

# Course Syllabus

## 16:300:511

### Fall, 2012

#### Course Information

Course Title: Quantitative Research Methods in Education I: Introduction  
Instructor: Professor Chia-Yi Chiu  
Office: Room 326, Graduate School of Education  
Email: chia-yi.chiu@gse.rutgers.edu  
Office Hour: 3PM –4PM, Wednesdays  
Time: 4:50PM – 7:30PM, Wednesdays  
Place: Room 156, Records Hall  
Text: Moore, D. S., McCabe, G. P., Craig, B. A. (2010).  
*Introduction to the practice of statistics (7th ed)*. New York: W. H. Freeman.  
Software: *SPSS for Windows (Version 19)*. New York: Prentice-Hall.

#### Course Description

This course is designed to develop skills and understanding of statistical methods for problems in educational and social science research; topics include descriptive statistics, probability theory and distributions, point and interval estimation, and hypothesis testing, regression analysis, and one- and two-way analysis of variance (ANOVA).

#### Course Requirements

1. **eCollege Access:** The lecture notes will be posted on our course page supported by eCollege prior to every lecture. You have to download, print out the notes and bring them to the class. Also, the homework assignments are web-based. Please make sure you are able to access eCollege at [onlinelearning.rutgers.edu/ecollege](http://onlinelearning.rutgers.edu/ecollege) and familiarize with the functions required to access the notes and complete the homework assignments.
2. **Exams:** The two exams, midterm and final, are worth 30% and 30% of the final grade, respectively.
3. **Homework assignments:** Approximately 10 homework assignments, worth 40% of the final grade, will be given online throughout the semester. Homework assignments will be assigned on **Thursdays** and are due on the **Wednesdays** the week after they are assigned. So basically

you have almost a whole week to work on a homework assignment. No late homework assignment is accepted.

4. **Participation:** Your participation is expected throughout the semester. Please bring any necessary planned absences to my attention ahead of time. Also, questions during the office hours are strongly encouraged.
5. **Software & Calculator:** *SPSS for Windows* will be used extensively to conduct statistical analyses for homework assignments and class exercises. However, for the exams, a calculator that performs basic operations will suffice.
6. CELL PHONES AND SIMILAR DEVICES MUST BE TURNED OFF AND MUST STAY STOWED AT ALL TIMES DURING CLASS. LAPTOPS MAY BE USED ONLY FOR NOTE TAKING.

## Final Grade

Final letter grade will be assigned as follows:

Final Score	Letter Grade
90% and Above	A
80%-89%	B+
75%-79%	B
65%-74%	C+
60%-64%	C
Below 60%	F

## Class Schedule

The following class schedule is subject to change if necessary. Reading assignments must be completed each week prior to each lecture.

Date	Topic	Section
Sep 5	Displaying and Describing Distributions Normal Distribution Theory	Chapter 1
Sep 12	Scatter Plots and Correlation Regression Analysis SPSS	2.1-2.3
Sep 19	Cautions about Correlation and Regression Designs of Experiment and Statistical Inference	2.4, 3.1, 3.3
Sep 26	Randomness and Probability Models Random Variables SPSS	4.1-4.3
Oct 3	Means and Variables of Random Variables Sampling Distributions of Means Confidence Intervals	4.4, 5.1-5.2
Oct 10	Hypothesis Testing Inference for the mean of a population SPSS	6.1-6.3
Oct 17	Inference for Two Population Means Review	7.1-7.2
Oct 24	<b>MIDTERM EXAM</b>	
Oct 31	Inference for Population Variances and Proportions Analysis of Two-Way Tables SPSS	8.1-8.2, 9.1-9.2
Nov 7	Simple Linear Regression	10.1-10.2
Nov 14	Simple and Multiple Linear Regression SPSS	10.2, 11.1-11.2
Nov 21	<i>No Class (Thanksgiving)</i>	
Nov 28	Contrasts and Multiple Comparisons	12.1
Dec 5	One-Way ANOVA SPSS	12.2
Dec 12	Two-Way ANOVA & Review	13.1
Dec 19	<b>FINAL EXAM</b>	

## Policy on Academic Integrity

Please refer to the Policy on Academic Integrity for Undergraduate and Graduate Students at <http://academicintegrity.rutgers.edu>. I will follow the policy strictly.