

**Psychology 522/524 – Statistics and Data Analysis I & II**  
**Fall 2003 / Spring 2004**  
**Syllabus**

Dr. Andy Karpinski  
*Office:* 520 Weiss Hall  
*Email :* andykarp@temple.edu  
*Phone:* 204-3102  
*Office Hours:* MW 12:30-2:30  
and by appointment

*Teaching Assistant:* Carolyn Fenter  
*Office:* 549 Weiss Hall  
*Email:* cfenter@temple.edu  
*Office Hours:* TBA

I am happy to meet with you to go over lecture/textbook material, homework, tests, or to address any questions you have about the class – just stop by during office hours or make an appointment.

---

**Class Meets:**           Lecture:     Monday/Wednesday     8:30-10:30 AC 28  
                              Lab:           TBA

**Course Objectives:**

This course is the first course in a two-semester sequence on statistics and data analysis. In this first semester, we will briefly review some basic statistical concepts, and then cover analysis of variance (ANOVA) in considerable detail. Next semester we shall finish our coverage of ANOVA, and move on to repeated measures and regression analysis.

**Course Website:** <http://astro.temple.edu/~andykarp/psych522.htm>

Extensive course notes and assignments will be provided in .pdf format on the website. I strongly recommend that you print the course notes before coming to class.

**Class Email List:** [psychstats@listserv.temple.edu](mailto:psychstats@listserv.temple.edu)

I will use this list to email the class updates, corrections, and last minute changes. You should feel free to use this list if you have any questions or comments that are relevant to the entire class.

**Prerequisites:**

I assume that if you are taking this class, you have already completed an introductory statistics course. If you have not completed an introductory statistics course, or are very rusty, we should talk about what you can do to prepare for this course. We have much material to cover, and falling behind even a couple of days will be stressful.

**Textbooks:** There is one strongly recommended text for this course:

Cohen, B. H. (2001). *Explaining psychological statistics* (2<sup>nd</sup> Edition). New York: Wiley. (ISBN: 0-471-34582-2)

Errors in the textbook are documented on the following page:

<http://www.psych.nyu.edu/people/faculty/cohen/ERRATA.html>

This semester we will review basic concepts and cover between-subjects ANOVA. Cohen is a psychologist and has written this book for a Master's level statistics class in a psychology department. This book is clearly written and covers most of the material we will discuss in class. Each chapter has a number of exercises that you can work on your own if you feel you need additional practice with a concept. Also, I urge you to pay close attention to the "Publishing the Results" section in most chapters where Cohen gives an example of how to write results in APA format.

The disadvantages of this book are that it is short on computer examples and some technical details. I will be supplementing this book with additional material in lecture, and we will frequently go beyond the details covered in Cohen. If you have a strong mathematical background, or if you have already taken an advanced undergrad class on ANOVA, you may want to invest in a more thorough book. I highly recommend the following book for all the nitty-gritty details:

Maxwell, S. E., & Delaney, H. D. (2003). *Designing experiments and analyzing data: A model comparison perspective, second edition*. Mahwah, NJ: Lawrence Erlbaum.

---

---

***Statistical Software:***

In this course, I will focus less on the computational details of an analysis, and more on understanding and interpreting analyses. We will occasionally do some small analyses by hand, but the majority of our calculations will be done on a computer, and all problem sets in this course will require the use of a statistics package. All of the examples from lecture and lab will be conducted using SPSS. You will use statistical software throughout your graduate career and perhaps beyond. Thus, you might want to consider purchasing the SPSS grad pack for your home computer (Do not purchase the student edition of SPSS – you want the grad pack). If you prefer working in the comfort of your own home and on your own time schedule, then having SPSS on your own computer can be invaluable (although the purchase of SPSS is certainly not required nor necessary for this course).

***Homework Assignments and Exams:***

Problem sets will be assigned in lecture, spaced approximately a week and a half to two weeks apart. These assignments will be a combination of hand calculations, analysis of data sets, and short answer questions. Anticipate spending a great deal of time on the homework assignments. I have high expectations for you! I put a great deal of effort into this course, and I expect you to do the same.

There will be an in-class midterm (TBA) and an in-class final exam (12/15 8:30am). The times and nature of these exams will be discussed in lecture.

***Late Homework Policy:***

Homework must be turned in at lecture on the day it is due. Late homework will be accepted up to 5 days after the due date, but a 20% reduction in your score will be applied for each day that the assignment is late.

You have one “Late Homework Pass” that allows you to turn in one assignment up to two days late with no penalty and no questions asked, subject to the following conditions:

- You must inform me at or before the due date that you wish to use your Late Homework Pass.
- If you apply your Late Homework Pass and do not turn in the assignment within two days of the due date, regular late penalties will apply.
- The Late Homework Pass may only be applied to one homework assignment (that is, it may not be split into two one-day extensions).
- The Late Homework Pass is non-transferable and has no cash value.

***Grading:***

The final grade will be computed as follows:

- Problem Sets                      50%
  - Midterm Exam                      25%
  - Final Exam                          25%
-

## Tentative Course Outline

Topics	Recommended Readings in Cohen
• Review of Basic Concepts and Descriptive Statistics	Chapters 1-4
• Review of Hypothesis Testing and Basic Tests	Chapters 5-8, 20
• Intro to Oneway ANOVA	Chapter 12
• ANOVA Diagnostics and Remedial Measures	
• Contrasts in ANOVA	Chapter 13
• Planned and Post-hoc tests	
• Two-way ANOVA	Chapter 14
• Three-way ANOVA	
• Advanced Topics in ANOVA	
• One-Factor Repeated Measures ANOVA	Chapter 11, 15
• Multi-Factor Repeated Measures ANOVA	Chapter 16
• Correlation	Chapter 9
• Simple Linear Regression	Chapter 10
• Regression Diagnostics and Remedial Measures	