

PSYCH 302 Section 002—Psychological Research Design and Analysis

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Learning Objectives.

As humans, we are by nature scientists—in our everyday living we constantly observe our environment and make generalizations and predictions based on those observations that will lead to a better, more convenient, more comfortable, more satisfying life. Although our brains come equipped with some fine mechanisms for doing this accurately, there are some significant shortcomings. The purpose of this course is to identify and correct typical biases and misconceptions in standard human reasoning about observation, and replace these instead with the formal practices of careful scientific thinking. Why?

Preparation for advanced study/ careers in science.

In a typical PSYCH 302 course, there are perhaps up to 10% of students who are interested in pursuing either a career or at least further graduate studies in the behavioral sciences. This course is a critical step in that formal training.

Preparation for a lifetime as a “consumer of science.”

The majority of students enrolled in this course, however, are planning for careers outside of science. Nevertheless, all of us will be lifetime consumers of scientific information. We are constantly bombarded with information in the media about outcomes of scientific research. These messages typically urge us to change our behavior, philosophies, attitudes, policies, etc.. Should we believe them? Is the suggested change really worthwhile? This course will help you evaluate these sorts of claims as you encounter them throughout the rest of your lives.

Preparation for a lifetime of “personal science.”

Finally, the formal skills you will gain in this course are designed to help you become better and more efficient participants in the game of life. Throughout life, we must constantly make decisions, being ever confronted with perplexing choices, opportunities, options, crises, and dilemmas. Most such problems can be approached in a careful, scientific manner. It is hoped that this course will give you a repertoire of skills that will help you make optimal decisions in all aspects of your lives.

Achieving and Assessing the Learning Objectives.

There are two primary means we will use to achieve the learning objectives: Knowledge and practice.

Knowledge: This course is content intensive. You will learn a lot of new concepts, presented both in the text book (and supplemental readings) and in classroom lecture and discussion. Both sources are critical. Knowledge mastery will be assessed by typical measures: quizzes, exams, and writing assignments.

Practice: In this course will gain hands-on experience by designing, executing, analyzing, and reporting an original psychological experiment with human subjects. Mastery of this practical experience will be assessed primarily by short writing assignments.

Graded Work

Assessment Tests (6 – each worth 50)	300
Final Exam	120
Article Critique 1	25
Article Critique 2	45
Pre-Proposal (w/4 refs)	20
<i>IRB Proposal</i>	100
Partial Research Paper (Methods and Results)	
Rough Drafts (2 each worth 30)	60
Final Draft	60
<i>Power Point Presentation</i>	100
<u>Peer Ratings/Participation</u>	70
Total	900

*Assignments in italics are graded as a team score. All others are individual scores.

Assignment Descriptions.

Quizzes and Exams. There will be 6 short Assessment Tests (ATs) given during the course. ATs will be given at the beginning of class on the dates listed below. Questions on the ATs will come from topics most recently covered in lectures and the book. For example, AT2 will cover material from where AT1 left off, up until the lecture immediately preceding AT2. The format of the ATs will be in a special *multiple-choice/qualified written answer* format, which I will explain in class. There will also be a final exam given in class on the date indicated and will be the same format as the ATs. The **final exam is comprehensive.**

Article Critiques. These are short written assignments. The first critique is entirely straightforward. You will be assigned a scientific article to read and given a form to fill out in which you will evaluate the report. For the second article critique, you will choose your own topic. There are two parts to this assignment: First, you will need to identify a scientific study reported in the popular media. This media report must include information that identifies the researchers who conducted the study and allows you to locate the original scientific paper that the media report summarizes and interprets. Finally, you must write summary (no more than 1 typed page) in which you describe consistency between the original research report and the interpretation offered in the popular article. Some strategies for writing an effective evaluation will be discussed in class.

Pre-Proposal and IRB proposal. These assignments are too complex to describe here. They will be adequately covered in class time.

Partial Research Paper (Methods and Results Sections). Based on the outcome of your research project, you will gain practice writing the two most technical sections of an APA style scientific report. Your work will be evaluated through a writing cycle consisting of

two drafts and a final draft. A successful final draft should be a straightforward matter of following the comments and suggestions given as feedback on drafts.

Research Groups, Research Presentation, and Peer Ratings. Your research projects will be conducted in teams of 5-6 classmates. During the last two days of class, each research team will present their findings in 15 minute formal presentations. After the final exam, each student will be asked to give a brief evaluation of the performance their teammates. The main concern here is whether there were any gross inequalities in the division of labor. However, **I strongly encourage you to contact me as soon as possible regarding any conflicts or contentions that might arise within teams during the semester.** That is, the goal of teamwork in this course is to learn to *resolve* conflicts quickly and efficiently, rather than relying entirely on peer feedback at the end of the course. Negative feedback should be used only as a last resort.

