

Welcome!

Welcome to Quantitative Methods!

In this class, we're learning about how research is done in psychology. While we will be doing quite a lot of math in this class, it is all math you've done before - just never in this combination!

Every single day we hear statistics from a variety of sources and, more often than not, they are presented in a misleading manner. The purpose of this course is to provide you with the basic tools you will need to succeed in the behavioral sciences and decipher the truth from "little statistical lies". While I realize that most students do not choose to take this class, but do so reluctantly as a requirement for their major, I hope to convince you that statistics is understandable, important, and (dare I say) fun.

This section is a hybrid section, which means part of the class will be online. You'll be watching short videos each week, and doing a number of online exercises. Please see the "Requirements" to make sure you should be in this class.

Enjoy!

Learning Objectives

During this course, students will:

1. Develop scientific and critical reasoning skills
2. Become acquainted with the most common statistical tests performed by psychological researchers
3. Understand the logic and reasoning behind psychological research plans

By the end of this course, students should successfully be able to:

1. Describe research methods commonly used in behavioral science
2. Apply standard descriptive statistics and probability to characterize a data set and describe individual scores within a sample
3. Evaluate statistics in popular media reports to identify potentially misleading conclusions
4. Read graphs in popular media reports, and identify if they are misleading
5. Describe the conceptual logic behind hypothesis testing and identify the appropriate statistical test for various research designs

Interested students will also be able to:

6. Conduct an analysis to examine the difference between groups and the relationships between variables

Course Materials

Book: Gravitater, FJ and Wallnau LB. (2016) Statistics for The Behavioral Sciences, 10th Edition with Mind Tap Access

You do NOT need both the looseleaf (ISBN: 9781337129015) and hardback (ISBN: 9781305918542) version.

You DO need access to Mind Tap. This will comprise most of your homework, which is worth 30% of your course grade

Computer and Internet: This is a hybrid section, and you will be expected to participate in the class in on-line

activities. You **MUST** have access to a high-speed internet connection and computer in order to pass this class. If you do not have those, please sign up for an in-person section.

Technology Requirements

This course is a hybrid course that has some extra requirements beyond an in-person class. Please note that this is not a class that will teach you how to use a computer or the web.

Baseline skills:

Basic computer and web-browsing skills

Ability to navigate Sakai

Required equipment

Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection

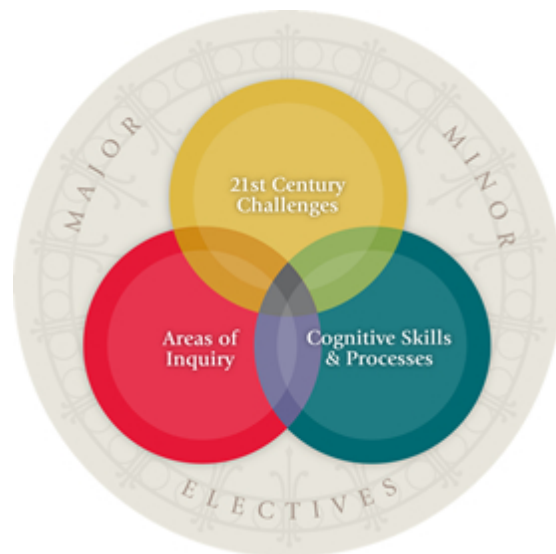
Simple calculator capable of computing square roots. You will not be allowed to use your phone or laptop during quizzes or exams.

Core Curriculum

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

Specifically, students will be able to:

- Formulate, evaluate, and communicate conclusions and inferences from quantitative information (QQ)
- Apply effective and efficient mathematical or other formal processes to reason and to solve problems



Student Participation Expectations

As per University and School (SAS) policy, this course assumes that all students will be spending at least 160 minutes per credit hour per week on activities pertaining to the class. As this is a four-credit class, this means you should be expecting to spend at least 10 hours per week on this class.

As a hybrid class, we will not have time to go over all the material in class, so you must come prepared. That means watching the available videos, reading the assignment, and doing any homework on time.

Class will meet once a week on Wednesdays, periods 2 & 3. Attendance to class periods is mandatory. It is your responsibility to show up to class ready to participate, as important information, quizzes, and activities will be delivered from the start of each class period.

In addition, there will be online activities that will be due on a different day during the week. These are also mandatory. Please see "Assessments" for how much these and the in-class activities are worth.

You are responsible for any information that you missed in class. Please make friends with at least one other person in the class so you can exchange notes; I will be available for clarification of specific questions of material; I will not be able to repeat material you missed due to being late.

Homework

Homework will be almost exclusively through Cengage MindTap. You will have on average a chapter a week to complete. It's a very useful program as it offers you several opportunities to do each problem. However, an entire chapter does take time, so make sure to not leave it until the last minute!

