

**Course Syllabus**  
**15:291:531:01**  
**Statistical Methods in Education I**  
**SPRING 2012**

**Instructor:** Soo Youn Lee

**Office:** Room 348, Graduate School of Education

**Email:** sooyolee@eden.rutgers.edu

**Phone:** (732) 932-7496 Ext. 8343

**Fax:** (732) 932-6829

**Office hours:** Wednesday 3:00 - 4:00 PM, or by appointment

**Time:** Wednesday, 4:50 – 7:30 PM

**Place:** Room A4, Hardenbergh Hall

**Text:** Moore, D. S., & McCabe, G. P. (2008). *Introduction to the practice of statistics (6th ed)*. New York: W. H. Freeman.

**Software:** *SPSS for Windows (Version 17.5)*. New York: Prentice-Hall.

### **Course Description**

This course is the first part of a one-year sequence in statistical methods designed to introduce students to the most commonly used methods in educational and social science research. No prior knowledge of statistics is required, but essentials of arithmetic and basic algebra will be used throughout the semester. Topics covered in this course include graphical representations, descriptive statistics, correlation, regression, experimental designs, basic probability, sampling distributions, confidence intervals, and hypothesis testing.

### **Course Requirements**

- 1). **Exams:** The two in-class exams, midterm and final, are worth 30% and 40% of the final grade, respectively. The exams may consist of multiple choice items, computations, and short answer/essay questions.
- 2). **Homework assignments:** Approximately 10 homework assignments (worth 30% of the final grade) will be given throughout the semester. Homework assignments are due at the beginning of the class the week after they are assigned. No late homework assignments will be accepted, but the lowest homework assignment score will be dropped.
- 3). **Extra Credit.** Opportunities for extra credit will be offered in class exams, and will be approximately equivalent to 5% of the class grade. The extra credit questions will come with exams, midterm and final. Extra credit opportunities cannot be made up if you missed those questions.

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

A calculator that performs basic operations (e.g., arithmetic and square-root operations) is necessary for homework assignments, class exercises, and exams.

Reading assignments must be completed prior to each lecture.

Class participation and questions during the office hours are strongly encouraged.

### Class Schedule

The following detail of class schedule is subject to change if necessary.

Date	Topic	Assigned Readings
1. January 19	Displaying and Describing Distributions	1.1, 1.2
2. January 26	Normal Distribution Theory	1.3
3. February 2	Scatter Plots and Correlation	2.1, 2.2
4. February 9	Regression Analysis	2.3
5. February 16	Cautions About Regression and Correlation	2.4
6. February 23	Designs of Experiment and Statistical Inference	3.1, 3.3
7. March 2	Randomness and Probability Models	4.1, 4.2
8. March 9	Random Variables and Moments	4.3, 4.4
9. March 16	<b>Spring Recess</b>	
10. March 23	Sampling Distributions of Means & Review Session	5.1, 5.2
11. March 30	<b>MIDTERM EXAM (Sections 1.1 – 4.4)</b>	
12. April 6	Confidence Intervals	6.1
13. April 13	Hypothesis Testing	6.2
14. April 20	Use and Abuse of Tests	6.3,6.4
15. April 27	Review Session	
16. May 4	<b>FINAL EXAM (Section 1.1 – Section 6.4)</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.