

BER 546, Regression Methods in Education
Tuscaloosa, Spring 2007

Department of Educational Studies in Psychology, Research Methodology, and Counseling
Program: Educational Research
Credit Hours: 3
Instructor: Dr. Ann Godfrey
Office: 307 B Carmichael
Office Hours: Monday 4:00-5:50; Tuesday 4:00-5:50
Phone: 348-7582
E-mail: agodfrey@bama.ua.edu

CATALOGUE DESCRIPTION

Topics include simple regression and multiple regression. **Prerequisite:** BER 540.

CONCEPTUAL FRAMEWORK

Experiences in academic programs are devoted to developing individuals' understanding of *knowledge construction, pedagogy, and responsible professional practice in the contexts of education*. The University of Alabama's College of Education seeks to prepare professionals who value and demonstrate *reflective practice and ethical decision making through respecting diversity, honoring difference, and promoting social justice*.

KNOWLEDGE BASE

BER 546 is based on a traditional multiple regression course. The topics that will be covered are correlation, linear regression, outliers, two variable predictors, matrix algebra, partial and semi-partial correlations, variable selection and model building, and the use of dummy variables.

COURSE OVERVIEW/OBJECTIVES

This three credit hour course is designed to give each student a comprehensive understanding of the uses of multiple regression concepts, while providing a decision-making framework for selecting and using the appropriate regression techniques. An additional focus of the course is the use of the SPSS® package on the pc. The student is not responsible for committing a variety of formulae to memory. Rather, the student is expected to correctly select appropriate formulae and apply them.

This course assumes a rudimentary knowledge of basic statistics. Each student should possess an ability to solve problems, and a determination to succeed. With these entering traits, success is assured. As with any new experience, initial attitude is important, and commitment is essential. When you have mastered the fundamentals of the course, new topics are more readily understood. Therefore it is imperative that each student stay current with the reading and assignments, and that any early difficulties be resolved quickly (this can usually be accomplished by arranging an appointment with the instructor). To help focus upon important aspects of the course, the following advice is offered:

1. Assume that you will ultimately gain mastery of the material, regardless of how difficult it may seem initially.
2. Break difficult topics or techniques into smaller and simpler units, and master the parts before attempting to master the whole.
3. Practice the analysis techniques beyond mastery; when you feel that you understand how a particular problem is solved, work additional problems to improve competence.
4. As new topics are introduced, seek out the linkage of the new material with the old; think about what you are learning.
5. When in doubt, either go over text or material presented in class, ask questions.
6. Perform periodic reviews of past material; due to the cumulative nature of the course, it can be most helpful if past material is re-examined in light of more recent material, rather than waiting until exam time to study and review.

ATTENDANCE AND MAKEUP POLICY

Classroom attendance is strongly recommended since the tests will be drawn from classroom lectures. The course content is delivered by lecture and handouts. Also, your assignments will involve using SPSS[®] for Windows on a pc, which will be demonstrated in class. In the past, students who have missed class found it difficult to understand the material and concepts of the course. When missing a class, students cannot ask questions about any clarification that is needed. I often receive e-mails from students asking questions that would have been answer had he/she been in class. For these reasons attendance is required. If you are late to class, leave early, or miss a class get the notes from someone in the class. I do not do make-up class sessions and/or make-up lab sessions. ASSIGNMENTS ARE TO BE TURNED IN ON TIME! **I WILL NOT ACCEPT LATE ASSIGNMENTS.** I will drop the lowest assignment grade, therefore if you fail to turn in an assignment it will be considered the drop grade. Failure to turn in more than 1 assignment will result in a zero for each assignment not turned in over 1. If you are not going to be in class, assignments can be placed in my mailbox, brought to class by another student, faxed, or e-mailed **before class**. Three absences will result in a 10 point penalty on your final grade. Any absences over 3 will be an additional 5 points for each absence deducted from the final grade.

WARNING!!!! POWER FAILURES, COMPUTER CRASHES, AND COMPUTER VIRUSES ARE NOT ACCEPTABLE EXCUSES FOR FAILING TO TURN IN AN ASSIGNMENT. ALSO, IF YOU E-MAIL AN ASSIGNMENT (MUST BE DONE BEFORE CLASS) I WILL ACKNOWLEDGE RECEIPT OF THE ASSIGNMENT. IF YOU DO NOT HEAR BACK FROM ME, THEN I DID NOT RECEIVE THE ASSIGNMENT. PLEASE RESEND IT IMMEDIATELY. MAKE SURE THAT YOU HAVE THE CORRECT E-MAIL ADDRESS. IF I HAVE NOT RECEIVED IT BEFORE CLASS IT IS CONSIDERED LATE AND WILL NOT BE ACCEPTED. Test dates are final. Tests will not be rescheduled due to trips, vacations, etc. Please plan your schedule accordingly. If

