

Psychology 301
Introduction to Research Methods in Psychology
Instructor: Neal Doran, PhD (nmdoran@ucsd.edu)

TA: Joe Bettcher

Office Hours: by appointment after class

Lecture: 8:00 am Tuesday and Thursday

Lab: 10:00 am Tuesday

Black Board address: <http://its.sdsu.edu/blackboard/>

Lab Web page: <http://www.sci.sdsu.edu/class/psy301/> _____

Lab Email address (write this in when you get to lab):

Text: *Behavioral Research Methods* by Mark R. Leary, 5th Ed., Brooks/Cole.

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

Also required: **Flash Drive OR BOX of new Maxell Mac** formatted Diskettes

NOT Imation, & NOT PC disks—sorry they cause crashes on the lab computers.

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 manageable bites until in the end you are quite amazed at what you have accomplished.

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.

One key to success in Psy 301: Do not cut class. I will be taking attendance.

Something is happening every period. You should think of this class as an express train. If you stay on board you will arrive at the end in one piece. If you step off ...

About the Text

Good news on the text: students from previous semesters have said it is VERY easy to understand. Please be aware that you are responsible for all assigned reading, whether I have discussed it or not. I will be sure to talk about the most difficult things, but I don't want to bore you by just reciting the book. A good rule is to learn the **bolded terms**. *This means you should be able to close your eyes and say what the term means.*

Quizzes

There will be periodic quizzes covering lecture, lab and reading material. Each quiz is worth 10 points and you will be able to drop your lowest one. If you miss a quiz because you are ill I'm afraid that will have to be your drop. **Never cut class to avoid a quiz.** If you aren't prepared, you may be able to guess some answers, and you can always put a note on it saying "*Please don't judge my intelligence by this quiz.*"

Exams

The exams will be part objective and part short answer. They will cover reading, lecture material and lab material. Each midterm will be worth 100 points. The final will be comprehensive and will be worth 150 points. **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, but I will NOT be able to give you full points.

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.** I'm really sorry that you can't just do them at home. However, Psy 301 is an important course in the major, and so we need to know that people are doing the report and not just copying it from someone else. I'm sure you would be very irritated to learn that while you did all of your lab work conscientiously someone else just copied it from a friend.

Cheating

If we find that anyone has cheated, **using someone else's work OR giving work to someone else**, we will give him/her an F on the assignment and report him/her to the disciplinary officer—so don't let a friend get you in trouble.

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 disk 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 disk 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

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 working on 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 lots of help along the way.

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.

We will use standard grading criteria, 92 % A, 90 % A-, 88 % B+, 82 % B, 80 % B-, 78 % C+, 72 % C, 70 % C-, 68 % D+, 62 % D, 60 % D-.

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 blowing 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 doing a splendid job 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**.

		Points Each	Points Total
EXAMS	2 Midterms	100	200
	FINAL (comprehensive)	150	150
			350
Quizzes	8 (drop one)	10	70
Laboratory	6 Lab Reports	12	72
In-class	5 Class, prob solving, etc.	6	30
Project reports	Survey Project Reports		100
	Final Report	6	6
			278
Total			628

