

**UNIVERSITY OF SOUTHERN CALIFORNIA
SCHOOL OF SOCIAL WORK
MULTIPLE REGRESSION FOR SOCIAL WORK RESEARCH
SOWK 761L, SPRING 2012**

Classroom: MRF 204; Lab: DWT 001

Instructor: Eric Rice, Ph.D.

Office: City Center 360T

Telephone: (213)743-4766

E-mail: ericr@usc.edu

Day/Time: Wednesday

Lecture: 8:00-10:50am

Lab: 1:00-3:50pm

Office Hours: By appointment

COURSE DESCRIPTION AND OBJECTIVES

This course is a continuation of SOWK 760 and will focus on a number of bivariate and more advanced multivariate statistical methods. The overall objectives of this course are (1) to give you foundation knowledge of the strengths, limitations, and applications of quantitative analyses, (2) to give you familiarity with statistical tools frequently used in social work research, (3) to develop an appreciation for the practical issues involved in conducting data analysis, and (4) to prepare to learn about more advanced statistical procedures. More specifically, after completing this course, you should have gained:

1. A conceptual understanding of a number of multivariate statistical methods. This will enable you to critically assess empirically-based research and to actively participate in the design, implementation, analysis, and interpretation of on-going research;

2. Basic operational understanding of these statistical methods;

3. Skills in applying these statistical methods to answer a wide range of social science related research questions. Specifically, you should be able to:

a. Clearly state research questions and hypotheses in a statistical analysis context;

b. Select an appropriate statistical technique to answer your research questions and/or to test your hypotheses;

c. Skill in analyzing your data utilizing SPSS and other statistical software packages; and

d. Interpret your statistical findings in order to answer your research questions.

4. A foundation in statistical inference which will enable you to pursue more advanced and specialized study in quantitative analysis.

Text

Required texts: Tabachnick, B.G. & Fidell, L. S. (2007). Using Multivariate Statistics (5th Edition). Boston: Pearson.

This is the first time that this textbook is being used for this course. My intent was to select a text that covers the overwhelming majority of the content that is presented in this course, and that can be used as a reference in the future. Additional readings will be announced and/or provided as needed.

COURSE FORMAT

The course consists of one weekly class session plus a lab-discussion. The lab sessions will be used to discuss problems encountered in the lectures and problem sets, and to refine students' statistical computing skills. The only way to master the material presented is by working through the problem sets. The course assumes knowledge of the material covered in the first section of SOWK 760.

There will be opportunities to work with realistic data and to examine the work of others that apply these techniques to answer social science questions. There will be computer assignments using SPSS. These assignments will give students' an opportunity to analyze realistic data and build models of their own.

Handouts and readings will be provided in class where appropriate. Students are also encouraged to help each other whenever possible. **Active participation and full preparation by each student for each class is expected.**

Please note that it may be necessary for the instructor to make adjustments to the syllabus during the semester.

ROLE OF INSTRUCTOR AND STUDENTS

Instructor's Role

The instructor will facilitate the course objectives by completing the following tasks:

1. Provision of useful and constructive comments for student's work in a timely manner, especially for any skill building effort. Comments constitute a means of engaging in a "dialogue" and are not intended to reflect "negative" criticism of students' work.
2. Availability for and responsiveness to student questions and regular student evaluation and feedback.
3. Provision and maintenance of a safe forum for discussion and learning.
4. Preparation and delivery of course material.

Student's Role

You will facilitate the objectives of the course by doing the following:

1. Be on time and prepared with an integrative concept from readings and assignments aimed at understanding the material. All students are expected to attend class and labs, and to participate in discussions and activities. If you are unable to attend a particular class for some reason, please let the instructor know ahead of time.

2. Complete class assignments, as outlined below, in a timely, heuristic and high quality fashion. Late assignments *will be penalized*. If you are unable to complete an assignment on time for some reason, please inform the instructor ahead of time.
3. Contact the instructor if you have any concerns or questions regarding the course, readings, or assignments. Students are encouraged to discuss specific questions regarding their work with the instructor *outside of class*.

