

# Data Analysis II

Psy 612  
CRN 25146  
Winter 2011  
1000-1120 TR  
Gerlinger 242

## Instructor:

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Office Hours: UH 1300-1400 & by appt.

## Teaching Assistants:

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Office Hours: TBA

## Laboratory

180 Straub CRN: 25147, 25148 F 10-1120; 1130-1250

## Course Information

This is the second course in a three course graduate level data analysis sequence. This course is devoted to topics in multiple regression with special emphasis on complex analysis of variance and experimental design. It is assumed that all students have successfully completed Psy 611 (Data Analysis I) or equivalent. In general, the text chapters listed in the syllabus cover the material planned for class on the day that they are assigned and provide more in depth coverage of some of the issues.

### Inclement Weather Policy

If Eugene School District 4J cancels (not delays) school, we will cancel class. Nothing we do in this class can't wait until its safe to travel.

## Texts:

- Pedhazur, E. J. (1997). Multiple Regression in Behavioral Research (3rd Ed.). Harcourt Brace: San Diego, CA.
- Keppel, G. & Wickens, T. (2004). Design and Analysis: A Researcher's Handbook. Prentice Hall: Upper Saddle River, NJ.

Class notes available on Blackboard

## Other Useful Books:

### Analysis of Variance & Experimental Design

- Hays, W. L. (1994). Statistics (5th ed). Harcourt Brace College Publishers: Fort Worth.
- Tamhane, A., & Dunlop, D. (2000). Statistics and Data Analysis. Prentice Hall: Upper Saddle River, NJ.
- Winer, B. J. (1971). Statistical principles in experimental design (2d ed). McGraw-Hill: New York.

### Multiple Regression & Related Issues

- Cohen, J. & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences. Lawrence Erlbaum Associates: Hillsdale, N.J.
- Wonnacott, R. & Wonnacott, T. (1970). Econometrics. J. Wiley: New York.

### Conducting Empirical Research

- Abelson, R. (1995). Statistics as Principled Argument. Lawrence Erlbaum: Hillsdale, N.J.

## Class Requirements:

Complete take-home midterm (35% of grade), final (50% of grade), and weekly homework assignments (15%) of grade (see [guidelines](#)). Homework will be assigned and due each Thursday. Homework should be e-mailed to Naomi Aguiar at [naguiar@uoregon.edu](mailto:naguiar@uoregon.edu) by 1000 on the Thursday that it is due. The laboratory section may have additional assignments.

# Syllabus

## Introduction to the General Linear Model

1/4	Linear Regression	P 1, 2
1/6	Regression Diagnostics	P 3
1/11	Basic Multiple Regression	P 5, 8
1/13	Partitioning variance	P 9, 10
1/18	Regression with categorical variables	P 11-12
1/20	Trend Analysis	P 13

## Complex Analysis of Variance

1/25	Representation of Experimental Designs	
1/27	Factorial Analysis of Variance	K&W 10-13, 21-22
2/1	Random Factor Models & Quasi-F's	K&W 24
2/3	Nested Designs	K&W 25 Midterm Out
2/8	Repeated Measures and Randomized Blocks	K&W 16-20
2/10		Midterm Due

## Advanced Topics

2/15	Missing Data and Nonorthogonal Designs	K&W 14
2/17	Analysis of covariance	K&W 15, P 14-15
2/22	Heteroscedasticity	
2/24	Autocorrelation	
3/1	Categorical Dependent variables	P 16-17
3/3		
3/8	Repeated Measures ANCOVA	Final Out
3/10	Review	
3/16	FINAL DUE 8:00 AM by e-mail	

P: Pedhazur;  
K&W: Keppel & Wickens