

SYLLABUS

Course: Psychology 301 (Section 11/12; Schedule #: 29153 & 29164); Introduction to Research Methods in Psychology
Course Description: This introductory course will encompass such topical areas as variability, measurement of behavior, sampling techniques, correlational and experimental designs, as well as analytical strategies congruent with the given design.

Prerequisites: PSY 101 and PSY 270/271

Credit: 4 units

Quarter: Fall, 2008

Time: Tuesday & Thursday: 1400-1515 (i.e., 2:00 - 3:15 pm) and lab on Tuesday: 1600-1750 (i.e., 4:00- 5:50 pm.)

Location: LS 244 (lecture-Tuesday & Thursday); LS 027/29E (lab-Tuesday)

Instructor: Dale N. Glaser, Ph.D.

Appointments: [appointments by schedule]

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Web-Site: <http://www.sci.sdsu.edu/classes/psy301/> (TBD: will get from TA)

Teaching Assistants: Anissa York <york@rohan.sdsu.edu>

Office Hours: By appointment

Graduate T.A. Lab Assistants: ??

Text: Leary, M. R. (2007). *Behavioral Research Methods*. (5th Ed). Brooks/Cole.

Also required: *301 Lab and Project Manual Fall 07* by S. Mollenauer.

Also required: Flash Drive.

Objectives and Goals

The primary objective of this course is to provide a broad foundation for the basics of research design and methodology. Understanding the tenets of research design is crucial in enhancing one's capability in becoming a critical consumer of the research that, as conducted in the real world, may be either exemplary or badly flawed! Examples of research in the popular press are as follows: an article in the 5/16/06 SD Union Tribune titled "Cell Phones a Problem for Pollsters" discusses the problem of generalizing from polls to the population given that many have forsaken landlines and use cell phones as their primary phone...."nearly a quarter of Americans are likely to stop using their home phone and switch to using only a cell phone according to an Associated Press, AOL, and Pew poll: (Lester, p. A1). Or an article in the 8/7/06 edition of the San Diego Union maintains: "Teens whose iPods are full of music with raunchy, sexual lyrics start having sex sooner than those who prefer other songs, a study found. Whether it's hip-hop, rap, pop or rock, much of popular music aimed at teens contains sexual overtones. Its influence on their behavior appears to depend on how the sex is portrayed, researchers found". And in the SD Union on 7/22/08 "while guys may view a little flirtation with the opposite sex as harmless, women almost never do, a difference that prompts each gender to react very differently to temptation, say psychologists".

Further, research articles in the psychological literature, which up to now may seem to be a maze of obscure terminology, hopefully will become more transparent as the basic aspects of this course are assimilated. In Psy 301 you will learn to use scientific methods to study human behavior, in other words, to explain the **variability** in human behavior. *This is not a statistics class*. We will review some of the major ideas in statistics because they are essential for studying behavior, but we will focus on methods.

Psy 301 is all about answering questions scientifically.

Modeling the Process. Today you will be filling out the "Alcohol survey." We will use this survey over the next several weeks to walk you through the steps of answering questions scientifically, making sense of data and writing reports. You will be completing a number of labs on this survey, each one completing one small step in the process. Then later in the semester you will be using those same steps to complete your own **independent research project**. We will use this opportunity to show you how to plan large projects doing them in a manageable sequence of steps so as to maximize understanding and success.

Psy 301 Goals. By the end of this class you will know how to

1. Use scientific method to answer questions about human behavior, specifically
 - **Measurement** issues, learning
 - to differentiate between constructs and observable behaviors

- to develop operational definitions and observational strategies
 - to write good survey questions, and
 - to develop measures that are both reliable and valid
 - **Design** issues, learning
 - to state hypotheses that can be tested
 - to design or plan modest studies using correlational, experimental and quasi-experimental (real world) designs
 - to develop good strategies for sampling and assignment to treatments
- 2. Make sense of data that you have collected or read in the news.**
- **Interpretation of results**, learning
 - to interpret statistical results including significance, effect size, margin of error and confidence intervals
 - **Evaluation of designs**, learning
 - to state the type of conclusion, causal or otherwise
- 3. Write scientific reports.**
- **Accuracy**, learning
 - to follow directions to the letter and
 - to describe procedures and results in perfectly accurate detail
 - to submit reports that have been checked for spelling and sense
 - **APA style**, learning to follow specific rules for scientific writing
 - **Effectiveness**, learning to make clear and persuasive statements.

