Statistical Methods
Psychology 211
Spring Semester 2006

Instructor:	**Dr. Bette Ackerman**	**Course Assistant:**	**Chase Williams**
Office	117 Clough	Asst.'s Office:	108A Clough
Office hours:	M & W 1:00 – 3:00		
	Th 3:00 - 5:00		

I. Purpose

This course is designed to provide you with a basic understanding of some of the statistical procedures used in psychological research. There will be an emphasis on the interpretation of the statistical results rather than on rote memorization of complicated equations. You will be required to adopt the APA style of reporting statistics, which is the standard used within Psychology. In addition to helping you to learn the skills and techniques of statistical evaluation and analysis, it is my goal that you develop an <u>intuitive</u> grasp of statistics--that is, an appreciation for the logical structure of statistical analysis and its critical role in psychology.

Course Goals/Objectives:
   a. gaining factual knowledge
      (including basic descriptive statistics and inference testing)
   b. understanding of the basic principles of hypothesis testing & inferential statistics
      (learning how the principles and procedures combine to make a coherent whole)
   c. learning to apply statistical procedures to real world questions
      (recognizing questions which can be answered through quantitative analysis, as well as knowing which procedures are appropriate for specific problems)

By achieving these three essential goals, you will begin to understand how psychologists think about problems, as well as learn many of the basic principles you will need to critically evaluate research

II. Required Text and Materials

Text: Thorne, B.M. & Giesen, J.M. (2002). *Statistics for the Behavioral Sciences (4rd ed.)*. Mountain View, CA. Mayfield Publishing Co.

My class notes (and the homework) are available to you on the college network. You are encouraged to open the appropriate lecture file at the beginning of class, and either type your notes to appear along with mine, or else print them before class and write on the printed copy. This process will ensure that you have a "proper" copy with no errors due to copying from the board allowing you to spend more of class time actually THINKING about the material being discussed in class. **Location of class notes is:**

\\fileserver1\Academic Departments and Programs/Psychology/Ackerman_Bette/Public/Psych211ClassNotes/StudentNotes/

NOTE: You need to make your own copy of these notes and either save it to your student volume or to a diskette. If you open the class notes without copying them first, no one else will be able to open the file.

Bring a pocket calculator to each class meeting, lab, and exam. The calculator must be capable of addition, subtraction, multiplication, division, and extraction of square roots. You need to know how to save material to your student volume and/or you may want to bring your own jump drive or diskette.

Computer work will be an integral part of this course. The purposes of the computer work are: to provide instruction in the use of the SPSS statistical program on the computers, to learn to interpret printouts of computer generated statistical analyses, and to work practice problems using SPSS. I will provide a quick introduction to conducting the various statistical procedures in class during regular class hours, but you will also need to consult the reference book provided with the text. SPSS can only be performed in the computer labs, so you may want to bring a jump drive or diskette in case, for some reason, you can't save your work to your student volume.

III. Quizzes

There will be unannounced quizzes, possibly on the scheduled reading and/or previously covered lecture material.

These quizzes may include short answer questions, multiple-choice questions, or may require some computation. These quizzes comprise 5% of your final grade and will be taken during the first five minutes of class. Students <u>not present and seated (no matter what the reason) will not be given make-up quizzes</u>.
Note: I will attempt to provide daily quizzes which are available online so that class time does not need to be used. More on this later!

IV.   Homework
These assignments are at the end of each chapter's class notes. Homework will be given on a regular basis (see attached class schedule) and is <u>due at the beginning of class</u>. Chase will be available every evening before homework is due. You will be expected to complete the computer part of the assignments on the Dell computers in the computer labs, where the SPSS program resides. Each homework assignment will be graded; these assignments comprise 15% of your final grade.

V.   Exams
There will be 4 examinations. The exams will be some combination of multiple choice questions, computation on problems, and interpretation of some statistical analyses (i.e., SPSS printouts). Each exam will be worth 100 points and will make up 15% of your course grade. The final exam will be comprehensive in that you will need to pull from the entire semester's work. The closed-book part will ask you to identify which statistical test is called for given the situation. The open-book part of the exam will consist of an SPSS data set & description, which you will analyze. The two parts, together, are worth 20% of your course grade.

