522, Design of Experiments II, Professor Lee Jussim, Spring, 2026.

(Really, intermediate statistics: ANOVA and regression).

Location: Tillett 102. Day/time: Tuesdays, 1-3:30pm.

My class email address: jussim@scarletmail.rutgers.edu

Part I, Review

T-tests, correlations, bivariate regression, one-way ANOVA, two way ANOVA, three way ANOVA, post hoc and a priori pairwise comparisons

Part II

Complex contrasts, effect sizes, repeated measures ANOVA, mixed model ANOVA, multiple regression

WHAT YOU WILL NEED FOR THIS COURSE

THERE IS NO REQUIRED BOOK.

- Formulas, when required, will be presented in class. Most can be found online. Conceptual discussions of each statistic are also widely available online.

LAPTOP OR TABLET.

- If you do not own one, let me know and I will seek a loaner from the Psychology Department.

SPSS

- Available for free via Rutgers Software Portal
    - https://software.rutgers.edu/index/

Overview of This Class

Some, but not a lot on statistical theory, assumptions, formulas.

- – more in beginning, because fundamental

Emphasis on knowing what stat(s) to apply to what type of data.

How to use SPSS to perform analyses

- – also, Excel, to peak under the hood, i.e., see how the formulas work in practice

How to interpret results.

- – SPSS output
  - • Narrow interpretation: Where are the means, sds, F's, p's, corrs, Ns, etc?
  - • Broad interpretation: What do the results mean, conceptually?

Learning Goals

WHEN TO USE WHAT STAT

HOW TO PERFORM THE STAT

HOW TO REPORT AND INTERPRET THE OUTPUT

WAYS TO FOLLOW UP THAT ANALYSIS THAT MIGHT BE NECESSARY, VALUABLE OR IMPORTANT.

LIMITATIONS AND DRAWBACKS TO THESE STATS

Grading

I have never given a grad a grade <B in any grad class.

The goal of this class is mostly pragmatic: To steep you in experience performing and interpreting stats.

Still, I have to have some way of grading you.

Homeworks, readings, and mini-projects (70%)

 Grading: All will be graded on a simple scale of 0, 1, 2.

 2 (good faith attempt); 1 (half completed); 0 (did not do it at all)

 Bonus: SPSS v. R

 For those of you who wish to program in R, you get an automatic 2 if you produce and write up identical results using R & SPSS.

Grading

Take Home Project in Two Parts

Midterm (10%) and **Final** (20%) are really one continuous project, in steps.

- Midterm: Proposal, due April, date tba

- Final: APA style writeup of project proposed for midterm, including analyses, due end of semester, date tba.

Requirements:

You are required to analyze actual data, preferably your own or your advisor's. It can be data already published, but it must be real data.

- If you have no access to any data of any kind, see me.

- Midterm: 3-5 pages.

- Final 5-10 pages (text). Title, abstract, tables, figures, references, appendices do not count toward page limits.