Stats & Research Design (56:830:650) Fall 2025
Class Meets Wednesdays 6:00 pm to 8:50 pm in Armitage Hall 205
Professor's Office Hours: Wednesdays during the last hour of class or by appointment

Professor name: Andrew Abeyta, PhD
Professor email: Andrew.abeyta@rutgers.edu
Professor's Office: Armitage 355

Course Description and Goals

The focus of this course is on the multivariate design issues students will confront in applied research settings. The course covers between-and within-subjects designs and mixed models, regression and covariance analysis, and other univariate and multivariate techniques, relying on computerized data analysis and graphical representation.
Conduct and understand commonly used statistical techniques in psychology
Interpret the results of statistical tests and clearly present the results of studies in APA style
Become discerning consumers of scientific information

Communication

Please don't hesitate to reach out to me throughout the semester with any questions or concerns you may have via Canvas messages or email. Depending on when you send your message, you can expect a response:

Monday-Friday: within 24 hours (if between the hours of 8 am and 5 pm, it will likely be sooner).
Weekend emails: I'll respond within 48 hours.
Emails received between 5 pm and 7 am will likely not be addressed until the morning.
Please send the email again if I do not respond within the above-listed time frame.
Canvas Announcements

I send regular (1-2 times per week) announcements about reminders and changes via Canvas. Please make sure your Canvas Notifications are set to alert you to new Announcements.

Inclusivity

I would like to create a learning environment that supports diverse thoughts, perspectives, and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.). To help accomplish this:

If your name or pronouns differ from what's listed in Rutgers records, feel free to let me know. To update your name officially, please follow the Chosen Name Process. On Canvas, you can use the Rutgers Shout-Out tool to share the phonetic spelling and pronunciation of your name with me and your classmates.

If personal circumstances are affecting your performance, I'm here to support you. You're also welcome to reach out to the Dean of Students at deanofstudents@camden.rutgers.edu.

I'm continually learning about diverse identities and perspectives. If anything said in class made you uncomfortable, please don't hesitate to talk with me.

Format and Class Meetings

This in-person class does not offer a Zoom option. It's organized into weekly Modules, with each session combining lecture and classwork. Bring laptops to class to follow along with SPSS examples. We'll take a break after an hour, and the final 50 minutes are reserved for office hours—feel free to stay and ask questions or seek guidance.

Required Reading

Required textbook: Discovering Statistics Using IBM SPSS Statistics (6th edition), by Andy Field
Required supplementary reading: available on the Canvas page in weekly modules

Software for Assignments

Software can be downloaded and installed for free on students' personal computers or used on campus or virtual computer labs, including the Grad Lab in the Armitage Basement.

Microsoft Office: Microsoft Word or Microsoft Excel will be used for assignments. I will not accept assignments via Google Docs or Google Sheets. I will accept PDFs. Microsoft Office is free for Rutgers students. Download and install instructions are at this link:
https://it.rutgers.edu/microsoft-office/microsoft-office-for-students/

IBM SPSS Statistics: IBM SPSS Statistics can be downloaded for free from the Rutgers Software portal. Go to https://software.rutgers.edu and search for "IBM SPPS Statistics".

G*Power: G*Power is a free power analysis calculator for Mac and Windows. We will use it to conduct power analyses. Can be downloaded at the following link:
https://www.psychologie.hhu.de/arbeitsgruppen/allgemeine-psychologie-und-arbeitspsychologie/gpower

Academic Integrity (cheating and plagiarism)

I expect you to follow Rutgers Policy on Academic Integrity and avoid cheating, plagiarism, unauthorized collaboration (getting answers on an assignment from a classmate and/or working together to complete an individual assignment), or otherwise passing off work that is not yours as your own. This includes using generative AI applications like ChatGPT to complete assignments. Punishment can range from loss of credit on an assignment for minor or first-time offenses to suspension/expulsion for serious and/or repeated offenses. To review the academic integrity policy, go to https://deanofstudents.camden.rutgers.edu/academic-integrity

Assessment

Grades will be determined as follows:		Letter Grades:	
Activity	Percent of Total Grade	A	89.5% to 100%
Attendance/Participation	30%	B+	86.5% to 89.4%
Homework Assignments	30%	B	79.5% to 86.4%
Midterm Exam	20%	C+	76.5% to 79.4%
Final Exam	20%	C	69.5% to 76.4%
		F	Less than 69.4% ("D" is not a grade in the graduate program.