Critical Caveat: One key to success in Psy 301 is consistent attendance. On Tuesdays and Thursdays we will have lectures, group discussions, and hands-on research experience. On Wednesdays (i.e., the labs) we work with Microsoft Word, Microsoft Excel and SPSS on the lab computers. Hopefully you are already familiar with these programs and these computers from PSY 271, though we will be re-indoctrinating/introducing you to the use of such. I can not emphasize enough the need to maintain a continuous thread of attendance, both for lectures and labs. The lectures serve not only in amplifying what will be required in the labs, but also serve as a foundation for the tests and quizzes.

About the Text

Good news on the text: students from previous semesters have said it is VERY easy to understand. You may read the text before or after the lecture, whichever you find most helpful (I generally recommend beforehand!!). Do be aware that I can not lecture on everything in the text, and you are responsible for all assigned reading, whether I have discussed it or not. However, I will make all efforts to use the text as a guideline and especially review the sections that are deemed most crucial for your understanding and, in part, for the test.

Quizzes

Periodic quizzes (10 of them) will be administered which will generally be a mixture of multiple choice items and a short-answer essay covering reading and lecture material. Quizzes will be administered *promptly* at the beginning of the lecture period and they will be closed book. You will also be provided with the option of dropping one quiz (i.e., a missed quiz or the one with the lowest score if you take them all). Since make-up time will not be provided for quizzes, if you are ill during the administration of one of the quizzes that will count as your drop.

Exams

Two midterms (100 points each) and one final (150 points) will be administered. The exams will be a combination of multiple choice, true/false, and short essay questions and will cover material from the text, lab and lecture. The final will be comprehensive, even though primarily concentrating on the subject matter from the second midterm on. **If you must miss an exam** for an extremely serious reason that you can document, AND if you have contacted me beforehand, I will arrange a make-up.

Laboratory

You will be doing things a little differently than you did in PSY 271. **A lab report is due at the end of each lab, and we have to insist that you do these reports in the lab.** You will not be given the allowance to complete these at home. PSY 301 is an important course in the major so we need to know that people are doing the report and not just copying it from someone else. This assures equitability insofar one who conscientiously expended efforts to completing the lab should not receive the same score as someone who copied it from a friend.

Integrity Statement (i.e., Cheating)

If we find that anyone has cheated, **using someone else's work or giving work to someone else**, we will be required to give him/her an F on the assignment and report him/her to the disciplinary officer.

Lab Assignments:

For each lab, you have an assignment to complete *before* lab. The TA's will be checking these assignments at the beginning of lab. **To receive full points on the lab you must have done the assignment before lab.**

Lab Rules:

- **You must attend *YOUR* lab section**, i.e. the lab section in which you are officially enrolled.
- **Never insert a flash drive *before* you have mailed in your assignment.**
We will remind you about these rules, but be forewarned: **if we find that you have inserted a flash drive before mailing in your assignment, you will receive a zero for that lab.**
- **Send in a report *before* you leave lab, and if necessary send in the rest later.**
- **If you miss lab** for some reason, **the lab report is still due** but is worth only **half the points**.
- **Revised labs are due no later than Wed of Week 9.** We are going to let you revise the Lab 1 Report after you receive feedback, but it really isn't feasible for us to do that on all the labs. As a compromise, you will have **the option to revise one additional report** for additional (**not the full number** of possible) **points**. You will also have the option, requirement actually, to revise some of the sections of the project.

Survey Project

The project is designed for the purpose of integrating the skills you have garnered to date during the course of the class. We will work together as a class to construct a survey on some topic that interests us all. Then you will work individually, collecting your own data, analyzing it and writing reports. Instead of submitting one enormous report at the end, you will be doing the project in small manageable sections throughout the semester and then putting it together at the end. We have allotted a great deal of class time for the project reports, and the TAs and I will be giving you a great deal of help and hints along the way.

Oral Report

Toward the end of the semester you will be doing a short (very short) report on a news article that reports some hot new research finding. Actually, you will be working in pairs so that your own oral report will be very, very, very short. We will give you the article together with some hints about how to critique it. Then you and your partner will describe the research and do a brilliant analysis based on what you have learned in PSY 301.

