

STA 6127
Statistical Methods for Social Research 2
Spring 2009
Section 7317 – Anderson 134 – MWF 1
Section 7314 – Anderson 134 – MWF 2

Instructor: Dr. Larry Winner

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Office Hours: TBA (See class website)

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Text: *Statistical Methods for the Social Sciences, 4th Ed*, Agresti and Finlay

Course Description: Statistical methods commonly applied in social science research, with a single response (dependent) variable and one or more explanatory/control (independent) variable(s). Cases covered include when the response and prediction variables are of interval, nominal, and ordinal scales. Models, interpretations, and computing (SPSS) will be stressed.

Course Topics

- Multiple Linear Regression
 - Model
 - Regression Coefficient Estimates, Standard Errors, t- tests
 - Analysis of Variance, F-test
 - Computer Output
 - Multiple Correlation, and R^2
 - Modeling Interactions
 - Comparing Models
 - Partial Correlation
 - Standardized Regression Coefficients
- Comparing Groups: Analysis of Variance Methods
 - Comparing More than 2 Group Means, F-test
 - Multiple Comparisons
 - ANOVA using Regression Approach
 - 2- Factor ANOVA
 - Randomized Block Design

- Repeated Measures ANOVA
 - Assumptions and Violations
- Analysis of Covariance/Predictors of Different Scales
 - Comparing Means and Regression Lines across Groups
 - Regression with Quantitative and Categorical Predictors
 - Interactions Between Quantitative and Categorical Predictors
 - Inference for Models with Quantitative and Categorical Predictors
 - Adjusted Means
- Model Building for Multiple Regression
 - Automated Selection Methods
 - Diagnostics
 - Multicollinearity
 - Generalized Linear Models
 - Polynomial Regression
 - Exponential Growth Models
- Logistic Regression for Categorical Responses
 - Logistic Regression for Binary Responses
 - Multiple Logistic Regression
 - Inference for Logistic Regression Models
 - Ordinal Response Models
- Introduction to Advanced Methods (Time permitting)
 - Longitudinal Data Analysis
 - Hierarchical Models
 - Factor Analysis
 - Structural Equation Models

Exam Dates:

- Exam 1: February 6
- Exam 2: March 4
- Exam 3: April 22

Notes:

- Homework problems will be assigned from textbook, but not graded.
- Homework projects will be posted on class website and will be taken up and graded. Projects must be handed in (hard copy), e-mail will not be accepted.
- Exams are 1-hour. You may bring a copy of the t, χ^2, F table with hand written notes (8.5x11")
- Homework will count 25% of your course grade, highest exam will be 30%, lowest exam 20%, median exam 25%
- Grades are not negotiable.