you miss test 1 because of job responsibilities, an emergency, or any other acceptable* reason (including sports participation) you will take a comprehensive test at the scheduled time for test 2. The grade made on the comprehensive test will be the grade for both test 2 and the missed test. Since the comprehensive test is not the same test taken by the other students, any possible extra points added to either test will not apply. Failure to take test 2 at the scheduled time will result in an "I" for the semester. A makeup test will be given at the convenience of the professor (usually at the beginning of the next semester). Test times are from 6:00 to 9:00 PM on the scheduled date. If you are late, the test time still ends at 9:00 PM. There will be no extra time allowed.

****NOTE: In order to be allowed to take the comprehensive final due to missing test 1, I must be contacted prior to the missed test (phone, e-mail, or in person) with an acceptable reason (I reserve the right to determine if the reason is acceptable). If contacting me is not possible before, then you need to contact me within 24 hours after the test, otherwise you may receive a '0' for the missed test. Missing test 1 does not mean that you will automatically be allowed to take the comprehensive final. Be aware that going on vacation is not an acceptable reason. The same applies for missing test 2. I need to be contacted.**

Cell Phones

Please turn off cell phones and pagers during class. If you are expecting an important call, set the phone to vibrate and sit near the door so you can leave the classroom to answer your call. Please do not answer nor talk on the cell phone in the classroom while class is in process. Of course to do so before and/or after class is ok.

UNIVERSITY POLICIES

Academic Misconduct:

Academic misconduct by students includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student commit an act of academic dishonesty. The academic Misconduct Disciplinary Policy will be followed in the event of academic misconduct. Please refer to <http://registrar.ua.edu/policies/> for the revised *Codes of Conduct*.

Plagiarism:

Plagiarism is the act of representing the words, data, works, ideas, computer program or output, or anything not generated by the student as his or her own. Plagiarism may be inadvertent or purposeful; however, plagiarism is not a question of intent. All suspected incidences of plagiarism must be reported by the course instructor to the Assistant Dean. Plagiarism is considered a serious act of academic misconduct and may result in a student receiving an F in the course and being suspended from The University. For more information, see <http://facultysenate.ua.edu/handbook/append-c.html>

Equal Treatment:

The instructor and students in this course will act with integrity and strive to engage in equitable verbal and non-verbal behavior with respect to differences arising from age, gender, race, physical ability, and religious preferences.

Reasonable Accommodations:

To request disability accommodations, please contact the Office of Disability Services at 205-348-7966. It is located at 133 B Martha Parham Drive. After initial arrangements are made with that office, please contact me for any course accommodations that may be necessary. It will be necessary to provide me with written notification from the Office of Disability Services. You are not protected under applicable disability laws until I am given the official letter **AND** we talk about the accommodations that are being requested (the talk will not occur minutes before class starts or during break). Please note that accommodations are not retroactive. Also, you are still expected to meet the requirements of the course. Students in need of reasonable accommodations relative to class attendance or arrival, course requirements, or related aspects of performance are to initiate such requests with the instructor prior (at least one week) to their anticipated need. Such requests will be accommodated within constraints of fairness and timeliness with regard for all other students enrolled for the course. If your accommodations require extra time for test taking, you must make arrangements with the Office of Disability Services to take the test in their offices (**before or during the actual test time**). The classroom test runs from 6:00 to 9:00 PM. Please do not come to the classroom to take the test, then realize that you need more time. The extra time will not be given. You must take the test in the Office of Disability Services.

TEXTBOOKS

Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and prediction* (3rd ed.). Fort Worth, TX: Harcourt Brace.

CALCULATOR

You will need a calculator for this course. The recommended calculators are TI-34 II, TI 30X IIS, or TI 30X II b. you may use other calculators, however, I will only teach to the recommended ones. I will not take up class time for other calculators. You may come by my office before class or stay after class if you want help with your calculator. **CALCULATOR HELP ON THE WEB: www.geocities.com/calculatorhelp/**

EVALUATION PROCEDURES

PERCENTAGES

Test 1	100 points	90% - 100%	A
Test 2	100 points	80% - 89%	B
Project	100 points	70% - 79%	C
Class Points	25 points*	60% - 69%	D
Assignments 5 @ 30 points each	150 points	Below 60%	F
Article Critique	<u>50 points</u>		
Total	575 points		

ALL GRADED ASSIGNMENTS

Since assignments are to be graded, students are expected to work on the assignments **INDEPENDENTLY**. Questions concerning the assignment should be directed to the instructor. I reserve the right to give a zero for the assignment or refer the student to the Assistant Dean of the College of Education if I suspect dishonesty. **I DO NOT PREGRADE ASSIGNMENTS**. If you send me an assignment by e-mail or give me an assignment to look over before it is due, I will grade the assignment accordingly. If you come by my office for help, I will work a similar problem, but not the same problem that is on the assignment. It is not fair to the other students in the class to ask me to pregrade or work the problem for you outside of class. Please ask questions concerning your assignments in class so that other students can benefit as well. Any assignments that have SPSS® printouts must have your name typed on the printout before printing.