Attendance & Participation: You're expected to attend class on time, stay for the full session, complete all readings in advance, and actively participate. You may miss up to 2 classes without penalty—no need to notify me or provide documentation. If absent, it's your responsibility to catch up on readings, Canvas materials, and notes from classmates. If you'll be out for an extended time (e.g., illness or emergency), please contact me so we can make a plan.

Homework Assignments: There will be homework assignments due roughly every week (10 total). The goal of these assignments is to practice conducting (some by hand or Excel, most via SPSS) and reporting statistical tests learned in class. Instructions and data sets are posted on the Canvas Page. Assignments are due on the listed date, but you have a 48-hour Life Happens Window to submit late work without penalty—no explanation needed. After that, late work is only accepted if you request an extension BEFORE the window closes.

You don't need to share personal details or provide documentation—just message me on Canvas or email to request more time, and we'll set a new deadline together. I can't grant extensions after the window closes.

Exams: There will be a midterm and final exam based on class content and homework-style questions. Exams assess your understanding and application of statistical techniques, including APA-style reporting. The final covers only post-midterm material. Exams must be taken on the scheduled date. If you miss the midterm, you may request a make-up within one week. Make-ups beyond that are only allowed in extreme cases. Email me with your requested date/time. The final exam cannot be made up.

Course Schedule

NOTE: All Assignments are due by 11 pm on the date listed below. The Life Happens Window also closes at 11 pm. Plan to submit early to adjust to website or internet outages.
I reserve the right to change the schedule as I see fit.

Week 1	Wednesday, September 3, 2025- Intro and Review of Basic Concepts Reading: Field Chapter 1, 2
Week 2	Wednesday, September 10, 2025- Review of Basic Concepts cont. Reading: Field 1, 2, 4 Assignment Due: Homework 1 (Thursday September 11 @ 11PM)
Week 3	Wednesday, September 17, 2025- Preliminary Data Screening Reading: Field 5, 6 Assignment Due: Homework 2 (Thursday September 18 @ 11PM)
Week 4	Wednesday, September 24, 2025- Correlation & Partial Correlation Reading: Field 8 Assignment Due: Homework 3
Week 5	Wednesday, October 1, 2025- Regression 1 Reading: Field 9 (9.1 to 9.8) Assignment Due: Homework 4
Week 6	Wednesday, October 8, 2025- Regression 2 Reading: Field 9 (9.9 to 9.11, 9.14 to end) Assignment Due: Homework 5
Week 7	Wednesday, October 15, 2025-Midterm
Week 8	Wednesday, October 22, 2025- t-tests Reading: Field 10
Week 9	Wednesday, October 29, 2025- one-way ANOVA & ANCOVA Reading: Field 12 & 13 Assignment Due: Homework 6
Week 10	Wednesday, November 5, 2025- Factorial ANOVA Reading: Field 14 Assignment Due: Homework 7
Week 11	Wednesday, November 12, 2025- Repeated & Mixed ANOVA Reading: Field 15, 16 Assignment Due: Homework 8
Week 12	Wednesday, November 19, 2025- Mediation & Moderation Reading: Field 11 Assignment Due: Homework 9
Week 13	Wednesday, November 26, 2025 - NO CLASS THANKSGIVING
Week 14	Wednesday, December 3, 2025- Mediation & Moderation Reading: Field 11, Baron & Kenny (1986) Assignment Due: Homework 10
Week 15	Wednesday, December 10, 2025- Final exam
Week 16	Wednesday, December 17, 2025: Finals Week