Homework is worth 2 percentage points for the course each week. Points will be earned as follows: if you score under 25% across all assignments for the week, you earn a zero for that week. If you score between 25% and 60%, you earn one point for the week. If you score between 60% and 85%, you earn 2 points. Anyone who scores over 85% for the week earns a bonus half point - i.e. 2.5 points.

Most of the homework is about the chapter we are currently on. There is one exception. Cengage has an activity called "Mastery Training." That activity will be open the week before we work on the chapter. This gives you an opportunity to get an overview of what the terms and techniques of the next chapter involve, so you know what to focus on as you're learning the chapter!

Classwork

Classwork will be a combination of work done in class (not quizzes) and interactions in the Sakai Site Forum thread

Classwork done in class will be handed in through Assignments on Sakai. You will be graded on the work you hand in, not on the work your group mates hand in! The assignments are set to open about halfway through the class period, and stay open until 5 pm. Late assignments are accepted until 9 pm the day of class

Interactions in the fora can be done at any time before Tuesday at 5 pm. There will be a prompt for the chat room each week. Many of them will be along the lines of "What question did you have after reading the chapter and watching the videos?"

Classwork will be worth 10 points each week.

- You can earn up to 5 points on your classwork done in class.
- You can also earn up to 5 points in the forum; note that you will not be able to read others' posts until you have posted something yourself
- You may get extra credit by responding to others' postings: for example, if you answer someone else's question correctly

Professor Information

Cordelia Aitkin, PhD

Office Hours: Mondays 1 pm to 2 pm. Busch Psychology, room 146. I also make appointments; please send me 5 specific times you are available on Busch campus in the week following your email and we'll find a time that works for both of us

Contact Information: cdaitkin@psych.rutgers.edu

Policies

Late Work

No late work will be accepted

Make-up Quizzes

There will be no make ups offered for quizzes. As stated under "Assessments," you will be allowed to substitute your grade on a portion of the Final Exam for a Quiz grade; if you miss a quiz, that will be your substitution

Feedback

If you have a technical problem with Sakai, email sakai@rutgers.edu or call 848-445-8721

For on-line assignments, the feedback is usually automatic, or the timing is indicated in the assignment.

For in-class assignments, you can generally expect feedback at the next class.

If you have questions, you can post them to the chat room on Sakai; in addition to having your question answered, it is a good opportunity to see what questions other students are having. If you would rather ask your question privately, you can email me at any time, but please note that you may not get as quick a response as you would in the chat room (as your fellow students may have an idea at the answer). I respond to emails during normal business hours, and it can take me up to two full business day to get back to you.

Assessment

Course grades will be calculated from the grades you earn on homework, classwork, quizzes, and a final exam.

There is weekly work at home, weekly work done in class, 5 quizzes and the final exam. Below is the summary of the value of each assignment type:

	approximate number	approximate value per assignment	total weight of assessment type
Homework	15	2	30%
Classwork	14	2	28%
Quizzes	5	6	30%
Final Exam	1	12	12%
			100%

The Final Exam will be cumulative, and consist of 6 parts, each part covering one section of the course. As these sections line up with the quizzes, you will be allowed to substitute results for one quiz grade from that section of the final exam. If you miss a quiz, this will be your substitution.

Course grades will be assigned using the following percentage system:

A: 86-100%.

B+: 81-85.9999%.

B: 70-80.9999%.

C+: 65-69.9999%.

C: 60-64.9999%.

D: 50-59.9999%.

F: <50%

Final Exam

The Final Exam is Wednesday, December 19 from 4-7 pm as scheduled by the University (<https://scheduling.rutgers.edu/scheduling/exam-scheduling/final-exam-schedule>).

If you have a conflict as defined here: <https://scheduling.rutgers.edu/scheduling/exam-scheduling/final-exam-policies>, item 4 under "Rules for Final Exams, and you plan on rescheduling this exam, please get in contact with Professor Aitkin as soon as possible.

Schedule of Topics

Schedule is subject to change

CLASS MEETS IN TILLET 230 EVERY WEDNESDAY

Approximate Date	Topic	Reading	Video?	Activity (note: in class & online merely indicates when activities will be done, not which day we will be meeting)	Other
Sept. 5	Introduction to Quantitative Methods	Chapter 1	Y	Y - in class	
	Types of measurement	Chapter 1	Y	Y - online	
Sept. 12	Displaying data I	Chapter 2 pp 35 - 49	Y	Y - in class	
	Central Tendency	Chapter 3	Y	Y - online/in class	
Sept. 19	Variability	Chapter 4	Y	Y - online/in class	
	z-scores	Chapter 5	Y	Y - online	
Sept. 26	z-test		Y	Y - online/in class	Quiz 1
	Probability I	Chapter 6, sections 6.1, 6.4, 6.5	Y	Y - online	
Oct. 3	Probability II		Y	Y - online/in class	Quiz 1 review
	Probability III		Y	Y - online	
Oct. 10	Sampling distribution I	Chapter 7	Y	Y - online/in class	
	Sampling distribution II		Y	Y - online	
Oct. 17	Normal distribution	Chapter 6, sections 6.2 6.3; review 6.4 6.5	Y	Y - in class	Quiz 2
	Introduction to Hypothesis Testing I	Chapter 8	Y	Y - online	
Oct. 24	Introduction to Hypothesis Testing II		Y	Y - in class	Quiz 2 review
	Power	Chapter 8, pp 254 ff	Y	Y - online/in class	
Oct. 31	Displaying data II	Chapter 2 pp 35 - 49	Y	Y - in class	Quiz 3
	Displaying data III		Y	Y - online	