VI.   Grading Scale
The grades may be curved upwards at the end of the semester before assigning the final course grade. However, students are guaranteed of at least the following cutoffs being applied:

93 – 100%	A	73 – 76%	C
90 – 92%	A-	70 – 72%	C-
87 – 89%	B+	67 – 69%	D+
83 – 86%	B	63 – 66%	D
80 – 82%	B-	60 – 62%	D-
77 – 79%	C+	< 60%	F

VII.   Additional Comments
You are expected to work the homework problems independently. Students may consult each other for assistance, but only after they have worked the problem for themselves. Students are encouraged, however, to work with the professor or the class assistant rather than working with other students. You must pledge each assignment, and in doing so, you are pledging that this work was done by you and <u>not copied from the work of other or former students</u>.

Honor Code: All students are required to read the Honor Code, which is provided on the college webpages. The following will be considered violations of the Honor Code: (1) copying/using the work of other or previous students (cheating) as defined above, (2) consulting old tests from <u>either</u> Drs. Ackerman or Person, (3) collaborating inappropriately on homework assignments with other students and/or allowing them to copy or use <u>your</u> work (homework, quizzes, exams, anything), (4) lying in official matters, and (5) stealing.

Written work: All written work must be NEAT! Problems must be laid out in a logical and progressive fashion, starting from the formulas & proceeding to work though the problems. If you get to the right answer but I cannot follow the sequence of work, I will take off points (true for exams, homework, quizzes, everything!) I am not requiring that you type your assignments, but I must be able to read and follow your work. If you have problematic handwriting, I suggest that you type your work. A 20% grading penalty will be applied to work that I return to you for neatness revision.

Late work: The whole point of assigning homework is to insure that students are keeping pace with the class: it is critical that students keep up and actually attempt to work problems on their own. All homework and lab assignments will be collected at the beginning of class. ANY assignment that is turned in after the beginning of class, <u>regardless of reason</u>, will be considered late and will receive a 30% reduction in grade. For example, if you are sick or skip class to finish a homework assignment and turn it in after the class meets, it will be considered late.

Class Schedule

Class	Day	Date	Topic	Reading Due (Chapt.)	Homework Due (Chapt.)
1	Th	**January** 12, 06	Overview of Course		
2	Tue	17	Basic Definitions & SPSS and the BIG Picture!	1 & 2	
3	Th	19	Frequency Distributions & Graphs	3 & 4	HW 1-2
4	Tue	24	Measures of Central Tendency	5	HW 3-4
5	Th	26	Dispersion/Variability & Standard Scores	6	HW 5
6	Tue	31	Review		HW 6
7	Th	**February** 2	**Exam 1**		
8	Tue	7	Probability	7	
9	Th	9	The Normal Distribution & z-scores	8	HW 7
10	Tue	14	Confidence Intervals and Hypothesis Testing	9	HW 8
11	Th	16	Single Sample t-Tests		
12	Tue	21	Two Sample t-Tests--Independent	10	HW 9
13	Th	23	Two Sample t-Tests--Dependent & Review		HW 10
14	Tue	28	**Exam 2**		
15	Th	**March** 2	One-Way ANOVAs	11	
16	Tue	7	Repeated Measures ANOVA		
17	Th	9	Two-Way ANOVAs	12	HW 11
			Spring Break!!		
18	Tue	21	More two-way ANOVAs		
19	Th	23	Main Effects & Interactions		HW 12
20	Tue	28	PostHocs & Simple Effects & Review		HW 12b
21	Th	30	**Exam 3**		
22	Tue	**April** 4	Correlation	13	
23	Th	6	Regression		
24	Tue	11	More on regression or help on 212 projects		
			Easter Break		
25	Tue	18	Chi-Square	14	HW 13
26	Th	20	**Exam 4**		
27	Tue	25	Other Non-Parametrics Other Statistics	15	HW 14
28	Th	27	Which Statistic?	Handout	
Take home, due Monday May 1 @ 5:00			**Final Exam**		