PSYC 2022 - STATISTICAL METHODS II

Personnel
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Class Location:
Curtis Lecture Hall (CLH) F

Calendar Description
A continuation of the study of fundamental concepts and techniques of descriptive and inferential statistics. Topics include correlation, regression, analysis of variance and non-parametric statistics.

Required Text

Expanded Course Description
This is the second course in statistical methods that builds on material presented in Statistical Methods I. The lectures will cover hypothesis testing, independent and dependent samples t tests, one-way independent groups and repeated measures ANOVA, factorial independent groups ANOVA, correlation and regression. In addition to the statistical tests, this course will also emphasize power, effect sizes, and statistical assumptions. Data analysis using statistical software will be carried out with R during the class.

Organization of the Course
There are two components to this course:

Lectures will cover the computational and conceptual aspects of data analysis (i.e., understanding different research designs, how to analyze these designs, and what the results mean). Lectures may also cover material that is not presented in the textbook.

Labs will cover the practical aspects of data analysis using the R software package (i.e., running the same analyses from the lectures with statistical software, and learning how to interpret the output from these programs). The lab portion of the course will be in the last hour or so of the
class. If you have a laptop that you can bring to class you might find that helpful, but it is not necessary. In other words, instruction will be provided on how to run analyses in R during the class, and if you have a laptop you can run the analyses along with me, but it is not necessary as you can run the example analyses and exercises on your own time using what you learned in the class.

**Method of Evaluation**
Final grades will be comprised of marks earned on:

1) Class Tests (Test 1: 40%; Test 2: 40%)

Test 1 (May 22, 2014): Introduction to Hypothesis Testing (Ch. 8); Introduction to the t Statistic (Ch. 9); Independent Samples t-test (Ch. 10); Dependent samples t-test (Ch. 11); Nonparametric Alternatives to the t-test (App. E, Sections E.1 – E.3); Independent Samples ANOVA (Ch. 12).

Test 2 (Date TBA): Repeated Measures ANOVA (Ch. 13); Nonparametric Alternatives to the Independent Samples and Repeated Measures ANOVA (App. E, Sections E.4 – E.5); Factorial Independent Groups ANOVA (Ch. 14); Correlation (Ch. 15); Regression (Ch. 16)

2) Assignments (2 X 10%)
There will be two assignments for the course that will require you to analyze data and write up the results of the studies. You will be given the assignments one week before they are due.

Assignment Due Dates:

Assignment #1: May 20, 2014
Assignment #2: June 12, 2014

You will be deducted 10% (of the 10% allotted to each assignment; i.e., 1% of your final grade) for each day (not including weekends) that your assignment is late.

**Final Grading System**

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<th>Percent</th>
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**Notes**
1. Please see the University General Calendar for regulations on cheating and plagiarism.
2. The last date for withdrawal from this course without receiving a grade is May 30, 2014.
3. Prerequisites for the course are: PSYC 1010: Introduction to Psychology (with a min. grade of C) and PSYC 2021: Statistical Methods I (or equivalent).