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

Class Schedule

Date	Topic	Reading Assignment
Week 1 Tuesday 8/28	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	6 Class pts Chapter 1
Lab 1	BRING Maxell Mac Formatted Disks or Flash drive Lab 1 report: Method, Alcohol Survey	Rep: 12 pts
Thursday 8/30	Course Overview: the Alcohol Survey and the Class Project <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
Week 2 Tuesday 9/4	Open article quiz—scored in class <ul style="list-style-type: none"> • More help Lab 2, doing an Introduction Stating a hypothesis <i>Groups:</i> procedure medical marijuana/operational definition	Quiz 1: 10 pts
Lab 2	Lab 2 report: Introduction Alcohol survey	Rep: 12 pts
Thursday 9/6	Survey Project Big Picture: Reporting survey results Studying Human Behavior: Variability, variability, variability Review: Distributions, <i>SD</i> & normal curve	Manual p 32 Ch 5 p. 126 - 138 (not formula p. 136) Ch 2 up to Error Variance p 45
Week 3 Tuesday 9/11	Variability continued “Error” vs. systematic variance <ul style="list-style-type: none"> • Prep for Lab 3: Participants and reporting survey results <i>Groups:</i> Rating Attractiveness: explaining variability	Ch 2, p 45 to end
Lab 3	Bring Corrected Lab Report 1 Lab 3 rep: Method & Survey Response Results, Alcohol Survey	Rep: 12 pts
Thursday 9/13	Measurement: Reliability <ul style="list-style-type: none"> • True score, observed score and measurement error <i>Activity:</i> Measuring Pulse rate: true score vs. observed score	Quiz 2: 10 pts Ch 3, up to Est Validity, p 67
Week 4 Tuesday 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	Ch 5, Pp. 116 up to strat samp, p. 119
Lab 4	Lab 4 rep: Margin of Error, Alcohol survey data	Rep: 12 pts
Thurs 9/20	Validity <i>Finalize Survey Topic</i> “Measuring” intimacy: reliability and validity <ul style="list-style-type: none"> • Prep for Lab 5: writing good questions • QUESTIONS DUE AT BEGINNING OF Lab 5 	Quiz 3: 10 pts Ch. 3 p.67 to end.

Week 5 Tuesday 9/25	Observation strategies <i>Groups:</i> Love lab and measurement & observation	Before class: Ch 4, Pp.79 –101
Lab 5	DUE: Survey Project Questions Teams critique and submit questions Report: Corrected questions & Team questions TAs assist with lit search Literature DUE Week 6	Rep: 12 pts
Thursday 9/27	MIDTERM I Object & Essay Scantron Form F-288 (Red) Ch 1, 2, 3, 4 Pp. 82 -102, Ch 5 Pp. 116 – 119, 126– 138 Lecture & Lab Manual	All reading, lect, and lab. 100 pts
Week 6 Tuesday 10/2	Survey Project: Using the literature Correlation: making sense of correlational findings <i>Groups:</i> Correlations in the News: Finding 3 rd (lurking) variables,	Ch 6 Pp 142 –159 <i>Omit Calculating r</i>
Lab	Literature Search for Survey Project: TA approve 2 articles	
Thursday 10/4	Correlation and the Alcohol survey <ul style="list-style-type: none"> • Prep for Lab 6: testing the alcohol hypothesis • Significance • Effect size (Manual p. 28) Exams returned	6 Class pts NO CUTS
Week 7 Tuesday 10/9 NO CUTS	Survey Project: Class finalize Survey Project Questions Help with Survey Project Introduction Literature, rationale and hypothesis <ul style="list-style-type: none"> • Prep for Lab 7, your hypothesis 	Quiz 4: 10 pts Manual p. 32-36 Note: Manual will be on Quiz 5
Lab 6	Lab 6 Report: Alcohol Survey Hypothesis Results & Discussion	Lab Rep: 12 pts
Thursday 10/11	Appointments, <i>scheduled</i> to go over exam	
Week 8 Tuesday 10/16	DUE at beginning of class: Two Questions for hypothesis <i>Groups:</i> complete hypothesis Pre lab, p 35 of Manual	Quiz 5: 10 pts
Lab 7	Bring flash drive or 2 <u>new unused</u> disks to lab this week. DUE: Survey Project Hypothesis and DUE: Article final approval	10 of Survey Project Intro pts
Thursday 10/18	The idea of the experiment, “Gold standard”: <ul style="list-style-type: none"> • Self-assigned vs. random assignment • Independent & dependent variables & Control groups <i>Groups:</i> Answering questions, correlations vs. experiments <ul style="list-style-type: none"> • Prep for Lab 8: article assignment 	6 Class pts Ch 8 Pp. 189 - 197

