

# Course Syllabus

## Statistics and Research Methods

### Spring 2004 - PSYCH 3101-200

**Instructor:** Dr. Michael Stallings

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Office Hours: Tues. 8a-10a Muenzinger D-319

**Lectures:** 12:30 - 1:45p Tues. and Thurs. Muenzinger E-0046

<b>Labs:</b>	L210	11:00a - 12:50p	Fri	Muenzinger D346	Jesse Hawke
	L211	11:00a - 12:50p	Wed	Muenzinger D346	Jesse Hawke
	L212	08:00a - 09:50a	Thurs	Muenzinger D346	Hiromi Sumiya
	L213	10:00a - 11:50a	Thurs	Muenzinger D346	Hiromi Sumiya
	L214	10:00a - 11:50a	Tues	Muenzinger D346	Joshua Madsen

#### Course Objectives:

- 1) To facilitate critical evaluations of research findings and the use of statistics in everyday life
- 2) To facilitate intellectual access to scientific journals and books
- 3) To provide an introduction to the conducting and reporting of psychological research
- 4) To provide an introduction to computerized data analysis

#### Course Materials:

Primary textbook: David C. Howell (2004). *Fundamental Statistics for the Behavioral Sciences* (5<sup>th</sup> Edition). Brooks/Cole--Thomson Learning, Belmont, CA, USA. (CD on reserve)

Additional materials will be placed on reserve in the library or provided as handouts.

Class Email List: <http://psych.colorado.edu/courses.html> (note: PSYC 3101 section 200)

## Course Requirements:

- 1) 12 Laboratory assignments will be assigned approximately weekly
- 2) 6 Quizzes will take place every 2 to 3 weeks during lab sessions
- 3) Two midterm exams: Exam I (Feb 12) Exam II (Mar 18)
- 4) Final exam: **Saturday, May 1, 10:30a - 1:00p**

**Laboratory Assignments:** Laboratory assignments will be assigned approximately weekly throughout the course. There will be a total of 12 lab assignments. Assignments will be due at the next lab session (1 week following the original assignment). Because these assignments are meant to facilitate class discussion and learning of current course material, there will be **NO MAKE-UP** for missed laboratory assignments, except under extraordinary circumstances. You will be allowed to drop your two lowest scores. Lab assignments are worth 10 points each for a total of 100 points.

**Quizzes:** There will be a total of 6 quizzes throughout the semester. Quiz items will be taken from exercises at the end of each chapter in your textbook. You will be allowed to drop your lowest quiz score. Quizzes are worth 10 points each for a total of 50 points.

**Laboratory Grade:** Your total laboratory grade will be based on both lab assignments and quizzes; a total of 150 points.

## Approximate Exam Schedule: Dates for Spring 2004 semester

Midterm I	February 12	
Midterm II	March 18	(note: this is the Thurs before Spring Break)
Final Exam	May 1	(Saturday: 10:30a - 1:00p)

Exams will consist of multiple-choice items and problem sets with multiple-choice responses. Although midterm exams will focus on the immediately preceding segment of material, knowledge of principles and concepts is expected to accumulate during the semester. The final exam will cover material from the entire course.

**Make-up Exam Policy:** Exams must be taken at the scheduled time, except under extraordinary circumstances. If you need to make-up an exam, be sure to coordinate this with me **PRIOR TO** the scheduled exam. If you can't call, have someone call for you. Transportation difficulties or problems with work or school schedules are not adequate justification for a make-up exam.

## Assessment and Grading:

Laboratory grade:	30% (150 points)
Exam I:	20% (100 points)
Exam II:	20% (100 points)
Final Exam:	30% (150 points)

**Special Needs:** If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities (303-492-8671, Willard 322, [www.Colorado.EDU/disabilityservices](http://www.Colorado.EDU/disabilityservices)). Every effort shall also be made to accommodate all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance, provided that you notify me well in advance of the scheduled conflict.

## Course Schedule

DATE		SUBJECT	TEXT CHAPTER
January	13	<b>Introduction to the course</b> (Only Friday Lab meets during Week-1)	1
	15	<b>Basic Concepts</b>	2
	20	<b>Reliability and Validity</b> (Lab 1: Class survey + exercises)	
	22	<b>Displaying Data</b>	3
	27	<b>Measures of Central Tendency</b> (Quiz 1; Lab 2: Intro to StatView)	4
	29	<b>Measures of Variability</b>	5
February	3	<b>The Normal Distribution</b> (Quiz 2; Lab 3: Means and variances)	6
	5	<b>Basic Concepts of Probability</b>	7
	10	<b>Review</b> (Lab 4: Normal Distribution and z-scores)	
	12	<b><u>Midterm I</u></b>	(1 - 7)
	17	<b>Sampling Distributions and Hypothesis Testing - I</b> (Lab 5: Probability)	8
	19	<b>Sampling Distributions and Hypothesis Testing - II</b>	8
	24	<b>Hypothesis Testing I: One Sample</b> (Quiz 3; Lab 6: Hypothesis testing)	12
	26	<b>Hypothesis Testing II: One Sample</b>	12
March	2	<b>Hypothesis Testing: Two Related Samples</b> (Lab 7: One sample t-test)	13
	4	<b>Hypothesis Testing: Two Independent Samples</b>	14
	9	<b>Power - I</b> (Quiz 4; Lab 8: Two sample t-test)	15
	11	<b>Power - II</b>	15
	16	<b>Review</b> (Lab: Review session)	
	18	<b><u>Midterm II</u></b>	(1 - 8, 12 - 15)
	23 & 25	<b>Spring Break! Enjoy yourselves!</b>	

March	30	<b>Oneway ANOVA - I</b> (Lab 9: Power)	16
April	1	<b>Oneway ANOVA - II</b>	16
	6	<b>Factorial ANOVA - I</b> (Quiz 5; Lab 10: Oneway ANOVA)	17
	8	<b>Factorial ANOVA - II</b>	17
	13	<b>Correlation - I</b> (Lab 11: Factorial ANOVA)	9
	15	<b>Correlation - II</b>	9
	20	<b>Regression - I</b> (Quiz 6; Lab 12: Correlation and regression)	10
	22	<b>Regression - II</b>	10
	27	<b>Multiple Regression</b> (Lab: Review session)	11
	29	<b>Review: Last Day of Classes!</b>	
May	1	<b><u>Final Exam</u></b> <b>(Saturday: 10:30a – 1:00p)</b>	(Cumulative)