice versa. 	<ol style="list-style-type: none"> 1. Citations are appropriate, although not ideally matched to the content of the paper; 15 sources. 2. A few incorrect citations are noted in either the body or the reference section. 3. A few citations in the body do not match those in the reference section. 	<ol style="list-style-type: none"> 1. Citations appropriate to the content of the paper in breadth, depth, and currency. Many more than minimum number of sources. 2. Citations are correctly cited in both the body and the reference section. 3. Citations match in the body and in the reference section.