Grading

Grading will be criterion based, i.e. the A category (A, A-) will be 90% of the total points available, the B category, 80% of the total points, the C category, 70% of the total points, the D category, 60% of the total points, and a score below 60% will earn an E.

Generally, make-up Exams will not be given. If you are ill, you need to notify Dr. Allen by phone mail or E-mail, the morning of the exam. Make-up exams will be given only if you provide a note from a physician or the Health Center.

Disclaimer. Dr. Allen reserves the right to make changes in (a) the course schedule, (b) course requirements, (c) the course grading procedures, and/or any other aspects of the course at any time. Any alterations will be discussed in full during course lecture and blackboard messages.

Plagiarism

Plagiarism, as defined by the BYU Honor Code, is a form of intellectual theft. It is an act of fraud; it is dishonest, deceitful, unethical, and can lead to serious and lasting negative consequences for your academic and professional career. It is an act of plagiarism to "borrow" ideas or quotes from former students' old papers and from the papers of students presently taking the course. Plagiarism also includes quoting or paraphrasing passages from any of your references without giving proper credit to the real authors (i.e., an APA-style citation). Doing so implies that this information came from you.

Presenting the ideas of others as one's own is called plagiarism.

Academic Honesty

While all students sign the honor code, there are still specific skills most students need to master over time in order to correctly cite sources, especially in this new age of the internet; as well as deal with the stress and strain of college life without resorting to cheating. Please know that as your professor I will notice instances of cheating on exams or plagiarizing on papers. See <http://www.byu.edu/honorcode> for specific examples of intentional, inadvertent plagiarism, and fabrication, falsification.

Honor Code

Students are also expected to adhere to the Dress and Grooming Standards. You signified to your Bishop that you would live the Honor Code. To do so is a demonstration of your integrity. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Preventing Sexual Harassment

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education. Title IX covers discrimination in programs, admissions, activities, and student-to-student sexual harassment. BYU's policy against sexual harassment extends not only to employees of the university, but to students as well. If you encounter unlawful sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 422-5895 or 367-5689 (24-hours); or contact the Honor Code Office at 422-2847.

Students with Disabilities

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the Services for Students with Disabilities Office (422-2767). Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. Services are coordinated with the student and instructor by the SSD Office. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

Learning Outcomes

Each program at BYU has developed a set of expected student learning outcomes. These will help you understand the objectives of the curriculum in the program, including this class. To learn the expected student outcomes for the programs in the psychology department and college go to <http://learningoutcomes.byu.edu> and click on the College of Family, Home and Social Sciences and then the psychology department. We welcome feedback on the expected student learning outcomes. Any comments or suggestions you have can be sent to <FHSS@byu.edu>.

Date	Topics, Activities, and Assignments	Required Reading
M 1/5 W 1/7 F 1/9	Class Business Lit Search: Using Data Bases	 SZZ Ch1
M 1/12 W 1/13 F 1/15	The Scientific Method	SZZ Ch2
<i>M 1/19 No Class</i> W 1/21 F 1/23	AT 1 Ethics	SZZ Ch3
M 1/26 W 1/28 F 1/30	Observation	Pre-Proposal Due SZZ Ch4
M 2/2 W 2/4 F 2/6	Survey Research AT 2	SZZ Ch5
M 2/9 W 2/11 F 2/13	Independent Groups Designs	SZZ Ch7 IRB Application Due
<i>M 2/16 No Class</i> W 2/18 F 2/20	Repeated Measures Designs AT 3	SZZ Ch8
M 2/23 W 2/25 F 2/27	Complex Designs	SZZ Ch9 Article Critique 1 Due
M 3/2 W 3/4 F 3/6	Quasi-Experimental Designs	SZZ Ch11
M 3/9 W 3/11 F 3/13	AT4 Data Analysis: Part I	SSZ Ch12
M 3/16 W 3/18 F 3/20	Data Analysis: Part II	SZZ Ch13
M 3/23 W 3/25 F 3/27	Communicating Results AT 5	SZZ Ch14 Draft 1 (Methods and Results)
M 3/30 W 4/1 F 4/3		Article Critique 2 Due
M 4/6 W 4/8 F 4/10	AT 6 Class Presentations	Draft 2 (Methods and Results)
M 4/13 F 4/21	Class Presentations Final Exam 3pm-6pm (in classroom)	

*Schedule very much Subject to Change (with ample notification)