You must do the Oral Report to receive a grade in PSY 301.

Grades

In determining your grade we have two major concerns:

- You must show that you understand and can apply concepts, as shown in your **performance on exams**.
- You must demonstrate that you can work consistently and independently to produce quality work, as shown by your **performance on labs, the project, and quizzes**.

We consider both of these components to be very important. Therefore, **your grade will be determined by your average on BOTH components of the class**. Specifically, for

Grade of A: must average **A on the Exams AND** at least **B on the other components**.

Grade of B: must average at least a **B on the Exams AND** at least **B on the other components**.

Grade of C: must average at least a **C on the Exams AND** at least a **C on the other components**.

Grade of D: must average at least a **D on the Exams AND** at least a **D on the other components**.

You must complete the project to pass the class.

This means that you cannot earn an A by averaging a B on exams and earning all possible lab points. Conversely you cannot earn an A by earning an A on all the exams, but lacking completion off the lab/project components. You must do well on BOTH.

On the positive side, this means that if you get off to a bad start, you can make it up by evidencing improvement on the cumulative final and the project.

If you fall half way between two grades, we will base the decision on final total points and on factors such as improvement across the term. Note: extra credit will not be provided!

		Points Each	Points Total
EXAMS	2 Midterms	100	200
	FINAL (comprehensive)	150	150
			350
Quizzes	10 (drop one)	10	90
Laboratory	6 Lab Reports	12	72
Oral Report	report & attend/discuss	15	15
Project reports	Survey Project Reports*		100
	Final Report	6	6
			283
Total			633

* Point breakdown for Survey Project on last page.

Grading will be commensurate with school policy. Make-up of tests will be granted only when notification is provided **prior** to test administration. It is *imperative* that all class assignments be handed in on time. Moreover, extra credit will not be provided!

General etiquette!!: For the consideration of others please turn off and/or do not use any electronic devices (i.e., texting, surfing the web, sending emails, etc.) during class instruction; if you have the compelling reason to do so please excuse yourself from the class. Thank you!

Class Schedule

Date	Topic	Reading Assignment
Week 1 Tuesday 9/2	Why science? <i>Class survey</i> Why Method sections are important <ul style="list-style-type: none"> Prep for Lab 1: Method Alcohol Survey <i>Groups:</i> Asking questions scientifically	Chapter 1
Lab 1	BRING Flash drive Lab 1 report: Method, Alcohol Survey	Rep: 12 pts
Thursday 9/4	<i>Course Overview: the Alcohol Survey and the Class Project</i> <ul style="list-style-type: none"> Prep for Lab 2 & the open article quiz: Using literature for an Introduction <i>Groups:</i> Asking questions scientifically	Bring Lab Manual Quiz 1: 10 pts <i>Qz: Lct, Ch 1, & syl</i>
Week 2 Tuesday 9/9	<i>Open article quiz</i> <ul style="list-style-type: none"> More help Lab 2, Stating a hypothesis Review: distributions, <i>SD</i> , & normal curve <i>Groups:</i> procedure medical marijuana/operational definition	Quiz 2: 10 pts <i>Qz: Alcohol Article</i> Ch 5 p. 126 - 138 (not formula p. 136)
Lab 2	Lab 2 report: Introduction Alcohol survey	Rep: 12 pts
Thursday 9/11	Studying Human Behavior: Variability, variability, variability <i>"Error" vs. systematic variance</i> <i>Groups: Rating Attractiveness: explaining variability</i>	Chapter 2
Week 3 Tuesday 9/16	Survey Project Big Picture: Reporting survey results <ul style="list-style-type: none"> Prep for Lab 3: Participants and reporting survey results Measurement: Reliability - True score, observed score and measurement error <i>Activity:</i> Measuring Pulse rate: true score vs. observed score	Manual p 32 Ch 3, up to Est Validity, p 67
Lab 3	Bring Corrected Lab Report 1 Lab 3 rep: Method & Survey Response Results, Alcohol Survey	Rep: 12 pts
Thursday 9/18	Margin of Error in Alcohol survey data <ul style="list-style-type: none"> Prep for Lab 4: Margin of Error Variability in true score & measurement Error <i>Groups:</i> Survey Project Topics	Quiz 3: 10 pts <i>Qz: Lct, Ch 2, Pp3</i> Ch 5, Pp. 116 up to strat samp, p. 119
Week 4 Tuesday 9/23	Validity <i>Finalize Survey Topic</i> "Measuring" intimacy: reliability and validity Observation strategies <i>Groups:</i> Love lab and measurement & observation	Ch. 3 p.67 to end Before class: Ch 4, Pp.79 –101
Lab 4	Lab 4 rep: Margin of Error, Alcohol survey data	Rep: 12 pts
Thurs 9/25	Writing good survey questions <ul style="list-style-type: none"> Prep for Lab 5: doing questions QUESTIONS DUE AT BEGINNING OF Lab 5 <i>Groups:</i> Reliability & Validity in measure of Anger Management Review and prep for exam	Quiz 4: 10 pts <i>Qz: Lect, Txt since Q3</i>

