

**Psychology 302**  
**Statistical Methods in Psychology**  
Winter 2005

Lecture: Mon., Wed. 2-3:20pm, 105 Esslinger

Lab: Tues. 8:30-9:50am, 2-3:20pm, or 4-5:20pm, 180 Straub Hall

**Instructor:**

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Office Hrs: Mondays & Wednesdays 3:30-4:30pm and by appointment

**Lab Coordinators:**

Jennifer Tininenko (Labs – Tuesdays 8:30-9:50 & 2-3:20)

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Office Hrs: Tuesdays 10-12:00

Ben Levy (Lab – Tuesday 4-5:20)

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Office Hr: Wednesdays & Thursdays 10-11:30

**Course Description:** This course will cover the use of basic statistical methods in psychology. You will learn how to analyze data and how to answer basic research questions. Many of the concepts and procedures in this course involve mathematical calculations, particularly arithmetic and algebra. You do not need to be a math genius to do well; however, familiarity with algebra is required for the course.

**Course Prerequisite:** Mathematics 111 (or equivalent)

**Materials:**

Textbook (required): Essentials of Statistics for the Behavioral Sciences (5<sup>th</sup> ed.)

*Students are responsible for reading the assigned chapters prior to class meeting. You are not expected to master the material but to expose yourself to the major concepts we will be covering. This preparation will make lectures more meaningful and productive.*

Calculator (strongly recommended): It is recommended that you bring a calculator to every class session. This will help you with any in-class problems requiring calculations, and the habit of bringing the calculator to class will increase the likelihood that you remember to bring it on exam days.

University of Oregon e-mail account (strongly recommended): We will be using the Blackboard website (<http://blackboard.uoregon.edu>) for this course. You are all registered with the site and logging on is much easier to do with a university account compared to an outside account.

## Lectures and Laboratories

Attached is a list of lecture topics and reading assignments from the text. Lectures and lecture handouts will be posted on Blackboard the day of the lecture. In addition to the lectures, there are weekly laboratory sessions designed to 1) provide review and demonstrations of topics covered in class, 2) show you how to perform statistical computations using the popular statistical program SPSS, 3) discuss the problem sets, and 4) review for exams. Please plan to attend your lab session (Tuesdays 8:30-9:50a, 2-3:20pm, or 4-5:20pm).

## Exams

There will be four (4) bi-weekly exams and a final exam, each consisting of multiple choice, short answer, and calculation problems. The final exam will be open book. Calculators are allowed and encouraged; however, *to receive full credit for calculation problems on exams, you will need to show each step of your work.* Make-up examinations for each exam may be given only under extreme circumstances where *the instructor* has been notified of your absence ahead of time (e.g., serious illness, injury, family death). Proof of the extenuating circumstance needs to be provided (e.g., doctors note). There will be no make-ups offered for the final exam (March 14, 3:15-5:15pm). (You are, however, allowed to take any exam, including the final, earlier than its scheduled time.)

## Homework (HW)/Blackboard Learning Checks (LC)

Homework: Most weeks, you will be assigned problem sets as homework. Problem sets will usually be posted on Blackboard on Wednesday (except first problem set), to be due on Thursday of the following week. (The first problem set has been assigned today [Monday, January 3] and is due on next Monday, January 10.) You can turn the assignment in to the psychology department office (Straub Hall room 131) or to your Lab Coordinator's office (see above) as late as 3:00 p.m. *Be sure to put your name and your Lab Coordinator's name on the assignment.* It is a good idea to bring questions on the problem sets to lab sessions. **Your work must be shown in order to get full credit for homework problems.** Late homework will receive a 10% reduction in your score per day that it is late (i.e., 1 day- 10%, 2 days- 20%, and so forth). Lab Coordinators will discuss the particulars of how to hand in homework to get full credit in lab.

Learning Checks: There will be 1-2 Learning Checks posted on Blackboard each week based on the lectures and the readings for that week. Assigned learning checks should be completed before each exam. You may use learning checks as reviews for the exams. Learning Checks must be complete by exam day in order to receive credit for them.

