

Behavioral Data Analysis

Basic Course Information

Course: 01:830:210: Behavioral Data Analysis
Instructor: Gwyne White
Location: Livingston: TIL-264
Time: Monday - Thursday; 10:10- 12:00

My Contact Information

Email: gwyne.white@rutgers.edu
Office: Tillett Hall 411
Office hours: By appointment

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

Goals: Every single day we hear statistics from a variety of sources and it important for us to be able to tell the difference between lies, damn lies and statistics. 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 interpret the truth.

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 Materials

Textbook: Privitera, G. J. (2011). *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 or ordered used on Amazon. 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 Evaluation

Attendance and participation in discussions are essential in this course.

Attendance: You are expected to attend **every** class and arrive **on time**.

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 11 in) 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.

Pair Assignments: During the second class period, you will be assigned into pairs. After the lecture portion of some classes, you will have the opportunity to break into your pair 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.

Late & make-up policy:

Late work will not be accepted. I generally do not allow make-ups unless an extreme circumstance occurs. If an extreme circumstance occurs you must provide a written note from your dean in order to be eligible for a make-up assignment. Make-up assignments are determined on a case by case basis.

Withdrawal policy:

If you decide not to complete the course it is **your responsibility** to notify the college of your intention to withdraw before the deadline.

Plagiarism:

All work that students turn in must be their own work. Students *should not* work collaboratively on assignments without prior approval from the instructor. Any outside sources (including help from other people) must be appropriately referenced in all written work. Turning in someone else's work as your own is completely unacceptable. This includes downloading information from the web and pasting or copying it into your paper. We routinely check Google, Wikipedia and other popular websites to check for plagiarism. Additionally, we require that your paper be turned in as electronic as well as hard copies so that we can check for plagiarism by matching content to information on the web. Any student who plagiarizes will, *at the very least*, receive a failing grade for the course. More severe consequences (e.g., expulsion) are also possible. More about academic integrity can be found at <http://ctaar.rutgers.edu/integrity/policy.html>.

Students with disabilities:

Any student who feels he or she needs accommodation for a physical or learning disability, please contact the Office of Disability Services (151 College Ave, Suite 123; phone 732-932-2848) and read more about Rutgers' policy at <http://disability/services.rutgers.edu> . If you request accommodations for this course, you will need a letter from Disability Services. This letter must be provided to me *by our second class*, at which point you may make a request for course-specific accommodations. The Chair of Undergraduate Psychology and I will review your request and may choose to modify it before it is approved.

Grading Policy:	1. Homework	40%
	2. Pair-Group Work	10%
	3. Final	40%

Your final grades will be based on the point totals below. This is non-negotiable.
The points needed for your final grade are as follows:

90-100 = A
84-89 = B+
80-83 = B
74-79 = C+
70-73 = C
60-69 = D
59 or Below = F

Schedule of Topics & Readings

Date	Topics	Due
Tues 5.26 Class 1	Introduction: Syllabus	Attendance
Wed 5.27 Class 2	Research Design	Attendance
Thurs 5.28 Class 3	Review	--
Mon 6.01 Class 4	T-tests	Attendance
Tues 6.02 Class 5	T-tests	Attendance
Wed 6.03 Class 6	T-tests	Homework 1 due
Thurs 6.04 Class 7	Review	--
Mon 6.08 Class 8	One Way ANOVA	Attendance
Tues 6.09 Class 9	One Way ANOVA	Homework 2 due
Wed 6.10	No Class	--
Thurs 6.11	No Class	--

Mon 6.15 Class 10	One Way ANOVA	Attendance
Tues 6.16 Class 11	Two Way ANOVA	Attendance
Wed 6.17 Class 12	Two Way ANOVA	Homework 3 due
Thurs 6.18 Class 13	Review	--

Mon 6.22 Class 14	Correlation	Attendance
Tues 6.23 Class 15	Correlation/Regression	Attendance
Wed 6.24 Class 16	Regression	Homework 4 due
Thurs 6.25 Class 17	Review	--

Mon 6.29 Class 18	Review for final exam	Attendance
Tues 6.30 Class 19	Final Exam	Cheat sheet for exam
Wed 7.01	No Class	--
Thurs 7.02	No Class	--