Instructor Name: Greg Hixon

Course Name: Introduction to Stata

Course Description:
The purpose of the course is to provide instruction in the use of Stata for data handling and conducting statistical analyses. Day 1 will provide an overview of the software, information on basic data handling and manipulation, and exploratory descriptive analyses. Days 2 and 3 will cover basic inferential analyses including chi-square tests, t-tests and ANOVA, and regression including the use of bootstrapping. Also covered in this section are principal components/factor analysis and related techniques used in scale construction. Throughout, the use of appropriate graphical techniques will be addressed and the basic theory behind each type of analysis will be reviewed. Day 4 will feature more advanced categorical analysis via binary and multinomial logistic regression. Coverage in this area will include the implementation of likelihood ratio testing in Stata. There will also be a brief introduction to Stata's programming capabilities for custom needs, and coverage of Stata's capabilities in structural equation modeling.

Day 1:
-- Installing Stata
-- Opening, manipulating, and saving data
-- Descriptive statistics, graphs, and basic data exploration

Day 2:
-- Chi-squared tests
-- Paired and independent samples t-tests
-- Oneway ANOVA
-- Multi-factor ANOVA including diagnostic checks

Day 3:
-- Univariate linear regression
-- Multivariate linear regression including diagnostic checks
-- Bootstrapping
-- Principal components and factor analysis

Day 4:
-- Binary logistic regression for dichotomous outcomes
-- Multinomial logistic regression for categorical outcomes with >2 levels
-- Likelihood ratio tests
-- Basic programming in Stata
-- Structural equations modeling