Course Syllabus
15:291:531:90
Statistical Methods in Education I
Fall, 2012

Instructor: Soo Youn Lee

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Time: New course materials will be posted on Tuesdays, starting from August 30

Live Session: Thursdays 6pm

Discussion: Every weekday

Text: Moore, D. S., McCabe, G. P., & Craig, B. (2010). Introduction to the practice of statistics

(7th edition). New York: W. H. Freeman.

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

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. Email & eCollege Access: Efficient communication is the key to evaluate how successful an online course is and in this course, **emailing** and **eCollege** are the two communication tools that we heavily rely on. To maximize the teaching and learning effects, you have to check your email account frequently and make sure you are able to read information, download files, drop messages, join live sessions, do homework, take exams and access your grades from our webpage. All information and activities are time sensitive. Late responses and requests will not be handled. For example, we may need to vote to make a decision and late votes will not be taken. Another example is that you will have a run of time to finish each homework assignment. However, you will not be able to access the homework questions after designated time.

2. Exams: The two online 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 **Wednesdays** and are <u>due at the **Tuesdays**</u> the week after they are assigned. So basically you have a whole week to work on a homework assignment. No late homework assignments will be accepted.

4. Participation: Your participation is expected during the semester.

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

Live Sessions

Live sessions in this online course are analogous to office hours in a regular course. You can ask questions in one-to-one manner and obtain responses immediately. To efficiently organize the sessions, I would like to collect questions by Wednesday so that the sessions can be planned in advance. For those who cannot participate in the live sessions, I will record the sessions and make them available on our course page.

Discussion Sessions

In addition to live sessions, an alternative to find the solution of your question is to simply post your questions online. This is especially convenient for those of you who cannot participate in our live sessions. A **Basket** labeled **Question Box** will be created every week for you to drop content-related questions. Your questions will be replied **every weekday**. Therefore, please make sure you are familiar with the **Dropbox** function.

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

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.

Date	Topic	Assigned Readings
Week1: Sep 6	Displaying and Describing Distributions	1.1, 1.2
Week2: Sep 13	Normal Distribution Theory	1.3
Week4: Sep 20	Scatter Plots and Correlation	2.1, 2.2
Week5: Sep 27	Regression Analysis	2.3
Week6: Oct 4	Cautions About Regression and Correlation	2.4
Week7: Oct 11	Designs of Experiment and Statistical Inference & Review Session	3.1, 3.3
Week8: **Oct 18**	**MIDTERM EXAM (Sections 1.1 – 3.3)**	
Week9: Oct 25	Randomness and Probability Models	4.1, 4.2
Week10: Nov 1	Random Variables and Moments	4.3, 4.4
Week11: Nov 8	Sampling Distributions of Means	5.1, 5.2
Week12: Nov 15	Hypothesis Testing	6.2
Week13: Nov 22	**Thanksgiving Holiday**	
Week14: Nov 29	Confidence Interval	6.1
Week15: Dec 6	Use and Abuse of Tests	6.3
Week16: **Dec 13**	**FINAL EXAM (Section 1.1 – Section 6.3)**	

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.