Week 9 Tuesday 10/30	Advanced Correlational Strategies: Continuum of Internal Validity <ul style="list-style-type: none"> Partial Correlation, <i>Groups:</i> Answering questions, correlations vs. experiments Pick up survey materials Data DUE Lab 9 <ul style="list-style-type: none"> Prep for administering project survey 	Ch 6, p. 159 to end
Lab 8	DUE: Lab 8 Report Literature Assignment	15 of Survey Project Intro pts
Thursday 11/1	Advanced Correlational Strategies: Continuum of Internal Validity <ul style="list-style-type: none"> Prediction & Directionality Begin sampling <i>Groups:</i> Rethinking news articles re sampling	Quiz 6: 10 pts Ch 7, Pp.167 – 176 (ideas only)
Week 10 Tuesday 11/6	Survey Research: sampling issues & predicting elections <ul style="list-style-type: none"> Prep for Lab 10: Survey Project Method, Participants and Procedure 	Ch 5, Pp. 109 – 126 Part is repeat
Lab 9	Lab 9 report: enter survey data and do Project Intro Bring Graded Reports for Labs 7 & 8 Survey Project Introduction DUE end of lab	Project Intro: 30 pts , including pts from Labs 7 & 8
Thursday 11/8	MIDTERM II Objective & Essay Scantron Form F-289 (F-288 OK) 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 11/13	Experiments <ul style="list-style-type: none"> Designs, Randomized Trials and Repeated Measures Variance again, systematic and unsystematic <i>Groups:</i> matched random assignment in study of cholesterol	6 Class pts Ch 8, Pp 189 – 197 again & Pp 197 -204
Lab 11	Be sure to bring <ul style="list-style-type: none"> Your flash drive or disks with your data. Lab 11 rep: Project Survey Response Results	15 project pts
Thursday 11/15	Experiments (cont.) Significance testing <i>Groups:</i> Critiquing and Designing Experiments <ul style="list-style-type: none"> Prep Lab 11: Help with Project Survey Response Results 	Ch 10 Pp. 246 – 253 & 258 In Depth Bring Lab Manual
Week 12 Tuesday 11/20	Prisoners of Silence: the power of assigned treatments <ul style="list-style-type: none"> The point of <i>double</i> blind Ruling out bias by experimenter <i>Groups:</i> Finding the Confounding, 1 and 2	Ch 8 Pp. 204 to end Quiz 7: 10 points Extra open lab hrs Friday
Lab 12	Be sure to bring <ul style="list-style-type: none"> Your flash drive or disks with your data. Your graded Lab 6 Report. Lab 12 Report: Project Hypothesis Results	DUE before you leave 15 Project pts
Thursday 11/22	THANKSGIVING	

Week 13 Tuesday 11/27	Begin Quasi Experimental Research: Scared Straight Prep Lab 13: Help with Survey Project Discussion	Chapter 12
Lab 13	Be sure to bring <ul style="list-style-type: none"> • DRIVE or DISKS with ALL Project reports • Corrected Lab Report 12. Lab 13 Report: Project Discussion	15 Project pts
Thursday 11/29	DUE at beginning of class: Discussion outline Quasi Experimental Research: Scared Straight Discussion Improving the design Deciding measures	Chapter 12 cont
Week 14 Tuesday 12/4	Quasi Experimental Research (cont) “Non equivalent” Control group Time Series Designs Regression to the Mean <i>Groups:</i> design a quasi-experimental intervention study Prep Lab 14: Help with Survey Project Abstract	Chapter 12 (cont.) Quiz 8: 10 pts
Lab 14	Bring all Graded Survey Project Reports Lab 14 report: Survey Project Abstract DUE: Complete Project	10 Project pts 6 Project pts
Thursday 12/6	Review and prep for final	Bring Lab Manual
Final Exam		