

**Psychology 302**  
**Psychological Research Design and Analysis**  
**Section 001, Winter 2009**  
**341 MARB 10 – 11:15 a.m. MW**

- BYU Motto:** The Glory of God is Intelligence
- Class Mottos:** “Prove all things; hold fast that which is good.”  
 -1 Thessalonians 5:21  
 “For God hath . . . given us the . . . power . . . of a sound mind.”  
 -2 Timothy 1:7
- Class Quotes:** “Unless we learn to think differently, we are doomed to self-extinction.”  
 -A. Einstein  
 “In young scientific fields if you say all the accepted positions are wrong, you’ll seldom be wrong.”  
 -Jeremiah Ostriker, Chair,  
 Astronomy and Astrophysics,  
 Princeton  
 “Anecdotes do not make a science. Ten anecdotes are no better than one, and a hundred anecdotes are no better than ten.”  
 -Frank J. Sulloway, University of  
 California at Berkley
- Professor:** Erin D. Bigler, Ph.D.  
**Office:** 1190D SWKT / 422-4287  
**Office Hours:** Wednesday 11:30am-12:30pm  
**Teaching Assistants:** Thomas Farrer [thomasfarrer@yahoo.com](mailto:thomasfarrer@yahoo.com)  
 1151 SWKT Hours T 10 – 11:30 am  
 Jo Ann Petrie [joann\\_petrie@byu.edu](mailto:joann_petrie@byu.edu)  
 1190H SWKT
- Texts:** **REQUIRED:**  
 Elmes, D.G., Kantowitz, B.H. & Roediger, H.L. (2006) *Research Methods in Psychology (8th Edition)*. Belmont, CA: Thomson/Wadsworth.  
**RECOMMENDED:**  
 1. Chris Koch, Michael D. Hall, (2006). *Study Guide for Elmes, Kantowitz & Roediger’s Research Methods in Psychology (8<sup>th</sup> Edition)*. Belmont, CA: Thomson Wadsworth Corp.  
 2. American Psychological Association (2001) *Publication Manual (5th Edition)*. Washington, D.C.

**COURSE OUTLINE:**

<b>JANUARY</b>	M	5	Intro to Class – In class experiment data acquisition
	W	7	TBA
	M	12	Various class interests/groups/Experiment # 1 data.
	W	14	<b>Lit Research Instruction – HBLL 2233 Instruction Rm 3</b>
	M	19	<b>HOLIDAY- Martin Luther King Day</b>
	W	21	<b>Lit Research Instruction – HBLL 2233 Instruction Rm 3</b>
	M	26	Lab/Finalize group selections
	W	28	TBA
<b>FEBRUARY</b>	M	2	<b>1<sup>ST</sup> JOURNAL ARTICLE CRITIQUE DUE /</b>
	W	6	TBA
	M	9	<b>1<sup>ST</sup> IN-CLASS EXPERIMENT WRITE-UP DUE</b>
	W	11	TBA – Dr. Davies and TA Jo Ann Petrie – Dissertation Research Project
	M	16	<b>HOLIDAY – Presidents’ Day</b>
	T	17	<b>(Mi---Class will be held as if it were Monday-No Tuesday classes)</b> <b>EXAM 1—In Class:</b> Lecture, Part I, and Chapter 13, Appendixes A & B (overview).
	W	18	<b>DISSERTATION RESEARCH PROJECT DUE (see Feb 11 class)</b>
	M	23	<b>2<sup>ND</sup> JOURNAL ARTICLE CRITIQUE DUE</b>
<b>MARCH</b>	W	25	TBA
	M	2	<b>2<sup>ND</sup> IN-CLASS EXPERIMENT WRITE-UP DUE</b>
	W	4	TBA
	M	9	<b>EXAM 2—In class: Lecture and Part II</b>
	W	11	TBA
	M	16	TBA
	W	18	<b>#3 JOURNAL ARTICLE CRITIQUE DUE</b>
	M	23	<b>**Poster Deadline for Fulton Research Conf</b>
	W	25	TBA
	M	30	<b>EXAM 3—In class: Lecture and Part III</b>
<b>APRIL</b>	W	1**	<b>Mary Lou Fulton Research Conf – WSC Ballroom: 9-11:50am, 2-3pm</b>
	M	6	Oral Presentations—Almost finished!
	W	8	Oral Presentations
	M	14	Last Day of Class - Oral Presentations <b>3<sup>RD</sup> EXPERIMENT WRITE-UP DUE (Individual/Group)</b>
	T	21††	FINAL EXAM

