Psychology 5013
Psychological Statistics II - Spring, 03

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Class Meetings: Tuesday and Thursday, 3-4:15, Dale Hall 17, be there

Office Hours: Wednesday 9-11 a.m.

The Instructor- Dr. Mendoza earned his B.S. in 1970 from the University of Illinois, majoring in Psychology. He earned his M.S. and Ph. D., in 1974, from the University of Oklahoma. After graduating, Dr. Mendoza taught Statistics, Measurement, and Industrial Psychology at the University of Georgia for ten years. In 1984, he moved to Texas A & M University, in College Station, Texas, where he taught until he returned to Oklahoma in 1990. Dr. Mendoza has published articles in statistics, industrial psychology, and measurement. These articles have appeared in many journals including the **Journal of Applied Psychology, Psychological Bulletin, Psychometrika, Personnel Psychology, Psychological Methods** and **The Journal of the American Statistical Association.** He was also Chair of the Psychology Department from 1991 to 1994. In addition, he is one of the founders of the Industrial/Organizational Program at OU.

Teaching Assistant: Sung-Hyuck Lee

Textbooks: **1. Statistical Methods for the Social Sciences** *by Agresti and Finlay*

Recommended Textbook:
1. **Designing Experiments and Analyzing Data** *by Maxwell and Delaney*
2. **SAS for Linear Models** *by Little, Stroup, & Fruend*
3. **Statistics** *by Hays*

 (Several chapters from these books will be assigned. Copies of the chapters will be available at the Reference Desk of the Library.)

Basic Course Description: The course is design to provide students with an understanding of basic statistical techniques including multiple regression and correlation, basic ANOVA models, basic principles of experimental design, and matrix algebra. These techniques will be illustrated using SAS. Students are expected to use and learn the SAS procedures necessary for analyzing the techniques covered in class.

Grading: Two tests (midterm & final)…………….. 200
        Homework ………………………...……… 100
        Class Participation……………………. 50

Homework: Students should read and work all exercises in the text as a general procedure. Not all exercises will be collected, but occasionally we will assign and collect some of them. In addition to the exercises, we will have computer exercises. These will be collected and graded. Graded work must be done independently.

Class Participation: I expect you to contribute to the class. You will do this by presenting or explaining a procedure or exercise to the class. You can earn up to two points per presentation, but you are limited to two points per class.   It will be your job to keep track of your points by keeping a log. The log should contain what topic you presented and when you made the presentation.

What does "academic integrity" mean?

Academic integrity means honesty and responsibility in scholarship. Professors have to obey rules of honest scholarship and so do students. Here are the basic assumptions about academic work at the University of Oklahoma:

(1) Students attend OU in order to learn and grow. (2) Academic assignments exist for the sake of this goal. (3) Grades exist to show how fully the goal is attained. (4) Thus, all work and all grades should result from the student's own effort to learn and grow. Academic work completed any other way is pointless, and grades obtained any other way are fraudulent.

Academic integrity means understanding and respecting these basic truths, without which no university can exist. Academic misconduct -- "cheating" -- is not just "against the rules." It violates the assumptions at the heart of all learning. It destroys the mutual trust and respect that should exist between student and professor. Finally, it is unfair to students who earn their grades honestly.

How do I know what counts as "academic misconduct"?

The "Academic Misconduct Code" describes in detail a student's rights and responsibilities as a member of the OU academic community. (Rules and procedures are somewhat different for the Health Sciences Center, the College of Law, and courses offered off-campus). The Code defines academic misconduct simply as *any* act which improperly affects the evaluation of a student's academic performance or achievement. Just as professionals are expected to know the rules of their profession, students have to know what counts as misconduct. Claiming ignorance of the rules is not a defense. So when in doubt, check the Provost website at www.ou.edu/studentcode. By the way, "Academic misconduct includes but is not limited to cheating (e.g., looking on another person's exam or allowing them to look on yours), plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person (i.e., copying someone else's work, allowing someone to do your papers or take your exams for you), taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Please read this section in your Student Handbook or on the OU website."

Disabilities If you have a disability that may prevent you from fully demonstrating your abilities, contact me personally as soon as possible so we can discuss reasonable accommodations necessary to ensure full participation and facilitate your educational opportunity.

Topics

I. General Linear Models
MD- Chap 3

II. Principles of Experimental Design
AF- Chap 10
MD- 1 & 2

III. Association
Categorical variables (Contingency Tables, Association between Ordinal variables)
AF- 8
Continuous variables (Regression and Correlation)
AF- 9

IV. Multiple Correlation and Regression
AF- 10

V. ANOVA Models (Fixed, Random, Repeated, or Nested Factors)
AF-12

Midterm

VI. Combining Regression and ANOVA—ANCOVA Model
AF- 13

VII. Model Building and Model Comparisons using Multiple Regression
AF-14

VIII. Modeling Categorical Responses (Logistic Regression)
AF-15

IX. Missing Data and Outliers (MCAR and MAR conditions)
(Readings to be assigned)

X. Introduction to Advanced Topics
AF-16

Final

AD= Maxwell and Delaney
AF= Agresti and Finlay