

PSYC 5389 001
CONTEMPORARY PROBLEMS IN PSYCHOLOGY:
MODERATED MULTIPLE REGRESSION ANALYSIS
SPRING 2008

I BASIC INFORMATION

Instructor: Dr. Lauri Jensen-Campbell
Office: LS 406
Phone: 817-272-5191 (please no voicemail)
E-Mail: lcampbell@uta.edu
Office hours: Tuesdays 11:00-12:00P; Thursday 1:00-1:50P or by appointment
Meeting time: Tuesdays and Thursdays 9:30A – 11:00P

II PURPOSE

Course Description: This course is intended to provide a graduate level overview of multiple regression (MR) as a general data-analytic technique. Students should already be familiar with the computation of elementary statistics and such concepts as sampling distributions and statistical hypothesis testing. The course will emphasize the conceptual underpinnings of the techniques rather than mathematical computations.

Course Learning Goals and Objectives: This course is designed to provide hands-on experience in conducting regression analyses, specifically moderated multiple regression, with SPSS-X. Computer applications of the statistical techniques that are covered will be emphasized. Homework exercises will be included to illustrate designs, analyze data, and provide experience in writing in APA style. Of course, it is impossible to touch upon all of statistical issues related to multiple regression. However, in combination with the readings, we will obtain a overview of the basic statistical techniques used in regression analyses.

III COURSE REQUIREMENTS

REQUIRED TEXTS

Cohen, J., Cohen, P., West, S., & Aiken, L. (2003). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Aiken, L.S. & West, S.G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, NJ: SAGE Publications.

REQUIRED LAB MATERIALS

USB storage device to save homework and class exercises.

EXAMS

There will be two examinations. The first exam (midterm) will be entirely take-home. The final may include take-home portions as well as in-class portions.

HOMEWORK

It is critical that you learn how to conduct and interpret regression analyses using computer software. Each homework assignment will be completed by the following week in which it assigned. No late assignments will be accepted.

PROJECT

You will be required to find a data set related to your field of study that can be analyzed using regression procedures. The purpose of the paper is to provide hands-on experience in conducting regression analyses and interpretation within your research area. *You must have at least two independent variables and their cross product in the analysis.* The data set must be approved by the date noted on the syllabus. A 10-15 page, **stapled** write-up **in APA style** is due on the day listed on your syllabus. The paper will include all sections required in an APA paper (i.e., title page, abstract, introduction, method, results, discussion, references, tables, and figures). SPSS printouts should be included in an appendix. *Projects not written in APA style will be penalized a LETTER GRADE.*

III POINT DISTRIBUTION AND GRADING POLICY

Homework (10 points apiece - 10 Assignments)	100
Midterm	100
Final	100
Paper	100

Total	400

GRADING

90% - up	A
80%-89%	B
70% -79%	C
65-69%	D
Below 65%	F

ACKNOWLEDGEMENTS

I wish to acknowledge the help of Leona Aiken during the preparation of the course. Portions of Leona Aiken's notes may be used in the PowerPoint presentations. This material is copyrighted and will be acknowledged as (Aiken, 2000) when used in the PowerPoint presentations. All notes, handouts, and data sets are the property of the instructor, are being copyrighted, and are for student use only.

IV COURSE OUTLINE

I reserve the right to modify the schedule and assignments based on how the course is proceeding. I will not, however, add additional assignments/topics or change the grading policy.

DATE	TOPIC	ASSIGNMENT
January 15/17	Introduction to Regression Analysis Bivariate Association and Scatterplots	CCWA Chapter 1
January 22/24	Simple/Bivariate Regression Analysis HOMEWORK 1: BIVARIATE REGRESSION ANALYSES	CCWA Chapter 2
January 29/31	Two Predictor Multiple Regression/ Partial Relationships HOMEWORK 2: TWO PREDICTOR MULTIPLE REGRESSION	CCWA Chapter 3
February 5/7	SPSP Convention – NO CLASS	
February 12/14	Assumptions in Regression HOMEWORK 3: MULTIPLE REGRESSION	CCWA Chapter 4
February 19/21	Regression Diagnostics HOMEWORK 4: CONDUCTING AND INTERPRETING DIAGNOSTICS	CCWA Chapter 10
February 26/28	Data-Analytic Approaches/Hierarchical Analysis HOMEWORK 5: HIERARCHICAL/STEPWISE REGRESSION	CCWA Chapter 5
March 4/6	Interactions among Continuous Variables HOMEWORK 6: REGRESSION WITH PRODUCT TERMS	CCWA Chapter 7 A&W–Chapters 1&2
March 11/13	Testing Simple Slopes in Regression DEADLINE FOR DATA SET APPROVAL Take-Home Midterm Handout (March 11)	
March 18/20	SPRING BREAK	
March 25/27	Categorical or Nominal Independent Variables Take-Home Midterm DUE – March 25 HOMEWORK 7: REGRESSION WITH PRODUCT TERMS	CCWA Chapter 8 A&W – Chapter 3
April 1/3	Interactions with Categorical Variables HOMEWORK 8: REGRESSION WITH DUMMY VARIABLES	CCWA Chapter 9 A&W – Chapter 7
April 8/10	Testing and Probing Three-Way Interactions HOMEWORK 9: TESTING 3-way INTERACTIONS WITH REGRESSION	A&W – Chapter 4
April 15/17	Higher Order Effects and Interactions HOMEWORK 10: REGRESSION -HIGHER ORDER INTERACTIONS	A&W – Chapters 5-6
April 22/24	Curvilinear Relationships & Transformations	CCWA Chapter 6
April 29/May 1	Catch-up Week FINAL PROJECT DUE (April 29)	
May 8	FINAL (8 - 10:30 a.m.)	