Course Objectives
The primary goal of this course is to provide students with an overview of the statistical methods commonly utilized in psychological research to become a good consumer and producer of scientific research products. Students will learn how to utilize various techniques of data analysis, write reports, and understand empirical papers. This course will include lectures and computer lab sessions.

Learning Goals
• To understand and implement techniques of data analysis to evaluate and report intervention efficacy and effectiveness. The topics covered will include:
  ✓ Understanding and creating a data set
  ✓ Data cleaning and screening
  ✓ Measurement scale properties
  ✓ Null hypothesis significance testing, power, sample size, effect size
  ✓ Analysis of variance (ANOVA) and analysis of covariance (ANCOVA)
  ✓ Multiple regression

Required Textbook
The class will be taught based on the textbook below and supplemental reading materials.
  Or

Grading will be based on the following components:
1. Two exams (pass or fail)
2. Two group computer lab projects (pass or fail)
3. One group presentation (pass or fail)
4. Class attendance and participation (pass or fail)

If you get a failing mark from any of the components listed above, you will not get a passing grade (B or above).
Two exams
There will be mid-term and final exam in class. These exams will be open book.

Two computer lab projects
Lab projects can be done in groups of 3-5. Only one report per group is necessary and each participant should sign off the finalized group report. There will be a total of two lab projects, which can be collaboratively completed in the lab. Submit the completed project paper in person during class by the due date.

One group presentation
Group presentation is aimed at providing an overview of the assigned articles (10 min) and leading discussions about take-home lessons (10 min). All students are expected to read weekly assigned articles.

APA publication style
All papers should be written using the APA style (6th ed.).

Class Attendance and Remediation
If students anticipate that they may be late for class, have to leave class early, or be absent from class, it should be communicated in writing (via e-mail) at their earliest convenience. Acceptable excuses include observing religious and recognized cultural holidays that fall on the day of class, attending conferences, or unforeseen emergencies. Four missed classes for any reasons will trigger a remedial plan. If the remedial plan is subsequently not met, a passing grade (B or above) will not be given.

Computer/Cell Phone Use in Class
If students are expected to send or receive urgent e-mails, texts, or calls during class, their unanticipated and urgent needs should be communicated to and approved by the instructor prior to class. All cell phones should be turned off or in silent mode. All computing devices should be used only for the purpose of class-related activities.

Academic Integrity
All Rutgers students should review and adhere to the University principles of academic integrity, available at: http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/

Accommodations due to Disability
If you seek accommodations due to a documented disability, you may arrange for these through the Office of Disability Services, Kreeger Learning Center, 151 College Avenue; dfoffice@rci.rutgers.edu
### Course Schedule

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<th>Date</th>
<th>Notable</th>
<th>Computer Lab (5:30 – 7:00)</th>
<th>Lab Project Due</th>
<th>Presentation (Mark on your own)</th>
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<td>12/19</td>
<td>Final exam</td>
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### Weekly Learning Goals and Reading Assignments

**9/5 CAS 200**
- How to structure and save data for analysis
- Scale properties and distributions
- Chapters 1 and 2
- APA publication manual

**9/12 CAS 200 & Lab**
- Data cleaning and screening
- Univariate, bivariate, and multivariate relationships
- Chapters 3A and 3B

**9/19 CAS 200**
- Group differences
- Chapters 4A and 4B

**9/26 CAS 200 & Lab**
• Group differences continued
• Chapters 4A and 4B

10/3  CAS 200
• Null hypothesis statistical testing, sample size, effect size

10/10  CAS 200 & Lab
• Group differences across multiple related outcomes
• Chapters 5A and 5B

10/17  CAS 200
• Group differences across multiple related outcomes continued
• Chapters 5A and 5B

10/24  CAS 200, Mid-term exam

10/31  CAS 200 & Lab
• Simple linear regression
• Chapters 6A and 6B

11/7  CAS 200
• Multiple regression
• Chapters 7A and 7B

11/14  CAS 200 & Lab
• Multiple regression continued
• Chapters 7A and 7B
11/21 No class. Observe Thursday schedule.

11/28 CAS 200
- Advanced cases of multiple regression
- Chapters 8A and 8B
- Fiedler, K., Schott, M., & Meiser, T. (2011). What mediation analysis can (not) do. *Journal of Experimental Social Psychology, 47*(6), 1231-1236. doi:10.1016/j.jesp.2011.05.007

12/5 CAS 200 & Lab
- Advanced cases of multiple regression continued
- Chapters 8A and 8B

12/12 CAS 200
- We will use this session to recap what we learned and to cover any topics that students may bring up.

12/19 CAS 200, Final exam