Behavioral Data Analysis

01:830:210:G1

Summer 2014

Monday 10:00 - 11:50

Thursday 10:00 - 11:50

SEC 220, Busch Campus

Instructor: Kristina Howansky
Email: Kristina.howansky@gmail.com
Office: 607 Tillett Hall, Livingston Campus
Office hours: By arrangement

Course Description:

This course is intended for students who wish to major in psychology, and have taken a quantitative methods or statistics course that does not include single-factor and two-factor analysis of variance. Students must have achieved a grade of C in their previous statistics course in order to qualify for Behavioral Data Analysis. Students wishing to take this course must provide documentation showing that they have met the prerequisite. Unofficial transcripts are acceptable for this purpose. The following courses (or their transfer equivalents) may count as a previous statistics course:

- 01:960:211 – Statistics I
- 01:960:285 – Business Statistics
- 01:960:379 – Basic Probability and Statistics

Students who complete Behavioral Data Analysis with a grade of C or better will be considered to have met the Quantitative Methods requirement for the Psychology Major. Note that credit will not be given for both courses. Students who have taken a previous statistics course but did not receive a grade of C or better cannot use this course to meet the Quantitative Methods requirement – they must retake Quantitative Methods (or an equivalent course).

The following courses (and transfer equivalents) are viewed as equivalent to 830:200 (Quantitative Methods); students who have earned a grade of C or better are considered to have met the Quantitative Methods requirement for the major and need not take this course.

- 01:960:212 – Statistics II
- 01:960:401 – Statistics for Research
- 01:220:322 – Econometrics
- 01:377:275 – Basic Statistics for Exercise Science

Course Materials

Textbook: Privitera, G. J. (2012). *Statistics for the Behavioral Sciences*. Sage Publications (*ISBN*: 9781412969314) is a good resource and can be found in the Library of Science & Medicine on Busch Campus. Additional materials that you need will be posted under the Resources tab on Sakai. I will post my lecture slides after class and will provide you with free external resources you can use for extra help.

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. 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 your exam. You will not be permitted to use phones or laptops during the exam.*

Course Goals

"There are lies, damned lies, and statistics" -Mark Twain

Every single day we hear statistics from a variety of sources and, more often than not, they're presented in a misleading manor. The purpose of this course is to provide you with the basic tools you'll need to not only succeed in the behavioral sciences, but to also decipher the truth from little statistical lies.

Although most students find statistics intimidating, I would like to try to convince you during our time together that statistics can be understandable, important, and (dare I say) fun. No more mathematics than basic high school algebra is necessary to succeed in this course.

There are several key objectives we will all meet over the course of this class:

1. Understand hypothesis testing
2. Determine the appropriate time to use a variety of statistical tests
3. Know how to calculate and interpret forms of the general linear model (ANOVA's, Regression)
4. Read, understand, and evaluate statistical methods used in research
5. Appreciate the role that statistics play in our lives

Course Requirements

Homework: You will have 4 homework assignments which will be due every Thursday. They will be worth 10 points each and make up 40% of your grade. Students will receive 2 points for each problem correctly answered, 1 point for an honest attempt, and 0 points for not answering the question.

Exam: There will be one comprehensive exam on the final day of class. The exam will consist of two parts. The first will be a short answer section, the second will be computational. Only hand-held calculators (no laptops, cells phones, etc.) will be permitted during the exam.

You will be permitted to bring a one-sided stand letter-sized (8.5 x 11in) sheet of paper with any formulas or notes on it. Please note that in order to receive credit on the exam, all work must be shown. The exam will cover all material learned in the course. The exam will be worth 40% of your grade.

Group Assignments: During the second class period, you will be assigned into groups. After the lecture portion of some classes, you will have the opportunity to break into your groups and work together to complete group practice problem sets. It will be an opportunity to learn from each other as well as give you the chance to ask me questions before attempting your homework. Group assignment problems will be worth 20% of your grade and will be assigned during class.

Attendance: Attendance of all class periods is mandatory. We're only meeting 8 times throughout the summer (not including the exam), this means that if you're a NJ resident, each time we meet costs you approximately $42 (nearly $100 for non-residents). That's a lot of cash. You paid for it, so show-up. For every class beyond one that you miss your final grade will drop one letter.

Academic Integrity: Collusion (getting any form of assistance from other students or outside sources) on exams or quizzes is prohibited. Students suspected of doing so will be brought up on charges before university's Office of Student Conduct, and penalties, up to and including expulsion, will be imposed for those found guilty. (Seehttp://policies.rutgers.edu/PDF/Section10/10.2.13-current.pdf for specifics).

Academic Accommodations: Should you require academic accommodations, you must file a request with the Office of Disability Services for Students (https://ods.rutgers.edu/my-accommodations). You should register with disability services as soon as possible. It is your responsibility to self-identify with the Office of Disability Services and to provide me with the appropriate documentation from that office at least one week prior to any request for specific course accommodations. There are no retroactive accommodations. If you require accommodations for exams (e.g., extended time, reduced distractions) you will be responsible for setting up and scheduling your own accommodations for each exam.

Anticipated Course Schedule (subject to change)

Date	**Lecture**	**Assignment**
7/07	*1: Research Design*	
7/10	*2: One Way ANOVA*	*HW 1 Due*
7/14	*2: One Way ANOVA*	
7/17	*3: Two Way ANOVA*	*HW 2 Due*
7/21	*3: Two Way ANOVA*	
7/24	*3: Two Way ANOVA*	*HW 3 Due*
7/28	*4: Correlation and Regression*	
7/31	*4: Correlation and Regression*	*HW 4 Due*
TBA	*Final Exam*	