Quantitative Methods in Psychology
Summer 2013 – 01:830:200:B6
MWF 6PM – 9:30PM
Lucy Stone Hall B105 , Livingston Campus

Instructor: Nick Ross

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Office Hours: By appointment

This course has been certified as satisfying Quantitative and Formal Reasoning Learning Outcome Goals (QQ and QR) of the SAS Core Curriculum.

General goal:

The purpose of this course is to provide you with an introduction to statistics in the behavioral sciences.

Specific goals:

1) Develop conceptual and mathematical understanding of general probability, measurement, variability, point estimation, confidence intervals, inference, correlation, hypothesis testing, etc.

2) Be able to choose the appropriate statistical procedures given a particular type of data and research situation.

3) Compute descriptive and inferential statistics.

4) Be able to read, understand, and critically evaluate the statistical and graphical methods used in peer-reviewed journal articles and popular media.

5) Appreciate how useful statistics is and the role it plays in everyday life.

Course Materials:

Textbook: Privitera, G. J. (2012). Statistics for the Behavioral Sciences. Sage Publications. ISBN: 9781412969314

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 straightforward 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 smart phone or computer, you will need this calculator for exams. **You will not be permitted to use phones or laptops during the exams or during normal class hours.**

Resources

All course materials can be found on http://sakai.rutgers.edu after you log in. Announcements, changes, assignments, resources, etc. will be posted here. The name of the class should be 01:830:200:B6 Su13.

If want to use SPSS, Excel or any other computer software to check your answers for the homework assignments, you can go to one of the computer labs on campus (http://www.nbcs.rutgers.edu/ccf/main/locations/).

Textbook website: http://www.sagepub.com/priviterastats/study/intro.htm
There are chapter summaries, study guides, SPSS in Focus screencasts, and other useful resources.

Grading

The break down for the final grade and scale for this class will be the following:

Homework	**10%**
Quizzes	**15%**
Exam 1	**15%**
Exam 2	**25%**
Final Exam	**35%**
Total	**100%**

Homework: Homework will be assigned throughout the semester and will contribute to 10% of the course grade. Problem sets will typically be assigned in class (and posted on the Sakai site) and will be due at the beginning of the next class. No late homework assignments will be accepted. To receive any credit on computational questions, you must show your work.

Quizzes: Quizzes will be given in class and will not be announced before hand to encourage attendance, punctuality and discourage procrastination. Quizzes will contribute to 15% of the course grade.

Exams: Two exams will be given during normal lecture hours. Each of these exams will consist of two parts. The first part will be conceptual (i.e., no calculations, only multiple choice and short written answers to objective questions) and the second part will be computational. For the computational portion of the exam you will be permitted to bring one standard letter-sized (8.5 x 11in) sheet of paper with any formulas on **ONE SIDE**. In order to receive any credit on the computational part of the exams, you must show your work. Only calculators are permitted, no other electronic devices may be used.

Comprehensive Final Exam: The final exam will be structured similarly to Exams 1 and 2, but it will be longer. As with the midterm exams, you will be allowed to bring a single letter-sized sheet of paper with any formulas on **BOTH SIDES**.

If an exam is cancelled or postponed on the day of the exam, there will be a member of the Psychology Department in the room at the scheduled time to make the announcement. Notices posted on doors or on the blackboard are likely hoaxes. All announcements will be posted on Sakai.

Make Up Exams: In order to qualify for a make-up for either of the midterms of the final exam, you must notify me as soon as possible by email and provide appropriate documentation (e.g., a physician's note, an obituary or funeral notice, a police report, etc.). If you need to miss a class for a planned absence in the future (e.g., a religious holiday), please talk to me at the beginning of the semester or a month before so that we can schedule a make-up. If you do not meet all of these criteria, you will not be permitted to take a make-up. Make up exams may differ significantly in structure from the in class exams.

Academic Integrity

Getting any form of assistance from other students or outside sources on homework, 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. (See http://policies.rutgers.edu/PDF/Section10/10.2.13-current.pdf for specifics or http://academicintegrity.rutgers.edu/)

Academic Accommodations

Should you require academic accommodations, you must file a request with the Office of Disability Services for Students (http://disabilityservices.rutgers.edu/request.html). 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.

Helpful Hints

1. The most important requirement for doing well in this class is to attend

class. Lecture attendance is crucial.

2. The course content is cumulative so if you miss class, your

understanding of material in subsequent classes will be compromised.

3. Ask questions in lecture if you're confused. New material relies on

the concepts already developed.

4. Ask questions for information, to test your own knowledge and to develop critical skills. Answer questions that are posed in lecture.

5. Make sure you understand the main points of each lecture and the main points of the reading material. You should be able to understand how specific examples and specific details *relate to the main themes*. Test yourself by writing a short summary or an outline of the lecture. Don't rely on the feeling that you know what's going on. See if you can state the main points.

6. Each lecture builds on the material of the prior lectures. Review your notes, with special emphasis on the main themes, before coming to class.

7. When reading the text pay particular attention to the key words and to the graphs and figures. This is where the authors are putting the most important information.

8. Pace your reading wisely. Do not leave it all for the last minute.

9. For individual help, see me after class, or during office hours, or make an appointment.

10. If you would like to discuss exam performance, bring your exam to office hours. Often there is a pattern to the errors that can be diagnosed only by examining your performance.

Course Schedule

Assigned readings should be read in advance of the associated lectures. Changes and amendments may be made to this schedule as the course progresses.

Date	Topic	Assigned readings
Wed – 05/29/2013	Course overview, syllabus; Basic mathematical and statistical concepts; notations; Measures of Central Tendency, Frequency Distributions	Appendix A & Chapter 1 & 2
Fri – 05/31/2013	Plotting Data & Reading Graphs Measures of Dispersion or Variability	Chapters 3 & 4
Mon – 06/03/2013	Basic Concepts of Probability Probability, Normal Distributions, & z-Scores	Chapters 5 & 6
Wed – 06/05/2013	Sampling Distributions and Exam review	Chapter 7
Fri – 06/07/2013	**Exam 1**	
Mon – 06/10/2013	Intro to Hypothesis Testing z-Tests and Intro to t-Tests (One Sample)	Chapter 8 & Chapter 9 (9.1-9.6)
Wed – 06/12/2013	t-Tests II (Two Related Samples) & t-Tests III (Two Independent Samples)	Chapter 10 & Chapter 9 (9.7-9.10)
Fri – 06/14/2013	Estimation & Confidence Intervals & catch up	Chapter 11
Mon – 06/17/2013	Introduction to ANOVA & ANOVA I Continued (One-Way, Independent Samples) & Post-hoc Tests Chapters	Chapter 12 (12.1-12.5) & 12 & 13 (12.5-12.7,13.5)
Wed – 06/19/2013	ANOVA II (One-Way, Repeated Measures) & Exam Review	Chapter 13
Fri – 06/21/2013	**Exam 2**	
Mon – 06/24/2013	ANOVA III (Factorial Design)	Chapter 14
-Wed – 06/26/2013	Correlation & Linear Regression	Chapters 15 & 16
Fri – 06/28/2013	Nominal Data & The Chi-Square Test & Nonparametric & Distribution-Free Tests	Chapters 17 & 18
Mon – 07/01/2013	Review for Final Exam	Everything
Wed – 07/03/2013	**Final Exam**	

If you decide to stay enrolled in this class after receiving this syllabus, I will assume you have read the entire syllabus and have agreed to all the policies outlined.