

**Clin Psych 426**  
***Research Methods I***

Course Syllabus  
Fall Quarter, 2005

Tuesday, September 20 – Thursday, December 8, 2004

Schedule: Tuesdays, 9:00am - 12:00pm, lectures in Abbott Hall Room 1225; SPSS lab scheduled as need approx. 1x per 2 weeks at 8:30 – 9:00am or 12:00 – 12:30pm.

Lecturer: Zoran Martinovich, PhD  
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Office Hours: By appointment, after class.

Class Format: 1 lectures each week, with 15 min break. Take home quiz every 2 or 3 weeks. N. Homework assignments throughout (worked answers are provided).

Prerequisite: This course may be substituted for PH 302 Intro to Biostatistics. Prior undergraduate introductory statistics course is recommended, but not required. This course is recommended for students that prefer a relatively rapid and labor-intensive (i.e., expect a substantial amount of homework) review of statistics.

Enrollment: Limit of 10 students (subject to revision)

Course Objectives

By the end of this class, students should be able to:

- \* Describe the purpose, proper use, and theory underlying fundamental statistical methods.
- \* Independently conduct appropriate inferential tests of basic research hypotheses involving comparisons of means, comparisons of percentages, and simple correlations.
- \* Determine appropriate subject sample sizes for these statistical tests (power analysis)
- \* Conduct these analyses both with and without the aid of a statistics program (SPSS).

Student Evaluation

Performance evaluation will be made throughout the course via frequent homework assignments and take-home examinations.

## Student Grading

Grading will be based on attendance/participation in class activities (lectures, SPSS training) and take-home exams distributed at class sessions approx. every other Tuesday.

Attendance/participation in class activities is required to pass; otherwise, grading is entirely based on equally weighted take-home exams. Take-home exams are due by Monday at noon, after the test is distributed on Tuesday (exams will be returned and discussed on Tuesday morning). There is no final exam. The final quiz will be due by Thursday morning of finals week.

## Texts

Primary Recommendation:

Hayes, W.L. (1988). Statistics (4<sup>th</sup> ed.). Fort Worth: Holt, Rinehart, and Winston.

Additional Recommended Texts:

Cohen, J. and Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences (2<sup>nd</sup> ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Keppel, G. (1991). Design and analysis: a researcher's handbook (3<sup>rd</sup> ed.). Englewood Cliffs, NJ: Prentice Hall.

## Topics and Dates

9/20:	Introduction and Overview;
9/27:	Review of descriptive statistics (central tendency, dispersion, plotting).
10/4:	Descriptive stats. continued (Correlation and Regression); Quiz
10/11:	Review of univariate inferential tests (probability theory; Bayes theorem; inferential theory, tests concerning means)
10/18:	Univariate inferential tests continued (Inferential tests for 1 or 2 means)
10/25:	Power analyses for tests concerning means, normal approximation, chi-square distribution; Quiz
11/1:	Tests for proportion(s) and associated power analyses
11/8:	Tests for variance(s) and correlation(s); chi-square and F; Quiz
11/15:	ANOVA theory, UWMA and WMA for 1-way, effect matrices
11/22:	ANOVA effect indicators, power analyses, range tests
11/29:	Orthogonal contrasts; polynomial trend analysis; deriving codes; Quiz
12/8:	Final Quiz is due.