You may take each Learning Check more than once. So, try it closed book first and then try it again with notes if you had problems. Learning Checks are assessed on a pass/no pass basis. If you complete the check, you get a "pass"; if you don't complete it, you receive a "no pass." Your score on the Learning Check is *not* recorded; it is for your own reference.

## Grading

Participation	30 points	(in-class/Blackboard – 20; learning checks – 10)
Homework	130 points	(10 first problem set, 15 for subsequent)
Exams	80 points	(20 each exam)
Final Exam	100 points	
	<b>340 points</b>	

Letter grades will be assigned using the following scale (based on percentage of total points earned):

%	Grade
98-100	A+
93-97	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
> 70	Pass
< 70	No Pass

**Additional Notes:**

- Concerns: If you find yourself doing more poorly in the class than anticipated, please see the Instructor or your Lab Coordinator sooner rather than later. If you wait to come forward with any problems, you may find that it is too late to do anything about your grade.
- Cheating: Cheating will not be tolerated. If cheating is discovered on the Final Exam or the bi-weekly exams, then the University will be notified and appropriate action will be taken. You may work together on the problem sets, but each student needs to turn in an individually completed problem set for credit.
- Accommodations: If one of the following applies to you, please see the instructor *as soon as possible* to make adjustments.
  - Documented learning disability
  - Non-documented need for adjustments to help you learn
  - On a sports team that travels this quarter
  - English is not your first languageWith advance planning, adjustments are relatively easy. Adjustments at the last minute are problematic and sometimes not possible:

## Tentative Schedule of Lecture Topics and Readings

Date	Topic(s)	Reading
Jan. 3	Orientation/Definitions, Frequency Distributions	Appendix A, Ch. 1 & 2
Jan. 5	Graphs, Central Tendency	Ch. 2 & 3
Jan. 10	Variability, Z-scores	Ch. 4 & 5
Jan. 12	Z-scores, Probability	Ch. 5 & 6
Jan. 17	<i>No class – Martin Luther King, Jr. Day</i>	--
<b>Jan. 19</b>	<b>Exam 1</b> , Inference to Samples, Standard Error	Ch. 7
Jan. 24	the Z-sub-X-bar test, Hypothesis Testing—Intro	Ch. 7 & Ch. 8
Jan. 26	Hypothesis Testing—Intro. + More Issues	Ch. 8
Jan. 31	One-sample t-test, independent samples t-test	Ch. 9 & Ch. 10
<b>Feb. 2</b>	<b>Exam 2</b> , Independent samples t-test	Ch. 10
Feb. 7	Related samples t-test, Intro to ANOVA	Ch. 11 & 13 (skip 12)
Feb. 9	One-way analysis of variance (ANOVA)	Ch. 13
Feb. 14	Two-way ANOVA	Ch. 14.3
<b>Feb. 16</b>	<b>Exam 3</b> , effect size	--
Feb. 21	Bivariate correlation	Ch. 15
Feb. 23	Bivariate correlation, linear regression (+ r-squared)	Ch. 15
Feb. 28	Chi-square goodness of fit	Ch. 16
<b>Mar. 2</b>	<b>Exam 4</b> , Chi-square fit + independence	Ch. 16
Mar. 7	Which test do I use?	lecture handout
Mar. 9	Which test do I use/Review	--
<b>Mar. 14</b>	<b>Final Examination – 3:15-5:15pm – Esslinger 105</b>	

## Tentative Homework Due Date Schedule

*Each homework assignment (except the first) will be assigned on a Wednesday and will be due on the next Thursday by 3pm to the psychology main office (Straub Hall 131)*

Assignment	Date Assigned	Date Due (by 3pm)
Homework 1	January 3	<b>January 10</b>
Homework 2	January 5	<b>January 13</b>
Homework 3	January 12	<b>January 20</b>
Homework 4	January 19	<b>January 27</b>
Homework 5	January 26	<b>February 3</b>
Homework 6	February 2	<b>February 10</b>
Homework 7	February 9	<b>February 17</b>
Homework 8	February 16	<b>February 24</b>
Homework 9	February 23	<b>March 3</b>

Homework will be handed back on Mondays (or Tuesdays in lab) so that you may use it to study for Exams (which are biweekly on Wednesdays). You may turn in homework on Wednesdays if you cannot (do not want to) come to Straub Hall on Thursday.