



# PSY 3500: Scientific Thinking & Methods in Psychology Syllabus



Offered on Tuesdays & Thursdays at 10:30am - 11:45 am in ENLAB 250

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Office Hours:	Mondays: 11:30-1:30 & Thursdays: 11:45-1

**Course Description.** This course provides an introduction to research methods and scientific thinking. Students will learn to understand, analyze, and evaluate existing behavioral research. Content includes: defining and measuring variables; selecting research participants; experimental, quasi-experimental and non-experimental research designs, and conducting ethical research. Prerequisites: PSY 1010 and PSY 2800.

**Course Objectives.** There are several objectives for this course; all class activities, examinations and assignments are designed to help students achieve these objectives. Some objectives relate to the material in the text and class lectures while others relate to students' ability to think like psychologists. Course-level objectives, however, are included herein. By the end of the course, students should have made progress on their abilities to:

- \* Understand and apply the fundamentals of the scientific research process and research methods in order to produce a research proposal that is methodologically and logically sound.
- \* Understand, analyze and evaluate existing behavioral research from a research-methods perspective. In order to accomplish this goal students will learn about: defining and measuring variables; selecting research participants; experimental (including between- and within-subjects designs; factorial designs), quasi-experimental and non-experimental (including descriptive and correlation designs) research methods, and; conducting ethical research and evaluating the research of others in terms of ethics.
- \* Develop written and oral presentation skills necessary for a career in the profession of psychology.

**Student Responsibilities.** This upper division course requires extensive writing, reading, and research. Students should plan on committing at least 8-10 hours per week to completing the coursework. Assignments are spread out throughout the semester to build up writing and thinking skills. Some of these assignments will be "low-stakes" writing assignments while others will be "high-stakes" writing assignments. These differ not by quality or quantity but by the intensity of the process. Low stakes writing assignments will include things like 5-minute writings at the beginning of each class, where as high stakes writings will include things like the introduction rough draft. See the assignments below for more details. Students should plan on being prompt for each class with all of the required materials. Additionally, students that do well in this course submit their assignments on time. Missing one deadline increases the pressure to complete subsequent assignments.

**Texts and Required Materials.** *Research Design and Methods: A Process Approach (7th edition)* by Kenneth Bordens and Bruce Abbott, is required for this course. Note that a thorough understanding of the material in the textbook is essential for a high grade in this course. Students will not be able to obtain this from a superficial reading of the chapters, nor from lectures alone. Class sessions will typically *not* be a complete review of the textbook pages assigned, rather, will be used to examine selected topics in depth, to try demonstrations, and to discuss important issues. The *Publication Manual of the American Psychological Association, 5<sup>th</sup> Edition* is also required for this course, as students should refer to it extensively when writing their proposal project. Each student will also need to purchase 4 blue books: 3 for exams and 1 for the in class writing assignments.

**Blackboard Vista.** This course will make extensive use of Blackboard Vista (located under the Campus Technology heading in the Current Students menu of the USU home page). If you are registered for the course, you will be automatically registered for the course's Blackboard Vista resources.

**Make-Up Exams & Missed Deadlines.** In the event of a University-approved absence or a medical problem please see the instructor to discuss making up a missed exam or project deadline. In general, advance notice and/or *appropriate documentation* (e.g. written notification from a treatment provider) will be required to schedule a make-up exam, quiz or project deadline. The standard penalty for late work is 10% per 24 hours. There are no make-ups for missed 5-minute writings.

**Grading & Evaluation.** Extra-credit opportunities will not be provided. Grades will be assigned as follows: A: 930 - 1,000, A-: 900 - 929, B+: 870 - 899, B: 830 - 869, B-: 800 - 829, C+: 770 - 799, C: 730 - 769, C-: 700 - 729, D+: 670 - 699, D:

600 - 669, F: 0 - 599. A distribution of possible points follows:

<i>Evaluation Activity</i>	<i>Possible Points</i>	<i>% of Grade</i>
5-minute writings	100	10%
Exam 1	150	15%
Exam 2	200	20%
Final Exam	250	25%
Proposal Project	300	30%
<b>Total</b>	<b>1000</b>	<b>100%</b>

*5-minute Writings.* At the start of each class (10:30am) students will complete a 5-minute writing assignment in response to a question about the reading material assigned for that class. There will be 21 5-minute writings and each will be worth 5 points. The lowest score will be dropped. If you are late to class or miss a class THERE ARE NO MAKEUPS. So use your dropped score wisely. These writings will account for 10% of your total grade.