Nov. 7	Independent t-test	Chapter 9; chapter 10	Y	Y - in class	Quiz 3 review
	Related t-test	Chapter 11	Y	Y - online	
Nov. 14	Estimation & confidence intervals	Chapter 9, pp 284 ff	Y	Y - in class	
	ANOVA introduction	Chapter 12	Y	Y - online	
Nov. 21	NO CLASS: WEDNESDAY IS FRIDAY CLASSES				
	One-way ANOVA	Chapter 13	Y	Y - online	
Nov. 28	One-way ANOVA - between	Chapter 13	Y	Y - in class	Quiz 4
	Multivariate ANOVA	Chapter 14	Y	Y - online	
Dec. 5	Correlation	Chapter 15	Y	Y - in class	Quiz 4 review
	Chi-square	Chapter 17	Y	Y - online	
Dec. 12	Review			Y - in class	Quiz 5

Professor Contact

The best way to ask your questions is in the chat room. Not only are you likely to be doing many of your fellow classmates the favor of being the one brave enough to ask the question, you are more likely to get a response from a different classmate who is familiar with that particular material.

The best way to get a hold of me is via email: cdaitkin@psych.rutgers.edu. As I teach multiple subjects and sections, please include the course and section number in the subject, and your full name in the email itself.

Please note that lengthy or complex issues will not be discussed over email. Grades will never be discussed over email, for your own privacy.

You can send your email at any time! However, I am not available at all times, so don't leave things until the last minute! I respond to emails during normal business hours, and it can take me up to two full business days (i.e. not weekend days) to respond. If I haven't responded after three full business days, your email may have been mis-directed by the email program, so please send it again.

Extra Credit

As noted in the section on Homework, you can earn extra credit by doing excellently. In addition, extra credit may be earned if you make more than one attempt on the homework.

Extra credit can also be earned by interacting with your fellow students in the forums for Classwork (see the appropriate section.)

There are extra credit questions in several of the videos.

Extra credit will be on all quizzes.

Any extra credit not listed in the syllabus will be offered only at the discretion of the instructor, and only to the entire class. No personal requests for extra credit will be honored; requesting personal extra credit assignments is disrespectful to your classmates.

Academic Integrity

The consequences of scholastic dishonesty are very serious. Please review the Rutgers' academic integrity policy.(<http://academicintegrity.rutgers.edu/academic-integrity-policy/>). If you cheat on any aspect of the class, you will fail the class.

Academic integrity means, among other things:

- Develop and write all of your own assignments. This includes not asking others for answers on homework questions, or looking at others' exams.
- Show in detail where the materials you use in your papers come from. Create citations whether you are paraphrasing authors or quoting them directly. Be sure always to show source and page number within the assignment and include a bibliography in the back.
- Do not fabricate information or citations in your work.
- Do not facilitate academic dishonesty for another student by allowing your own work to be submitted by others.

If you are in doubt about any issue related to plagiarism or scholastic dishonesty, please discuss it with your instructor.

Other useful sites:

<http://academicintegrity.rutgers.edu>

<http://studentconduct.rutgers.edu>

<http://www.northwestern.edu/provost/policies/academic-integrity/cardinal-rules.html>

Accommodations for Accessibility

Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, please contact the Office for Disability Services (<https://ods.rutgers.edu/contact-ods>) to register for services and/or to coordinate any accommodations you might need in your courses at Rutgers.

Go to the Student section of the Office of Disability Services website (<https://ods.rutgers.edu/students>) for more information

Please note that accommodations can not be made retroactively (for example, you cannot retake a quiz if you do poorly). Make sure that you have the Office of Disability Services contact all your professors at the beginning of the semester. Please also note that (a) it is up to you when to use accommodations you are approved for and (b) the ODS **never** tells your professors why you have the accommodations

University Vs. Sakai

Be sure to keep track of information from the University, such as meeting times and exam times. If there is a conflict between this website and the University posting, assume the University posting is correct unless specifically stated.

Student Wellness

[Just In Case Web App](http://codu.co/cee05e)

<http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your

smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 / www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Scarlet Listeners (732) 247-5555 / <http://www.scarletlisteners.com/> Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

Agreement to Policies

If you decide to stay enrolled in this class after logging onto Sakai, I will assume you have read the entire syllabus and have agreed to all the policies, dates, assignments, etc. outlined.