Week 5 Tuesday 9/30	MIDTERM I Object & Essay Scantron Form 19641 (Blue) Ch 1, 2, 3, 4 Pp. 79 - 101, Ch 5 Pp. 116 – 119, 126– 138 Lecture & Lab Manual	<i>All reading, lect, and lab.</i> 100 pts
Lab 5	DUE: Survey Project Questions Teams critique and submit questions Report: <u>Corrected questions</u> AND <u>Team questions</u> TAs assist with lit search Literature DUE Week 7	Rep: 12 pts
Thursday 10/2	Correlation: making sense of correlational findings <ul style="list-style-type: none"> • Prep for Lab 6: testing the alcohol hypothesis <ul style="list-style-type: none"> - Significance - Effect size (Manual p. 28) <i>Groups: Correlations in the News: Finding 3rd (lurking) variables,</i>	Ch 6 Pp 142 –157 <i>Omit Calculating r</i>
Week 6 Tuesday 10/7	Survey Project Big Picture Class agree/work on Survey Project Questions <ul style="list-style-type: none"> • Prep for Lab 7 your hypoth: <u>Hyp Questions due next pd.</u> Exams returned	Quiz 5: 10 pts <i>Qz: Lct, txt, corr, prep Lab 6 & Manual P 32</i>
Lab 6	Lab 6 Report: Alcohol Survey Hypothesis Results & Discussion	Rep: 12 pts
Thursday 10/9	DUE at beginning of class: Two Questions for hypothesis Class FINALIZE(edit) Survey Project Questions Help with Survey Project Introduction Literature, rationale and hypotheses <ul style="list-style-type: none"> • Prep for Lab 8: article assignment 	Manual Pp 33 - 36 On next qz
Week 7 Tuesday 10/14	DUE at beginning of class: Lab Prep p. 35 of Manual complete <ul style="list-style-type: none"> • Prep for administering project survey Pick up survey materials Data DUE Lab 9 <i>Activity: comparing survey project predictions</i>	Quiz 6: 10 pts <i>Qz: Manl Pp 33– 36</i> <i>Optional: 5 pts</i>
Lab 7	Bring flash drive to lab this week. DUE: Survey Project Hypothesis and DUE: Article final approval	10 of Survey Project Intro pts
Thursday 10/16	Appointments, <i>scheduled to go over exam</i> & hypothesis help	
Week 8 Tuesday 10/21	The idea of the experiment, “Gold standard”: Self-assigned vs. random assignment Independent & dependent variables & Control groups <i>Groups: matched random assignment in study of cholesterol</i>	Ch 8 Pp. 189 - 197
Lab 8	DUE: Lab 8 Article Assignment, <i>bring highlighted article</i>	15 of Survey Project Intro pts
Thursday 10/23	Advanced Correlational Strategies: Continuum of Internal Validity Partial Correlation, <i>Groups: Partial Correlation</i> Hypotheses, Operational Definition, & Exp vs Corr	Quiz 7: 10 pts <i>Qz: lect & Pp Ch 8</i> Ch 6, p. 157 to end

