

## Introduction to Bibehavioral Statistics Psychology 204 CD

Instructor:	Dr. R. Stuetzle	Semester:	Fall 2007
Office:	Flipse 515	Class time:	MW 10:10 – 12: 05
Office hours:	MW 9-10; 2:30-4:45, or by appointment	Class room:	Flipse 535
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Required text: Pagano, R.R. (2007). Understanding Statistics in the Behavioral Sciences, 8<sup>th</sup> Edition. Brooks/Cole.

\*\*\* Note: This syllabus is subject to change. \*\*\*

Course summary: This course is an introduction to statistics, as it applies to biological and behavioral sciences. Topics to be covered in this course include: 1) the use of descriptive and inferential statistics with bibehavioral data, 2) summarizing and presenting data in a useful format, 3) correlation and prediction, 4) probability, 5) hypothesis testing and power, 6) tests of group differences and the analysis of variance.

Course overview: This course is intended to teach the basics of statistical analysis, its use, and application. This is *not* merely a course where you will memorize formulae, plug in some numbers, turn the crank, and come up with the only answer needed. You *will* be using formulae and *will* be memorizing some of them. However, that is *not all* you will be doing. Instead, a solid understanding of the reason for using the formula, why it does what it does, and how the answer is used will be a major focus of this course.

Because of this approach, it is very important to keep up with the material. Statistics is not a course where you can play "catch up" right before the exam. The material is cumulative in nature, and difficult, so I encourage you to make preparation for the class a priority. It is also recommended that, should you begin to have trouble with material, come see me as soon as possible. Please don't wait and hope the problem will go away. It won't.

There will be substantial overlap between the text and lecture materials, as in a regular math course. However, the overlap will not be total, and you are responsible for all material, both text and lecture. There *will* be some material that is not covered in the text.

Attendance: Attendance is not required. However, it will be taken at each class and is *strongly* encouraged for several reasons. As mentioned above, the lecture will not be a repeat of the text. In addition, it is very hard to understand statistics well (or sometimes even at all) without repeated exposure to material and/or the working-through of problems. This will be done in class. Without regular attendance, you will not do well in this course. Finally, it is during class time that clarification questions will be answered. As most of you have been told before, if you have a question about some point, chances are so do two other people in the class, and vice versa. Class is your opportunity to have these questions cleared up, something that can't be done by just reading the text.

If you need to miss class due to specific reasons, such as religious holidays or sports-related activities that are planned, *especially* if that absence involves an exam day (see exams below) you *must* inform me of this absence no later than **September 7** so that arrangements may be made.

Arriving late and leaving early are two very distracting things, both for the instructor and for the class. I realize that traffic in Miami is terrible, and that sometimes delays will occur. However, be aware that class announcements will be made at the beginning of class, and that by arriving late, you may miss something important. If you do arrive late, please make an effort to be as minimally disruptive as possible (sit in the back of the room for example). The same goes for leaving early. You are scheduled for class as indicated above, and therefore except for very unusual circumstances should not need to leave early.

Cell phones: A cell phone going off during class is perhaps the most annoying and disruptive event I can think of outside of a fire drill. Therefore, before class begins, turn all cell phones to vibrate. If your cell phone cannot be set to vibrate, turn it off. Unless there is some extraordinary reason that you must be able to receive a call during class time, which you tell me about ahead of time, don't let your phone ring

Exams: There will be four (4) exams in this class, with *no* comprehensive final. These exams are not cumulative per se, but due to the nature of the course, the material is cumulative, and therefore a working knowledge of earlier material is necessary to do well on later tests. These exams will consist of short-answer and fill-in-the-blank questions, as well as computational problems. Required formulae for the most part will be provided for you. Calculators should be used during exams, but will not require any function more advanced than simple arithmetic and square root functions.

Do not miss an exam. Unless there are very unusual circumstances, there will be no possibility for make-ups for missed exams, and any test missed will receive a grade of zero. Only in documented cases authorized by the Dean's office will exceptions be made. Any make-up exams will be administered during the final exam period.

Homework: In addition to the four exams, there will be homework assignments which will count for a total of 100 points. These assignments will be short, and will combine computational and factual information in a format similar to the exams. These may be used as a gauge on your understanding of the material at any given point in the semester. Additional problems, as well as the answers, including the steps required to complete them (those problems that are not in the text) may also be available on the course website.

