

PSYCHOLOGY 391
FALL 2004
Advanced Data Analysis
MW 2:30-4:20
MC 1085

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Teaching Assistants:

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Tutorial: 4:30 – 5:20 Wed HH 139

Texts:

(1) Howell, D. C. (2004). **Fundamental Statistics for the Behavioral Sciences**. Thomson.

(2) Kirkpatrick, L. A. & Feeney, B. C. (2005). **A simple guide to SPSS for Windows: For version 12**. Wadsworth

Course Objectives

This course builds from the material covered in Psychology 292 and is intended to familiarize students with *advanced statistical procedures*. Topics that will be covered include: Anova, Two-way Anova, Repeated measures, and Mixed designs. The primary goal of the course is to provide students with a solid understanding of both the logic and computations underlying many of the advanced statistical procedures that psychologists use when analyzing data. An additional goal for this course is that students are able to perform these advanced statistics using SPSS for Windows.

Course Requirements

<u>Requirement</u>	<u>Date</u>	<u>Value</u>
Midterm Exam #1	October	20%
Midterm Exam #2	November	20%
Graded Labs (N=3)	TBA	15%
Cumulative Final Exam	TBA	45%

Examinations

In total, there will be three exams in this course. The tentative dates for these exams can be found on the course outline. There will be two midterm exams worth 20% each. These two midterm exams will be held in class. The final exam will occur during the final examination period. Although the primary emphasis of the final examination will be material covered in the last third of the course, material from the entire course will be tested (i.e., Cumulative). The content of the exams will be a combination of conceptual (e.g., short answer) and computational questions. Past mid term exams will be posted on the course website. These exams should serve as a useful study guide in your preparations for the midterms.

Tutorials

Each student should be registered in a tutorial section. Tutorials are intended to provide students with an opportunity to work through problems with a TA in a smaller group setting. For the most part, we will spend class time discussing the logic and rationale behind the statistical procedures covered in this course. Tutorials are intended to provide students with the opportunity to work through the mechanics of these statistical procedures (e.g., Anova etc).

Labs

There will be three lab assignments in this course. Each assignment will be worth 5% of your final grade. As with all work in this course, you are to complete the assignments on your own. It is important that you show all of your work for each assignment (e.g., all intermediary calculations). All assignments will be due at the start of class and all late assignments will be penalized. Any assignments handed in after the start of the class in which it is due will be penalized as if it was one class late. For every class that an assignment is late, 25% will be deducted from your assignment grade. For example, if you received 100% on assignment 1 but handed it in one class late you would receive 75% on the assignment.

Nexus Accounts. Because you will be required to complete portions of your lab assignments with SPSS it is important that you obtain a NEXUS account. A NEXUS account will give you access to e-mail, the net, and a host of different software packages (including SPSS). The only cost incurred with a NEXUS account is printing. You can purchase printing at PAS 1080 using your WATCARD. It is strongly recommended that you activate your NEXUS account, find the SPSS statistical package, and become familiar with it.

You can obtain a NEXUS account by: (a) going to a NEXUS computer (located in PAS 1080, 1098, 1102, and 1103), (b) clicking on the scratch link in the bottom-left corner of the login browser, and (c) following the instructions as they are given on the screen.

Alternatively, in the past many students have purchased their own version of the SPSS software. If you are interested in this option you can go to the CHIP help desk (MC 1052) and purchase SPSS.

Note on avoidance of academic offenses

All students registered in the courses of the Faculty of Arts are expected to know what constitutes an academic offense, to avoid committing academic offenses, and to take responsibility for their academic actions. When the commission of an offense is established, disciplinary penalties will be imposed in accordance with Policy #71 (Student Academic Discipline). For information on categories of offenses and types of penalties, students are directed to consult the summary of Policy #71 (Student Academic Discipline) which is supplied in the Undergraduate Calendar (p.1:11). If you need help in learning how to avoid offenses such as plagiarism, cheating, and double submission, or if you need clarification of aspects of the discipline policy, ask your course instructor for guidance. Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean.

TENTATIVE COURSE SCHEDULE

Days	Topic	Readings
Sept 13	Introduction to the course	Chaps: H 1, 2, 4, 5, 6, 8
Sept 15	Review	Chaps: H12-14, K&F 1-9
Sept 20	Review/ Begin 1-way Anova	Chap: H16.1-16.2
Sept 22	Anova	Chap: H16.1-16.2
Sept 27	Anova (Handout L1)	Chap: H16.3, K&F 10
Sept 29	Anova	Chap: H16.3-16.4
Oct 4	Anova	Chap H16.6-16.11
Oct 6	Anova (L1 due)	
Oct 13	Midterm # 1	
Oct 18	Multiple Comparisons: Background	Chap: H16.5, C 13
Oct 20	Multiple Comparisons: Planned comparisons	Chap: H16.5, C 13
Oct 25	Multiple Comparisons: Post Hoc	Chap: H16.5, C 13, K&F 10
Oct 27	2-Way Anova (Handout L2)	Chap: H17.1-17.4, K&F 11
Nov 1	2-Way Anova	Chap: H17.5-17.10
Nov 3	2-Way Anova	Chap: H17.5-17.10
Nov 8	2-Way Anova (L2 due)	
Nov 10	Midterm #2	
Nov 15	Repeated Measures	Chap: H18, K&F 12
Nov 17	Repeated Measures	Chap: H18
Nov 22	Repeated Measures (Handout L3)	Chap: H18
Nov 24	Mixed Designs	C 16
Nov 29	Mixed Designs	C 16
Dec 1	2-way repeated measures (L3 due)	TBA
Dec 6	2-way repeated measures	TBA

H-Refers to the Howell book

Cohen-Refers to reserve readings from Cohen's book entitled "Explaining Psychological Statistics"

K&F: Refer to chapters from the Kirkpatrick and Feeney book "A Simple Guide to SPSS for Windows".

L1-L3: Refers to the three lab assignments.