

**Applied Statistics**  
**Family Relations and Applied Nutrition**  
**FRAN 6010**  
**Fall 2012**

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Office Hours: Tuesday 4:00pm – 6:00pm

Class:           Lecture:       Tuesday's 11:30am to 12:50pm in MACS 331  
                  Lab:            Tuesday's 1:00pm to 2:20pm in MACS 311A

### **1.0 Course Description:**

This course is designed to provide graduate students with a conceptual understanding of the issues and methods related to descriptive and univariate statistical analyses, regression modeling, logistic regression, multivariate analysis of variance/covariance, and repeated measures analysis of variance/covariance models (including univariate and multivariate applications) appropriate in applied social/health science research. The course covers conceptual and practical applications of statistical analyses with emphasis on selection of appropriate methods and models to address both simple and complex, multi-factorial data. This course is data-driven and students will learn primarily through hands-on analytic experiences accompanied by in-class lectures and readings.

### **2.0 Course Objectives**

1. Advance your knowledge of hypothesis testing and how they relate to complex datasets
2. Expand your SPSS capabilities to include univariate and multivariate analytic procedures
3. Understand how to interpret statistical output
4. Develop skills necessary for writing technical reports, methods and results sections

### **3.0 Readings:**

Field, A. (2009). *Discovering statistics using SPSS (3<sup>rd</sup> ed.)*. London: Sage.

Not required but useful:

1. 6<sup>th</sup> edition of the APA manual.
2. Using multivariate statistics (5<sup>th</sup> edition) by Tabachnick and Fidell (2007)
3. An introductory statistics textbook (i.e.: Evans 2008 or Colwell and Carter 2012)

## 4.0 Software:

SPSS for Windows will be used for this course. This program is available in the lab in MACS311A. For those wishing to obtain a copy of SPSS the **free concurrent version** is available from the CCS website.

## 5.0 Course Structure

Class time will be divided into two parts: (1) introduction of new material in lecture (MACS 331), and, (2) demonstrations and interpretations of statistical techniques using empirical examples (MACS 311a).

## 6.0 Course Requirements

The purpose of this course is to provide you with the ability to form hypotheses, select appropriate statistical tests, conduct statistical analyses, interpret your results, and use this information in a manner to help you to be productive in both your graduate training and your chosen profession. It is not the purpose of this course to overload you with symbols and equations. Ultimately, becoming an informed user of statistics and statistical software is the goal of this course. Your efforts will be evaluated accordingly.

## 8.0 Evaluation

### (1) Assignments

There will be three assignments worth a total of 70% to your final grade. Assignment #1 will be worth 15%, Assignment #2 worth 25%, and Assignment #3 worth 30%.

Every assignment must include a Results and Discussion section as per the 6<sup>th</sup> edition of the APA manual. Each assignment will detail the requirements. A brief APA tutorial can be found at: <http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx>

Assignments are to be submitted by email. For each assignment you will need to submit your Word file and SPSS output. While you are encouraged to speak with colleagues regarding the assignments, you must complete and submit your own work.

### (2) Take-home Final Examination

There will be one take-home final examination worth 30% to your final grade. You are expected to work alone to complete the examination. The exam will be handed out at the November 27<sup>th</sup> class. It will then be due within 72 hours. Keep in mind that more ≠ better! The format does not mean you have to write hundreds of pages. You are expected to answer the questions and discuss and interpret the results. Concise scientific writing is actually more difficult to accomplish than lengthy diatribes. Strive to be concise!

**NOTE:** Students are expected to fulfill course requirements in accordance with University policies on Academic Misconduct as found in the graduate calendar and also available on the university web site. Assignments are due by 5 p.m. on due dates. Late papers will be accepted with a penalty of 5% deduction per day.

## **9.0 Course Schedule**

The course schedule is posted on CourseLink. Please check it regularly as any changes will be posted there.