

# **Applied Data Analysis**

**Winter 2014**

## **WHO SHOULD TAKE THIS COURSE?**

This course is designed for students who are interested in developing skills for working with data and using statistical tools to analyze them. No prior experience with data or statistics is required.

## **WHAT ELSE SHOULD YOU KNOW?**

The approach is “statistics in the service of questions”. As such, the research question that you choose (from data sets made available to you) is of paramount importance to your learning experience. It must interest you enough that you will be willing to spend many hours reading about it, thinking about it and analyzing data having to do with it.

The course will offer an intensive hands-on experience in the research process. You will develop skills in 1) generating testable hypotheses; 2) conducting a literature review; 3) understanding large data sets; 4) formatting and managing data; 5) conducting descriptive and inferential statistical tests; and 6) reporting and interpreting results.

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## **SCHEDULE**

<b>Day 1:</b>	Course Introduction and Software (1) Data sets and code books (2) Data architecture (3) Working with data (4)
<b>Day 2:</b>	Literature review (5) Data management (6) Graphing (7, 8)
<b>Day 3:</b>	Hypothesis testing and ANOVA (9,10)
<b>Day 4:</b>	Chi Square (11) and Correlation Coefficient (12)
<b>Day 5:</b>	Moderation (13)
<b>Day 6:</b>	Regression (14) Sampling, study design and confounding (15,16)
<b>Day 7:</b>	Multivariate modeling
<b>Day 8:</b>	Multivariate modeling continued

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