Quantitative Methods

(830:200:H6)

LSH A142, Monday/Wednesday/Friday 6:00 - 9:25 p.m.

sakai.rutgers.edu – 01:830:200:H6 Summer 14

Instructor: Cordelia Aitkin, PhD
Office Hours: By appointment
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Learning Goals:
1. Provide an introduction to the use of statistics in the behavioral sciences.
2. Become familiar with key concepts in descriptive and inferential statistics.
3. Be able to confidently read, understand, and evaluate statistical results presented both in scholarly journals and in the popular press.
4. Be able to understand the concerns and relevant methods when preparing to test your own hypotheses
5. Improve class participation skills by asking questions and contributing to discussions.

Required Material:
Text: Privitera, G. J. (2012). Statistics for the Behavioral Sciences. Sage Publications. ISBN: 9781412969314 (You will need to bring this textbook to class)
Calculator: You will need a simple calculator capable (at a minimum) of computing square roots. An inexpensive solar-powered scientific calculator would be preferable, since these allow the use of parentheses, have a dedicated squaring function, and are unlikely to run out of power in the middle of an exam. I recommend the Texas Instruments TI-30X IIS, which can be purchased online for under $15.

> Note: even if you have calculator functions on your smartphone or computer, you will need this calculator for exams. You will not be permitted to use phones or laptops during the exams.

Access to a PC: You will need internet access to view course materials on the Sakai site.

Assessment: Grades will be determined from a combination of in-class activities (including exams) and homework (including reading).
Classwork (10%): Various activities, both group and individual. Must show own work for all activities.
Homework (5%): Roughly daily assignments, done individually; get credit for showing effort as well as accuracy, so must show work.
Presentations (5%): Three short presentations, one in each of the two-week sections. Presentations will either be (a) defining a term for the class or (b) explaining a homework problem for the class.
Exams (80%): Three exams: 2 midterms and a final. The final will count twice, the lower of the two midterm grades will be dropped. Note: Failure to take all exams will result in the loss of an entire letter grade

Cheating/Plagiarism: Cheating and plagiarism will not be tolerated, and will incur penalties as described in the University Policy on Academic Integrity, which can be found here: http://academicintegrity.rutgers.edu/academic-integrity-policy

Make-up Policy:
Exams: Make-up exams will be given if the exam is missed for a legitimate reason (e.g. illness); you must contact me as soon as possible to schedule a make-up exam.
Participation: Extensions for participation will be allowed only if you notify me in advance, and provide appropriate documentation.
Homework/Classwork: There will be no make-ups or extensions for homework or participation.

Extra Help: Quantitative Methods can be a challenging course! If you feel concerned about your grasp of the material, please make an appointment to come see me!
The university also offers peer tutoring: you can access information about walk-in and one-on-one tutoring at https://rlc.rutgers.edu/. As of June 27, walk-in tutoring for our class is scheduled to be held on Mondays from 12 to 4, Wednesdays from 10 to 2, and Fridays from 12-4, in Tillett 111. Please check the schedule before you go, however; this is a University program, and they may change the schedule without informing me.

Email: If you need to contact me by email, use your Rutgers account to send the email. Include the course and section number in the subject, and your full name in the email itself. I will attempt to answer emails promptly, but this is not always possible.

Grading:

Final letter grades will not be determined until after the final exams are graded. However, it will not be any harsher than the standard Rutgers grading scale:

Grade	Percentage
A	>=90
B+	85-89.9999
B	80-84.9999
C+	75-79.9999
C	70-74.9999
D	60-69.9999
F	0-59.9999

Lecture Schedule

(*Note:* Schedule of topics is subject to change. Schedule of exams is **not**)

Note: readings should be read in advance of the lectures

Date	*Topic*	*Reading Assignment*
7/7	What is this class? Basic Statistical Concepts and Notations	Appendix A: Review & Self-Test Chapter 1
7/9	Measures of Central Tendency; Frequency Distributions; Plotting Data; Reading Graphs Measures of Dispersion or Variability	Chapters 2 - 4
7/11	Basic Concepts of Probability I Basic Concepts of Probability II	Chapter 5
7/14	Probabilty, Normal Distributions, and z-Scores	Chapter 6
7/16	Sampling Distributions *Review*	Chapter 7
7/18	**Exam 1** Introduction to Hypothesis Testing	Chapter 8
7/21	z-Tests and Intro to t-Tests (One Sample	Chapter 9 (9.1 – 9.6)
7/23	t-Tests II (Two Independent Samples	Chapter 9 (9.7 – 9.10)
7/25	t-Tests III (Two Related Samples) Estimation and Confidence Intervals	Chapter 10 – 11
7/28	Introduction to ANOVA ANOVA I continued (One-Way, Independent Samples) & Post-hoc Tests	Chapter 12, Section 13.5
7/30	ANOVA II (One-Way, Repeated Measures) Review	Chapter 13
8/1	**Exam 2** ANOVA III (Factorial Design)	Chapter 14
8/4	ANOVA III Continued Correlation	Chapter 15
8/6	Linear Regression Nominal Data & the Chi-Square Test	Chapter 16-17
8/8	Nonparametric & Distribution-Free Tests	Chapter 18
8/11	Catch-up	
8/13	Review **Final**	