# PSC 204A (Fall 2015) Statistical Analysis of Psychological Experiments

*General Information*:

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| Class Meetings: | Tu-Th | 10:00am - 11:30am, Young Hall 166 |
| Lab Meetings: | Fri | 10:00pm - 12:00pm, 2020 SciLab |


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| Instructor: | Emilio Ferrer <eferrer@ucdavis.edu> |
| Office Hours: | Wednesdays 9:00am - 11:00am, Young Hall 174C |
| TAs: | Melissa McTernan <mlmcternan@ucdavis.edu> |
| | Joseph Gonzales <joegonzales@ucdavis.edu> |


*Textbook*: Howell, D.C. (2010). *Statistical methods for psychology* (7th ed.). Belmont, CA: Thomson.

*Overview and Goals*:
The purpose of this course is to introduce students to techniques for statistical analysis of psychological experiments.

The goals for students are: (a) to develop an understanding of the conceptual and mathematical bases underlying the statistics commonly used in psychological experiments, and (b) to learn how to apply statistical techniques to psychological data and properly interpret the results.

*Requirements and Grading*:

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| (1) Laboratory notebook assignments | (50% of grade) |
| (2) Midterm Exam | (20% of grade) |
| (3) Final Exam | (30% of grade) |

*1. Laboratory Notebook*:
The notebook will contain weekly assignments. Each assignment will include questions designed to allow the student to demonstrate knowledge of the topics of the class and the readings and will consist mostly of data analysis and interpretation of results.

*2. Exams*:
Both exams will involve both abstract and computational elements.

*Schedule:*

| Date | Topic | Reading |
|---|---|---|
| Sep 24 | Introduction to course plans | ------- |
| Sep 29 | Describing and exploring data | Ch. 1-2 |
| Oct 02 | The Normal distribution | Ch. 03 |
| Oct 06 | Sampling distributions and hypothesis testing | Ch. 04 |
| Oct 08 | Probability | Ch. 05 |
| Oct 13 | Hypothesis tests applied to means | Ch. 07 |
| Oct 15 | Hypothesis tests applied to means (cont.) | Ch. 07 |
| Oct 20 | Simple analysis of variance | Ch. 11 |
| Oct 22 | Multiple comparisons | Ch. 12 |
| Oct 27 | **Midterm I** | ------- |
| Oct 29 | Factorial ANOVA | Ch. 13 |
| Nov 03 | Factorial ANOVA (cont.) | Ch. 13 |
| Nov 05 | Repeated measures designs | Ch. 14 |
| Nov 10 | Analysis of covariance | Ch. 16 |
| Nov 12 | Correlation and regression | Ch. 09 |
| Nov 17 | Correlation and regression (cont.) | Ch. 09 |
| Nov 19 | Multiple regression | Ch. 15 |
| Nov 24 | **Thanksgiving Holiday** – No class/readings | |
| Nov 26 | Categorical data and chi-square | Ch. 06 |
| Dec 01 | Further topics in ANOVA, correlation, power | |
| Dec 03 | General review: Questions and answers | |

**Final Exam**