Online Statistical Methods II
15:291:532:90
3 Credits
Spring 2015

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Phone Number: 848-9320832	10 Seminar Pl Rm 326
Office Hours: By appointment	Prerequisites or other limitations: Statistical Method I
Mode of Instruction: ___ Lecture ___ Seminar ___ Hybrid _x_ Online ___ Other	Permission required: x_ No __ Yes Directions about where to get permission numbers: Please contact the instructor

Learning goals: Upon successful completion of this course, you will be able to complete the following tasks:
1. Understand the probability theory, the foundation of statistical methods.
2. Understand the distributions of random variables as well as their properties.
3. Have a basic understanding of correlation and linear regression.
4. Carry out the statistical analysis using both hand calculation and computer software (SPSS).
5. Test hypotheses applying probability theory.
6. Explain the differences among various statistical techniques and identify an appropriate technique for a given set of variables and research questions.
7. Interpret the outcomes of an analysis and make a decision based on the statistical results.

Course catalog description:
Design of experiments; SPSS statistical package; z, t, chi-square, and F tests; multiple regression analysis; one-way and two-way analysis of variance; and post-hoc procedures.

Class materials/Textbooks:
Text: Moore, D. S., McCabe, G. P., & Craig, B. (2014). Introduction to the practice of statistics. (8th ed). New York: W. H. Freeman.
Software: SPSS for Windows (Version 19 or newer). New York: Prentice-Hall.

Course Requirements:
1. **Email and eCollege Access:** Efficient communication is a key to evaluate the success of an online course 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 receive information, download files, drop messages, watch live sessions, do homework, take exams and access your grades online from our course web. All information and activities are time sensitive. **Late responses and requests will not be handled**. For example, you will have a week to finish each

homework assignment. However, you will not be able to access the homework questions after the due day.

2. **Participation**: Your participation is expected throughout the semester.
3. **Software & Calculator**: SPSS will be used to run statistical analyses for homework assignments and class exercises. However, for the exams, a calculator that performs basic operations will suffice.

Grading policy: 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

Assignments:
1. **Course Notes and Handouts:** Course notes and handouts of each section will be posted every **Monday**.
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 over the semester. Homework assignments will be assigned every **Monday** and due on the following **Sunday**. So basically you have a whole week to work on a homework assignment. No late homework assignment is accepted.

Academic Integrity Policy:
The Office of Student Conduct supervises issues related to violations of academic integrity
(see http://academicintegrity.rutgers.edu). Please familiarize yourself with the university policy on academic integrity at
http://academicintegrity.rutgers.edu/files/documents/AI_Policy_2013.pdf

Office of Disability Services:
Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

Course Schedule

Week	Assignments & Readings
1. 01/26 - 02/01	7.1: Inference for the mean of a population
2. 02/02 - 02/08	7.2: Inference for Two Population Means
3. 02/09 - 02/15	7.3: Inference for Population Variances
4. 02/16 - 02/22	8.1 & 8.2: Inference for Proportions
5. 02/23 - 03/01	9.1 & 9.2: Analysis of Two-Way Tables
6. 03/02 - 03/08	10.1: Simple Linear Regression I
7. 03/09 - 03/15	10.2: Simple Linear Regression II
8. 03/16 - 03/22	No class; Spring break
9. 03/23	**MIDTERM EXAM (Sections 7.1 - 10.2)**
10. 03/30 - 04/05	11.1 & 11.2: Multiple Regression
11. 04/06 - 04/12	12.1: One-Way ANOVA
12. 04/13 - 04/19	No class; NCME/AERA
13. 04/20 - 04/26	12.2: Contrasts and Multiple Comparisons
14. 04/27 - 05/03	13.1: Two-Way ANOVA I
15. 05/04 - 05/10	13.2: Two-Way ANOVA II
16. 05/11	**FINAL EXAM (11.1 - 13.2)**