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### PSYC 521.01: Advanced Psychological Statistics II

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# Psychology 521 – Advanced Psychological Statistics II

## Course Syllabus – Spring, 2003

**Professor:** Dr. John C. Caruso

**Office:** 241 Skaggs Building

**Phone:** 243-5186

**Email:** jcaruso@selway.umt.edu (soon to be john.caruso@umt.edu, I guess)

**Office Hours:** 12:00 to 2:00 Mondays and 10:00 to 11:00 Wednesdays (and by appointment).

**Course Objectives:** After completing this course, you should be able to:

- (1) Demonstrate an understanding of bivariate and multiple regression (including Cohen's MRC system), alternative statistical techniques, and psychometrics.
- (2) Determine which statistical techniques to use to address various research questions.
- (3) Use SPSS to perform the analyses presented in class.
- (4) Demonstrate an understanding of certain historic and current controversies in data analysis.

**Grades:** Grades will be based on three components:

- (1) Ten 10-point *quizzes* (at the end of class each Wednesday) will assess your knowledge of lecture material, Abelson chapters, and other assigned readings.
- (2) Ten 5-point *homework assignments* will involve applying a particular statistical method to a particular data set. Homework will be assigned each Wednesday and due each Monday.
- (3) One 50-point *research project* for which you will write a 1000-1500 word, APA-style manuscript. The key issues will be the appropriateness of your data analysis and interpretation, and your attention to the issues raised by Abelson, as applicable. In addition to turning in a hard or soft copy of your manuscript, you will present your project to the class the week before finals. Of the 50 total points for the proposal, 45 will be based on your paper and 5 will be based on your presentation. Data for the projects will be one of three data sets provided by the instructor.

There are a total of 200 points for the course and the following scale will be used:

180-200 A	160-179 B	140-159 C	120-139 D	000-119 F
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*Extra Points:* Students may receive between 0 and 5 extra points based on your class participation throughout the semester. For each Abelson chapter, 2 or 3 students will volunteer (or be assigned) to lead the discussion, and this can earn extra points.

**Organization of the Course:** Mondays will consist primarily of lectures. Wednesdays will consist primarily of SPSS demonstrations, discussions of Abelson chapters, and quizzes.

**Text:** Abelson, R. P. (1995). *Statistics as Principled Argument*. New Jersey: Lawrence Erlbaum Associates.

## Schedule:

<u>Week</u>	<u>Main Topic</u>	<u>Abelson Chapter</u>
1/27	Review/SPSS Review	
2/3	Cohen 1 Introduction	1 Making Claims
2/10	Cohen 2 Bivariate Correlation and Regression	2 Elementary Arguments
2/17 17 <sup>th</sup> , no class	(cont.)	
2/24	(cont.)	3 Magnitude of Effects
3/3	(cont.)	4 Styles of Rhetoric
3/10	Cohen 3 Multiple Regression	5 Suspecting Fishiness
3/17	(cont.)	
3/24 Spring Break		
3/31	Other Regression Topics	6 Ticks and Buts
4/7	Howell 17 Log Linear Analyses	7 Generality of Effects
4/14	Howell 18 Resampling and Nonparametrics	8 Interestingness
4/21	Measurement and Psychometrics	9 Argument Credibility
4/28	(cont.)	
5/5	Presentations	
5/12 Final's Week	Papers due 5/16	

Notes: After 2/24, no petitions to drop the course will be signed and no Incompletes will be given except in documented emergency situations.

2. The University of Montana provides certain services for students with disabilities. Students with disabilities have the responsibility to declare their disability to me at the beginning of the course if they require accommodations (I can't help if you don't). Such students have the responsibility to arrange for such accommodations with Disability Services for Students

Three data sets will be used for homework assignments and your research projects:

### **1. Gabrielson**

N=271

**Sample Description:** Central Michigan University students, gathered in the Spring of 1999.

**Measures:**

General Information Form

Beck Depression Inventory - 2

Symptom Checklist 90 - Revised

NEO Personality Inventory - Revised

### **2. Craft**

N=204

**Sample Description:** University of Montana students, gathered in the Spring and Fall of 2002.

**Measures:**

General Information Form

Aggression Questionnaire

NEO Personality Inventory - Revised

Social Desirability Scale

### **3. Virginia Beach**

N=2,201

**Sample Description:** Students, aged 6 to 16, referred for assessment in Virginia Beach, Virginia, between 1995 and 1998.

**Measures:**

Demographic information

Referral information

Wechsler Intelligence Scale for Children, Third Edition (Subtests and Factor Scores)

Wechsler Individual Achievement Test (Subtests) for a subset.