**Disclaimer:** *This course outline is subject to change or modification at any time by the instructor.*

**††FINAL EXAM: Tuesday, April 21, 11:00am – 2:00pm– IN CLASSROOM (341 MARB)**

The final exam is comprehensive in the sense that you will be given a contemporary psychological problem and you will design the experiment(s) (including statistics, etc.) to study that problem. Knowledge of all types of experimental designs will be required to successfully answer the questions raised in the final exam. For the final exam you can bring a single sheet with notes (see Exams).

\*\*The College of Family Home and Social Sciences invites undergraduates and graduate students to participate in the annual **Mentored Student Research Conference sponsored by the Mary Lou Fulton Chair**. The annual conference is scheduled for **April 1<sup>st</sup> 2009**. Students from all departments in the college are encouraged to participate. (Students who worked on a mentored research project during the 08 Spring/Summer or 08 Fall semesters are also encouraged to participate.)

The requirement for participation is a mentored research project that culminates into a poster describing the project and its outcomes. The poster is displayed during the all day event, providing a forum for students to present their research.

The application has been updated and improved since last year's conference, after they fill out the application they can return to upload their poster. The poster deadline is **March 23, 2009**. This is the last day students may upload their posters. The College will print and pay for all of the posters and bring them to the WSC Ballroom. In order to finish on time this deadline will not be extended.

Applicants may also be invited to attend the annual conference lunch, where students have the special opportunity to hear from guest speakers. A committee comprised of representatives from the college will select a first, second and third place cash prize. If you have questions about mentored learning or the conference, see the Frequently Asked Questions page. <http://fultonchair.byu.edu/Conferece.dhtml>

**Exams:** Exams will be approximately 75% objective (multiple choice, short answer, true/false, fill-in-the-blank) and 25% essay. The final exam will be comprehensive and essay in nature. You will be permitted to bring in to the final one 8 1/2 X 11 sheet of paper with formulas, etc. (only one sheet - however, both sides can be used).

**Journal critiques:** 1<sup>st</sup> one will be assigned. This is to be a two-page critique (no more than 2 pages – you will be docked a full grade if you hand in more than the two pages) of a scientific psychology journal article is due on the dates listed. All 3 articles will be assigned and available through the Harold B Lee Library on-line—you will be given the particulars of the article and then you will need to track it down for your use in the critique. Follow the handout at the end of the syllabus for the style you should use for writing this critique. Note: critiques do not have to be negative – remember that you are to follow the guidelines that are attached.

**Experiments:** The first two experiments will be done in class. All class members will write up the same experiment although you will have some flexibility of what data to analyze and how to analyze it. The individual student will be responsible for the Title Page, Abstract, Introduction and Discussion, Acknowledgments, and Reference sections. The Methods section and Results section may be a group effort. In addition, you will need to write up a third paper that represents separate group experiment using data selected from in-class experiments or from another research topic of interest. If you select an out-of-class project, these research topics require previous approval from Dr. Bigler and the appropriate research review committees (i.e., IRB approval). This write-up is due the last day of class--**no exceptions**. You will be organized into small groups where the group will write one Method and one Results section, which include Figures and Tables. If you work in a small group there will only be one grade given for the Methods and Results sections. The Introduction, Discussion, and the References sections will be graded individually for each student in the group, unless you want to hand it in as a coauthored paper and all receive exactly the same grade – this is to be verified with the professor with all in the group present and in agreement.

**Late Assignments:** All assignments are due on the date indicated above. Late assignments will be docked one full grade for each day (or fraction thereof) late. If a class experiment or critique is late by 3 days or more, the maximum possible grade is a C-. Please do not try to negotiate an exception or change to this unless you have a very good reason. We want to be fair, not naïve.