Honor code: This course adheres strictly to the University honor code. Any attempt to cheat in any way will be considered a violation of the honor code, and sufficient reason to assign a failing grade for the course. Additional action such as an honor council investigation may also be taken. The honor code also applies to any quizzes given. The University honor code (On my honor, I have neither given nor received aid on this exam) will be affixed to the bottom of all exams and assignments, and **MUST** be signed in order to receive a grade.

Grading:

Your final grade will be calculated based on the total number of points you receive during the semester. The total number of possible points will be as follows:

Each exam (100 points possible) x 4 exams .....400 points  
 Homework .....100 points  
 Total possible.....500 points

The final grades will be assigned according to the following chart. Please note that I do NOT "bump" grades to the next level, nor do I "curve" exam grades unless the distribution of scores on individual items indicates that an item was poor.

<u>Letter Grade</u>	<u>Percentage (approximate)</u>	<u>Exact point values</u>
A+	97% or above	483-500
A	93 - 96%	463-482
A-	90 - 92%	448-462
B+	87 - 89%	433-447
B	83 - 86%	413-432
B-	80 - 82%	398-412
C+	77 - 79%	383-397
C	73 - 76%	363-382
C-	70 - 72%	348-362
D+	67 - 69%	333-347
D	63 - 66%	313-332
D-	60 - 62%	298-312
F	59% or below	297 or less

<u>Class meetings:</u>	<u>Topic(s) to be covered</u>	<u>Readings</u>
<b>Week 1</b>		
8/22	Introduction and welcome / Statistics and Scientific Method	Chap 1
<b>Week 2</b>		
8/27	Basic Mathematical Concepts / Frequency Distributions	Chap. 2/3
8/29	Frequency Distributions	Chap. 3
<b>Week 3</b>		
<b>9/3</b>	<b>LABOR DAY (NO CLASS)</b>	
9/5	Frequency Distributions (cont'd)	Chap. 3
<b>Week 4</b>		
9/10	Measures of Central Tendency and Variability	Chap. 4
9/12	Central Tendency (cont'd)	Chap. 4
<b>Week 5</b>		
9/17	<b>*** EXAM 1 ***</b>	
9/19	The Normal Curve and Standard Scores	<b>Chap. 5</b>
<b>Week 6</b>		
9/24	Standard Scores (z scores) / Correlation	<b>Chap. 5/6</b>
9/26	Correlation (cont'd)	Chap. 6
<b>Week 7</b>		
10/1	Linear Regression	Chap. 7
10/3	Regression (cont'd)	Chap. 7
<b>Week 8</b>		
10/8	Random Sampling and Probability	Chap. 8
10/10	Probability (cont'd)	Chap. 8
<b>Week 9</b>		
10/15	<b>*** EXAM 2 ***</b>	
10/17	Introduction to Hypothesis Testing	Chap. 10
<b>Week 11</b>		
10/22	Hypothesis Testing (cont'd) / Power	Chap. 10/11
10/24	Power (cont'd) / Sampling Distributions	Chap. 11/12
<b>Week 12</b>		
10/29	Sampling Distributions and the z test / One-sample t test	<b>Chap. 12/13</b>
10/31	One-sample t test / Correlated Samples t test	<b>Chap. 14</b>
<b>Week 13</b>		
11/5	Dependent t test / Independent t test	<b>Chap. 14</b>
11/7	Independent t test	<b>Chap. 14</b>
<b>Week 14</b>		
11/12	<b>*** EXAM 3 ***</b>	
11/14	Introduction to the Analysis of Variance (ANOVA)	<b>Chap. 15</b>
<b>Week 15</b>		
11/19	ANOVA (cont'd)	<b>Chap. 15</b>
11/21	ANOVA / Multiple Comparisons	<b>Chap. 15/16</b>
<b>Week 16</b>		
11/26	Multiple Comparisons	<b>Chap. 16</b>
11/28	Chi-square / Review (if time)	<b>Chap. 18</b>
<b>12/5</b>	<b>*** EXAM 4 *** 8:00 a.m.-10:30 a.m.</b>	

**Note: Dates with readings in bold indicate you should bring your textbook to class that day**

PLEASE NOTE: This schedule is a *working* schedule. I will make every attempt to stay as close to it as possible, but some changes during the semester may be necessary. Exam dates and the material to be covered on the exam will be confirmed at least one week before the exam is scheduled. Also please note that those readings that are in bold indicate days when we will be referring to tables in the back of the text, and you should therefore bring your texts to class on those days unless otherwise indicated.