Instructor: Youngsuk Suh

Office: Room 321A, Graduate School of Education

Email: youngsuk.suh@gse.rutgers.edu

Phone: (732) 932-7496 Ext. 8303

Office hours: Monday 2:00 - 3:30 PM, or by appointment

Time: Monday, 4:50 – 7:30 PM

Place: Room B4, Hardenbergh Hall

Text: Moore, D. S., McCabe, G. P., & Craig, B. (2012). *Introduction to the practice of statistics (7th ed).* New York: W. H. Freeman.

Software: *SPSS for Windows (Version 18).* 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.

       Calculator: Students are required to bring to class a scientific calculator that can be used to sum, multiply, take the square root and square of numbers. Calculators are recommended for use with class assignments and tests as well as during class time.

Course Requirements

1). **Exams**: The two in-class exams, midterm and final, are worth 40% and 40% of the final grade, respectively. The exams may consist of multiple choice items, true/false items, computations, and short answer questions. Exams are held during class time and can only be re-scheduled for individual students under exceptional circumstances (see Makeup assignments for details).

2). **Homework assignments:** Approximately 10 homework assignments (worth 20% 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.

3). **Extra Credit**. Opportunities for extra credit will be offered in class exams, and will be approximately equivalent to 5% of the final grade. The extra credit questions will come with exams, midterm and final. Extra credit opportunities cannot be made up if you missed those

questions.

Grading System

Final letter grade will be assigned as follows:

Final Score	Letter Grade
90% and Above	A
80%-89.99%	B+
75%-79.99%	B
65%-74.99%	C+
60%-64.99%	C
55%-59.99%	D
Below 55%	F

Makeup Assignments

Only in exceptional circumstances (which does *__NOT__* include family vacations/ weddings, routine doctor's appointments, job interviews, etc.) and only with **prior** permission from the instructor, or with a verifiable medical excuse, will students be able to take a makeup exam. The student must provide medical proof of illness. The student is responsible for notifying the instructor by the day of the exam that they cannot attend the exam.

If a student becomes ill (supported with a doctor's note) on the day that a homework assignment is due and the assignment is not complete, then the student will receive credit only for what was attempted. It is the student's responsibility to notify the instructor before class starts that they cannot attend class. It is also their responsibility to ensure that the work is handed in that day (by the start of class) or that an alternative time is arranged with the instructor. It is important to complete assignments **before** the day that they are due.

Without permission or a medical excuse, the student will receive a zero for the missed homework assignment or exam.

Communication

In this course *e-mail* will be used as a means of communication with students. You will be responsible for checking your e-mail regularly for class work, deadlines, changes and announcements.

Do NOT leave me a phone message in my office because I do NOT check my voicemail regularly. I do, however, check email several times each weekday (on weekdays between 9am and 5pm).

Class handouts used by the instructor will be available on Sakai website at **http://sakai.rutgers.edu** under *Statistical Methods in Education I*. They will be made available by 8am each day before the class meets.

The handouts provide a skeleton of what is being covered each day and will thus be an incomplete version of the material actually covered.

Tentative Class Schedule

The following class schedule is subject to change if necessary.

Date	Topic	Assigned Readings
1. Jan. 23	Introduction, Frequency Distribution Table and Graphs	1.1
2. Jan. 30	Measures of Central Tendency and Variability SPSS 18 for Window	1.2
3. Feb. 6	Normal Distribution Theory and Standardizing	1.3,
4. Feb. 13	Scatter Plots, Correlation, and Regression	2.1-2.3
5. Feb. 20	Cautions About Regression, Causation, and Two-Way Tables	2.4-2.6
6. Feb. 27	Design of Experiments, and Statistical Inference,	3.1, 3.3
7. Mar. 5	Review Session	
8. Mar. 12	*Spring Break*	
9. Mar. 19	**MIDTERM EXAM (Covers Sections 1.1 – 3.3)**	
10. Mar. 26	Probability and Random Variables	4.1, 4.2
11. Apr. 2	Means & Variances of Random Variables	4.3, 4.4
12. Apr. 9	Sampling Distribution of a Sample Mean, Sampling Distributions for Counts and Proportions	5.1, 5.2
13. Apr. 16	Confidence Intervals, Hypothesis Testing, and Z test	6.1,6.2
14. Apr. 23	Level of Significance, Statistical Significance, Type I error, Type II errors, and Power	6.3,6.4
15. Apr. 30	Review Session	
16. May. 7	**FINAL EXAM (Covers Section 4.1 - 6.4)**	

** Reading assignments must be completed prior to each lecture.

** **Religious holy days** sometimes conflict with class and examination schedules. You must notify your instructor of the issues prior to the classes scheduled on dates you will be absent to observe a religious holy day. If you have to miss an exam due to a religious holy day, it is your responsibility to re-schedule with the professor another time to take the exam. If you will have to miss submission of a homework assignment, due to the observance of a religious holy day, then it is your responsibility to schedule a time with the professor when the assignment will be submitted.