*Exams.* There will be three exams: These exams will constitute 60% of students' final grades. Exams will not be graded "on a curve." Students will be responsible for learning material presented in the text as well as in the lectures—material that is covered in both text and lectures will be emphasized. All three exams will be cumulative and comprehensive (as is the nature of the material). Students will be given a study guide with the universe of possible questions approximately 1 week prior to each exam.

***Proposal Project.*** Students will have an opportunity to generate and develop a research question, review the relevant literature, and design a study to address their research question. The proposal project is worth 300 points (30% of the overall grade).

A break-down of points for the project follows:

<i>Task</i>	<i>Points</i>
Introduction Outline	10
Project Meeting	20
Introduction	20
Peer Feedback	20
Revised Intro	50
Methods Section	20
Final Paper	130
Conference	30

**Proposal Project Tasks.** The proposal project will include a variety of activities, feedback-loops, and stages of evaluation. It is difficult to succeed on the proposal project if students do not ‘keep up.’ A description of each milestone follows:

- **Introduction Outline:** Each student will submit an outline of logically linked statements in his or her own words that lead to a proposed research question. Each statement will be supported by at least one academic peer-reviewed journal citation. There is a requirement of at least 10 academic peer-reviewed journal citations overall. Evaluation of each outline will be based on the logical flow from point to point as well as the content and focus of the proposed outline.
- **Project Meeting:** The 15-min project meeting is an opportunity for each student to arrange a consultation with the instructor regarding his or her proposal. Students will contact the instructor and arrange the meeting in advance. Project meetings cannot be scheduled after the deadline has passed. Each student will arrive at the arranged time with the following:
  - Outline of the introduction
  - List of 10 primary relevant resources in APA format.
  - Knowledge and preparation about subject area.

Meetings must be canceled and rescheduled 24hrs in advance of the meeting or a score of 0 will be assigned. Late shows will also receive a 0.

- **Introduction:** Students will write an introduction to their proposed study. The purpose of an introduction of a study is to justify the study that will be proposed. The 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 from a primary source, data-based, and from a peer-reviewed academic journal. The full-length introduction must be at least 10 pages in length and will adhere to APA guidelines (Chapter 15 of the text and in the APA manual). The complete submission will include a title page, introduction, and reference section. Students must submit this assignment in both electronic and hard copy forms by 10:30 am on the due date.
- **Peer Feedback:** The hardcopy drafts of the introduction will be “shuffled” and redistributed to classmates for peer-feedback. How to provide this feedback will be covered in class. The draft with peer feedback is due back by 10:30 am on the due date.
- **Revised Introduction:** Students will address the comments made by the peer-reviewer as well as make additional improvement to the introduction. A complete submission will include the original copy, peer-review, and revised copy of the introduction. Students must submit this assignment in both electronic and hard copy forms by 10:30 am on the due date.
- **Methods Section:** The purpose of this activity is to discuss the research strategy and experimental design of the proposed project. Students will bring a one-page document to class that includes:
  - Participants
    - Selection strategy
  - Research design
  - Variables
  - Outline of procedure

We will then conduct an in-class activity with this document.

- **Final Proposal Project Submission:** Students will submit electronic and hardcopy versions of their final proposal project by 10:30 on the due date. Final submissions will include: a title page, an introduction, a methods section, a reference section, and (for the hardcopy submission) previous drafts (those with feedback).
- **PSY 3500 Conference:** Students will prepare a presentation with key points from their proposal project. Students will be graded on the quality of their presentation and the style of their delivery.

