

PSYC 5389 001
CONTEMPORARY PROBLEMS IN PSYCHOLOGY:
MODERATED MULTIPLE REGRESSION ANALYSIS
FALL 2010

I BASIC INFORMATION

Instructor: Dr. Lauri Jensen-Campbell
Office: LS 406
Phone: 817-272-5191 (please no voicemail)
E-Mail: lcampbell@uta.edu
Meeting time: Tuesdays and Thursdays 9:30A – 11:00P
Office hours: Tuesday 11-11:50A; Thursday 2-3 or by appointment only
Class Website: www.uta.edu/webct

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.

RECOMMENDED TEXTS

Berry, W.D. (1993). *Understanding Regression Assumptions*. Newbury Park, CA: SAGE Publications.

Fox, J. (1991). *Regression Diagnostics*. Newbury Park, NJ: SAGE Publications.

Menard, S. (1995). *Applied Logistic Regression Analysis*. Newbury Park, CA: SAGE Publications.

Pedhazur, E.J. (1997). *Multiple Regression in Behavioral Research: Explanation and Prediction* (3rd ed.). Fort Worth, TX: Harcourt Brace College Publishers.

Publication manual of the American Psychological Association (6th ed.). (2010). Washington, DC: American Psychological Association.

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 in-class portions as well as take-home 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 data/paper cannot be one that you have already used for a previous statistics class. 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
Participation/Quizzes	50

Total	450

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 OTHER IMPORTANT INFORMATION

DROP POLICY

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information. For the Fall 2010 semester, the last day for undergraduates to drop a course is Friday, November 5th.

ATTENDANCE

It is your responsibility to attend class and **not be late**. Attendance will be taken and will count toward your participation grade. This is NOT a correspondence course (i.e., a distance education course); thus, you are expected to be in class and to participate in class.

E-MAIL COMMUNICATIONS

The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. Students are responsible for checking their MavMail regularly. Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington. To obtain your NetID or for logon assistance, visit <https://webapps.uta.edu/oit/selfservice/>. If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at helpdesk@uta.edu.

Do not e-mail via WebCT; e-mail me directly at lcampbell@uta.edu.

Important e-mails will be sent to you via WebCT so you will need to check WebCT daily or set WebCT to forward messages to your UT Arlington e-mail account.

ACADEMIC INTEGRITY

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." *In addition to the university sanctions, you will fail this course if you are caught participating in any form of academic dishonesty.*

AMERICANS WITH DISABILITIES ACT

The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

STUDENT SUPPORT SERVICES AVAILABLE

The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit www.uta.edu/resources for more information.

CHILDREN / UNAUTHORIZED PERSONS

No children or unauthorized persons may be brought to classes or during exams without prior instructor permission. Do not leave children unattended in university buildings and facilities.

FINAL REVIEW WEEK

A period of five class days prior to the first day of final examinations shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. **Classes are held as scheduled during this week and lectures, presentations, attendance points, and quizzes may be given.**

V 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
August 26	Introduction to Regression Analysis	
Aug 31/Sept 2	Simple/Bivariate Regression Analysis	CCWA Chapters 1&2 HW 1: BIVARIATE REGRESSION ANALYSES
September 7/9	Two Predictor Multiple Regression/ Partial Relationships	CCWA Chapter 3 HW 2: TWO PREDICTOR MULTIPLE REGRESSION
September 14/16	Assumptions in Regression	CCWA Chapter 4 HW 3: MULTIPLE REGRESSION
September 21/23	Regression Diagnostics	CCWA Chapter 10 HW 4: CONDUCTING AND INTERPRETING DIAGNOSTICS
September 28/30	Data-Analytic Approaches/Hierarchical Analysis	CCWA Chapter 5 HW 5: HIERARCHICAL/STEPWISE REGRESSION
October 5/7	Interactions among Continuous Variables	CCWA Chapter 7 A&W—Chapters 1&2 HW 6: REGRESSION WITH PRODUCT TERMS
October 12/14	Testing Simple Slopes in Regression Take-Home Midterm Handout	HW 7: REGRESSION WITH PRODUCT TERMS
October 19/21	Categorical or Nominal Independent Variables	CCWA Chapter 8 A&W – Chapter 3
October 26/28	Interactions with Categorical Variables Take-Home Midterm DUE (10/28)	CCWA Chapter 9 A&W – Chapter 7 HW 8: REGRESSION WITH DUMMY VARIABLES
November 2/4	Testing and Probing Three-Way Interactions	A&W – Chapter 4 HW 9: TESTING 3-way INTERACTIONS WITH REGRESSION
November 9/11	Higher Order Effects and Interactions	A&W – Chapters 5-6 HW 10: REGRESSION -HIGHER ORDER INTERACTIONS
November 16/18	Curvilinear Relationships & Transformations	CCWA Chapter 6
November 23	Catch-Up Day	
Nov 30/Dec 1	Applied Logistic Regression	
December 7/9	Introduction to Multi-Level Modeling	FINAL PROJECT DUE (Dec 7) RECEIVE FINAL
December 16	Final Exam Out-of-Class Final Due	8:00A - 10:30A