**Software:** (Optional) DataMost Corporation offers several scientific analysis and graphing tools which could be useful to you in this class. For more information call DataMost at (801) 255-5008.

**Grades:** Each exam is worth 100 points. The final exam is worth 200 points. The in-class experimental write-ups/projects are worth 150 points each. The journal article critiques are worth varying points each. Your individual final project (experiment) is worth 200 points and the oral presentation is worth 90 points. A total of 1,150 points are possible for the course.

Grade percentages are as follows:

		Exams	Your Grade
93 and above	= A		_____
89.5	= A-	1 (100)	_____
86	= B+	2 (100)	_____
82	= B	3 (100)	_____
79.5	= B-	Final Exam (200)	_____
76	= C+	Critiques	
72	= C	#1 (35)	_____
69.5	= C-	#2 (35)	_____
66	= D+	#3 (40)	_____
62	= D	Experiment Write-ups	
59.5	= D-	#1 (100)	_____
59 and below	= F	#2 (150)	_____
		Final Project & Paper	
		Oral Presentation (90)	_____
		Paper (150)	_____
		IRB written/approved (50)	_____
		Total	_____

**EXTRA CREDIT?(up to 30)**

IRB Certificate\_\_\_, Forum Write-ups\_\_\_, IRB (Full)\_\_\_etc.\_\_\_+ \_\_\_\_\_

**Grand Total** \_\_\_\_\_ **/1150**

**Preventing Sexual Harassment:** Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity receiving 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 378-5895 or 367-5689 (24-hours); or contact the Honor Code Office at 378-2847.

**Students With Disabilities:** Brigham Young University is committed to providing a working and learning atmosphere that reasonable 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 (378-2767). 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. You should contact the Equal Employment Office at 378-5895, D-282 ASB.

**EXPECTED 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 this department and college go to <https://learningoutcomes.byu.edu/> and click on the College of Family, Home and Social Sciences and then this department (Psychology). We welcome feedback on the expected student learning outcomes. Any comments or suggestion you have can be sent to [FHSS@byu.edu](mailto:FHSS@byu.edu) .

**PSYCH 302**  
**Journal Critique Outline**

**Title:** Is the title appropriate for the article? Does it reflect what the article states as found in the study? Is it informative rather than “cute”?

**Abstract:** The abstract should be concise and describe all the pertinent findings of the study. Make sure what is said in the abstract is actually what was found in the study. Have the authors embellished their findings or overstated their results in anyway? The abstract is important because this may be all that most readers look at.

**Introduction:** The introduction should provide an adequate review of the topic area and the rationale for the study. There should be some statement as to the hypotheses being studied and what the expected findings might be. There should be some statement or inference as to why this is an important study to do. There should be ample and current citations of appropriate research literature to support the research hypotheses. Tell in your own words what this research is about.

**Methods:** In most articles the Methods section and the manner in which the results were analyzed and/or interpreted are typically the areas where the greatest criticisms can be registered. In the Methods section one should carefully examine the types of subjects utilized, what kind of variables were manipulated and whether there are extraneous factors that could have affected the subjects performance other than the independent and dependent variables under study. How rigorous were experimental controls utilized? How homogeneous or heterogeneous were the various subject groups under study? Are there age, size, sex, experience, or other variables that might explain the findings? What type of experimental design was utilized?

**Results:** Check and make sure that the experimental design utilized is, in fact, appropriate for the statistics used. If the appropriate data is present, check some of the calculations. How descriptive are the statistics? In most journals interpretation of results is reserved for the discussion section, so be sure you check the discussion section to ensure that the results have been interpreted properly. How are the results written up? Can you understand them? What do you understand the authors found?

**Discussion:** In this section there should be a complete integration between all the above sections and the results, and their significance, should be discussed fully. What is the real significance of this article? Did the study really find/discover what it set out to do, or is the author presenting an apologetic smokescreen? What about the real implications of the study, are they all addressed? Did the author critique the study and point out potential weaknesses or were these glossed over?

**References:** Go to the library or online and check a couple of the references. Did the author cite the article properly and accurately reflect the findings? How current are the references? How much does the author cite his/her own research?