Class Points

Class points are given at the discretion of the instructor. The points can be for participation, questions asked in class, reflective points, etc. In order to receive the points you must be in class. These points can not be made up if you miss a class in which they are given.

*If no class points are given during the semester, then the total possible points for the semester will be 500. I will inform you in class when I am taking class points.

SEMESTER GRADE

The semester grade is final. There will be no changes except for cases of error in recording the grade and/or a mistake in grading on my part. If you fail to answer questions on the tests or on the assignments or do not turn in part of an assignment you will not be given a chance to redo. Please do not ask to redo an assignment or ask for extra credit assignments in order to elevate a grade. This is not fair to the other students in the class. Also, do not decide to turn in an assignment that you previously did not turn in after the due date. **FINAL GRADE MEANS FINAL GRADE.**

WebCT

Copies of the syllabus, handouts, and PowerPoint presentations can be downloaded from WebCT. You are expected to download the appropriate handouts prior to each class. I do not bring extra copies to class. You will also find a copy of the syllabus on WebCT.

E-mail

I will use Bamamail for communication purposes. I suggest if you have your e-mail forwarded from Bamamail that you change it back to Bamamail as there are sometimes as much as a 2 week delay in receiving forwarded messages. This causes a problem when I send an e-mail before class giving important information for that night's class. Also, I occasionally send revised assignments or other important information through e-mail. Please check your e-mail, daily. It is also recommended to check e-mail just before class. Failure to check e-mail is not a valid excuse for missed messages. It is your responsibility to make sure that the accounts are working properly. **I will not resend e-mails**. Please do not use WebCT to e-mail me. When e-mailing me please identify which class you are in. The way to do this is in the subject line put "BER 546." Also, please put your name (first and last) at the end of the message. Please do not e-mail me for

grades. I return the graded assignments and test the next class meeting. Please wait until then for your grade. If you miss class, ask at the next class meeting in attendance. Also, if you miss class, please do not send me e-mails asking for the information that was discussed in the missed class. That information should be in the notes that you get from another student. I reiterate, ATTENDANCE IS IMPORTANT.

WARNING!!!!!! WHEN YOU TURN IN AN ASSIGNMENT MAKE SURE THAT YOU TURN IN EVERYTHING. FAILURE TO TURN IN ALL OF AN ASSIGNMENT WILL RESULT IN YOU MISSING THE POINTS DELEGATED FOR THAT PART. I WILL NOT ACCEPT MISSING PARTS AT A LATER DATE.

ASSIGNMENTS

The following dates and assignments are subject to change.

Date	Topics	Assignments
Jan 22	Introduction, Correlation Hypothesis Testing	1, 2 Homework
Jan 29	Regression Hypothesis Testing	1, 2, Homework Assignment 1
Feb 5	Outliers Computer Applications	3, 4, Homework Assignment 2
Feb 12	Multiple Regression with Two Predictor Variables ASSIGNMENT 1 DUE	5, Homework Assignment 3
Feb 19	Review ASSIGNMENT 2 DUE	
Feb 26	TEST 1 ASSIGNMENT 3 DUE AT BEGINNING OF CLASS	
Mar 5	Matrix Algebra	6, Appendix A Homework, Assignment 4
Mar 12	Spring Break	
Mar 19	Prediction: Model Building	8, homework Assignment 5
Mar 26	Analysis of Effects ASSIGNMENT 4 DUE	10 Homework

April 2	Dummy, Effect, and Orthogonal Coding ASSIGNMENT 5 DUE	11 Homework pp. 407-408 6a-f; 9a Assignment 6
April 9	Advanced Topics ARTICLE CRITIQUE DUE	12,13,17 Homework
April 16	Review for test ASSIGNMENT 6 DUE	
April 23	TEST 2	
April 30	PROJECTS DUE NO LATER THAN 6:30 PM IF LATE, A 10% LATE PENALTY WILL BE ACCESSED PROJECTS TURNED IN AFTER APRIL 30 WILL NOT BE ACCEPTED	