Week 9 Tuesday 10/28	Advanced Correlational Strategies: Prediction & Directionality Begin sampling <i>Groups:</i> Rethinking news articles re sampling	Ch 7, Pp.167 – 176 (ideas only)
Lab 9	Lab 9 report: enter survey data and do Project Intro Survey Project Introduction DUE end of lab	Project Intro: 30 pts , including pts from Labs 7 & 8
Thursday 10/30	Survey Research: sampling issues & predicting elections • Prep for Lab 10: Survey Project Method <i>Groups:</i> Develop a sampling procedure	Ch 5, Pp. 109 – 126 Part is repeat
Week 10 Tuesday 11/4	Review and prep for Midterm <i>Election Day!!!!</i>	Quiz 8: 10 pts <i>Qz: lect & Pp Ch 6 & 5</i>
Lab 10	Bring flash drive or 2 clean unused disks to lab. Bring your graded Lab 3 Report. Lab: Take Sample and Do Statistics for Participants Lab 10 rep: Survey Project Method	15 project pts
Thursday 11/6	MIDTERM II Objective & Essay Scantron Form 19641 (Blue) Ch 5 Pp 109 - 126, Ch 6, Ch 7 Pp 167 – 176, Ch 8 Pp 189 - 197 Lecture & Lab Man Pp 28, 32 – 36, and major pts Mid I	
Week 11 Tuesday 11/11	<i>Veterans Day Holiday</i>	
	No Lab!!	
Thursday 11/13	Experiments Designs, Randomized Trials and Repeated Measures Variance again, systematic and unsystematic <i>Groups:</i> Using Repeated Measures designs <i>Groups:</i> Experiments, IV & DV • Prep for Lab 11: Survey Response Results	Ch 8, Pp 189 – 197 again & Pp 197-204
Week 12 Tuesday 11/18	Experiments (continued) Significance testing <i>Groups:</i> Designing studies: Cor-Exp <i>Groups:</i> Finding the Confounding	<i>Ch 10 Pp. 246 – 253 & 258 In Depth</i>
Lab 11	Be sure to bring • Your flash drive with your data. Lab 11 rep: Project Survey Response Results	15 Project pts
Thursday 11/20	Experiments (cont.) • Prep Lab 12: Help with Survey Project Hypothesis Results Interpreting significant and non significant results Talking about <i>t</i> test results, i.e. differences (Hyp Results) • Prep Lab 13: Help with Survey Project Discussion	<i>Bring Lab Manual</i> Quiz 9: 10 pts <i>Qz: lect, Pp in Ch 8 & 10, Prep Lab 12</i> Ch 8 Pp.204 - end

Week 13 Tuesday 11/25	DUE at beginning of class: Discussion outline Quasi Experimental Research: “Non equivalent” Control group Time Series Designs Regression to the Mean • Prep Lab 14: Help with Survey Project Abstract	Ch 9 Pp.224 - 237 & 239 Chapter 12
Lab 12 T 11/25	Be sure to bring • Your flash drive with your data. • Your graded Lab 6 Report. Lab 12 Report: Project Hypothesis Results	15 Project pts
Thursday 11/27	<i>Thanksgiving !!!!!!!!!!!</i>	
Week 14 Tuesday 12/2	<i>Oral Reports TBA</i>	<i>Pts for both days</i>
Lab 13	Be sure to bring • DRIVE with ALL Project reports • Corrected Lab Report 12 Lab 13 Report: Project Discussion <i>Drop-dead deadline: any outstanding lab reports Labs 1 - 12</i>	15 Project pts
Thursday 12/4	<i>Oral Reports (cont.)</i>	<i>15 pts</i>
Week 15 Tuesday 12/9	Quasi Experimental Research (cont) <i>Groups:</i> design a quasi-experimental intervention study Ethics <i>Groups:</i> an ethical dilemma	Quiz 10: 10 pts <i>Qz: lect & Pp Ch 8, Ch 14</i>
Lab 14	Bring all Graded Survey Project Reports Lab 14 report: Survey Project Abstract DUE: Complete Project	10 Project pts 6 Project pts
Thursday 12/11	Review and prep for final	
Final Exam Objective & Essay Tuesday 12/16 (Tuesday): per the catalogue --1300-1500 (i.e., 1:00 to 3:00 pm) Scantron Form 19641 (Blue) Ch. 8, Ch. 9 (pp. 224-237 + 239), Ch. 10 (pp. 246-253 + 258), 12, 14 + comprehensive; also, Lecture & Lab Manual		

Point Breakdown for Project:

- 30 Survey Project Introduction
- 10 Literature Search and Hypothesis
- 15 Literature Review and Rationale
- 5 Introduction with revisions, Title Page and Reference page
- 15 Method

15	General Results
15	Results of Hypothesis tests
15	Discussion
10	Abstract
6	Final Report