**Academic Honesty.** Plagiarizing, cheating or violating other reasonable standards of academic behavior will not be tolerated. Any student who engages in academically dishonest behavior will receive an “F” for the course grade. All incidents of cheating will be reported for university-level disciplinary proceedings the results of which can include probation, suspension, expulsion, the assignment of HV (honors violation) to the students permanent transcript, etc (see the Code of Policies and Procedures for Students at Utah State University). Complete definitions are available in the course catalogue; the following are particularly relevant to this course:

\* *Plagiarism:* representing, by paraphrase or direct quotation, the published or unpublished work of another person as one’s own in any academic exercise or activity without full and clear acknowledgment. Plagiarism also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

\* *Cheating:* (a) depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (b) substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work; (c) submitting substantially the same work for credit in more than one class, except with prior approval from the instructor (recycling).

Anti-plagiarism software ([www.mydropbox.com](http://www.mydropbox.com)) will be utilized to screen all submitted work in this course. The software generates reports that: “...identify exactly which sections of text are taken verbatim from Internet sources without proper documentation and points out passages that have been altered. Each plagiarized passage is coded and linked to the Internet source from which it was taken...” In addition, the software examines “Every student-submitted paper is thoroughly matched against his or her institution’s database to prevent peer-to-peer cheating.” Finally, note that “recycling” papers from previous courses or another current course is *expressly prohibited* and will be considered plagiarism.

**Writing Resources.** A variety of writing resources available to students to support their growth as writers. Given the writing-intensive nature of this course, students are encouraged to seek help from multiple sources:

\* *Your Peers!:* You will have several ‘sanctioned’ peer-reviews of your work. However, having a peer (e.g. another students from class, an english major that you know, or a advanced psychology major) review your work is an essential way to become a better writer. I am a proponent of the following rule: “two people besides me read something that I submit for formal evaluation.”

\* *Writing Center:* The Writing Center’s goal is to “help students improve their writing skills while gaining confidence in their ability to successfully communicate their ideas through writing.” The writing center is located in the Ray B. West building, room 104. Fees apply. (435) 797-2712.

\* *APA Publication Manual:* The APA publication manual is another excellent resource for writers. It is an essential reference for writing like a psychologist. It is also serves as our guide to formatting standards.

## Class Schedule

		ACTIVITY		
DATE	DISCUSSION TOPIC	Reading	Exam	Proposal Project
1-6	Introduction	-	-	-
1-8	Explaining Behavior/Writing Skills	Ch.1	-	List of 3 potential topics
1-13			-	-
1-15	Developing research ideas	Ch. 3	-	-
1-20	Library Day	-	-	Library activity
1-22	YETC Lab day	-	-	-
1-27	Choosing a Research Design	Ch. 4	-	-
1-29				Draft Outline Due
2-3	Developing & Evaluating Theories	Ch. 2	-	Outline due/Schedule PM
2-5			-	Project Meetings
2-10	-	Exam 1		
2-12	APA Style/Writing Skills	TBA	-	
2-17	No Class: Monday Schedule			
2-19	Systematic Observations	Ch. 5	-	-
2-24	Writing skills	TBA	-	-
2-26	Choosing Research Participants	Ch. 6	-	-
3-3	Non-experimental research	Ch. 8	-	Introduction Due
3-5				-
3-10	No Class: Spring Break			
3-12				
3-17	Survey Research	Ch.9	-	Peer Feedback Due-
3-19				-
3-24	-	-	Exam 2	-

## Class Schedule (Ctd.)

		ACTIVITY		
DATE	DISCUSSION TOPIC	Reading	Exam	Proposal Project
3-26	APA style/Writing Skills	TBA	-	-Revised Intro Due
3-31	Experimental Research	Ch. 10	-	-
4-2			-	-
4-7	Specialized designs	Ch.11	-	Methods Section Due-
4-9	Single-subject designs	Ch.12	-	-
4-14			-	-
4-16	Ethical Issues	Ch.7	-	-
4-21	Project Presentations	-	-	Final Paper Due
4-23	Project Presentations	-	-	-
4-30	<b>FINAL EXAM 9:30-11:20</b>			

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

"D" Level

"C / B" Level

"A" Level