I see each student as responsible for her/his learning experience. We, as a group, must contribute to the experience. However, the student is ultimately responsible for the depth, challenge and enjoyment of learning. If you are interested in discussing alternate or additional assignments, I welcome you to speak with me about possibilities or ideas that you may have. This discussion should occur at the recommendation and support of your advisor. This is unlikely to lessen one's workload, but may fit your needs and interests best.

GRADING

Students will be graded on a number of assignments. You will have weekly problem sets, five lab assignments, one research paper, and final "conference-style" presentation of that paper in class. In addition, every student is expected to submit an abstract for their final paper to a relevant professional conference. For students in the Ph.D. program in Social Work that must be to the Society for Social Work Research 2012 conference, (Abstracts are due April 30, 2010). Students from other schools or departments should discuss with the instructor their intended target conference.

These assignments will be weighted as follows in determining your final course grade:

Participation 5%
Assignments 25%
Problem sets 25%
In-Class Conference-style Presentation 5%
Final paper 40%

COURSE EVALUATION AND GRADING

This course has a numerical and letter grading system, ranging from 0 to 100 points with letter-grade equivalents ranging from F to A+. The combination allows for more grading nuances, while still presenting grades that are easily understandable. Final grades for the course will be determined on the basis of the following criteria: 1) student's completion of all course assignments on time, and 2) active participation. Meeting these expectations will result in receiving a passing grade for the course. Failure to meet these expectations will result in a non-passing grade.

Grading Policy

Grading Criteria

A 4.0-3.85 (100-93) B- 2.89-2.60 (82-80)
A- 3.84-3.60 (92-90) C+ 2.59-2.25 (79-77)
B+ 3.59-3.25 (89-87) C 2.24-1.90 (76-73)
B 3.24-2.90 (86-83) <73 not passing

Within the School of Social Work, grades are determined in each class based on the following standards, which have been established by the faculty of the School:

(1) Grades of A or A- are reserved for student work which not only demonstrates very good mastery of content but which also shows that the student has undertaken a complex task, has applied critical thinking skills to the assignment, and/or has demonstrated creativity in her or his approach to the assignment. The difference between these two grades would be determined by the degree to which these skills have been demonstrated by the student.

(2) A grade of B+ will be given to work which is judged to be very good. This grade denotes that a student has demonstrated a more-than-competent understanding of the material being evaluated in the assignments.

(3) A grade of B will be given to student work which meets those basic requirements of the assignment. It denotes that the student has done adequate work on the assignment and meets basic course expectations.

(4) A grade of B- will denote that a student's performance was less than adequate on the assignments as a whole, reflecting only moderate grasp of the content and/or expectations.

(5) A grade of C would reflect a minimal grasp of the assignments, poor organization of ideas and/or several significant areas requiring improvement.

(6) Grades between C- and F will be applied to denote a failure to meet minimum standards, reflecting serious deficiencies in all aspects of a student's performance on the assignments.

Course Assignments and Examinations

Students will attend a lab after each class session and complete assignments as assigned by the teaching assistant(s). Students will complete 12 problem sets that will correspond to the material presented during the class session(s). These assignments will be distributed at the end of the class session and should be returned at the beginning of the next class session. There will be five lab assignments throughout the semester. These assignments are essential building blocks for the research paper that is the final assignment for the course. The details for these assignments will be distributed in lab and will be due by the beginning of lab on the day indicated in the course outline. Finally, there will be one (1) short research report. This paper will be 15-20 double-spaced pages in length (including tables and figures) and will include a description of a new model developed and results of a multiple regression model as it would appear in the methods and results sections of a profession publication. Finally, the second to last class session will be a mini-conference, where all students are expected to present a 10-15 minute summary of their research paper, including the: background to the study, conceptual model, data and methods, results, and conclusions.

Class Participation

Class participation is defined as students' active engagement in class related learning. Students are expected to participate fully in the discussions and activities that will be conducted in class and lab. Students are expected to contribute to the development of a positive learning environment and to demonstrate their learning through the quality and depth of class comments, participation in class discussions related to readings, lectures, and assignments. Class participation should consist of meaningful, thoughtful, and respectful participation based on having completed required and independent readings

and assignments prior to class. When in class, students should demonstrate their understanding of the material and be prepared to offer comments or reflections about the material, or alternatively, to have a set of thoughtful questions about the material. Class participation is worth 5% of the final grade.

Guidelines for Evaluating Participation

Outstanding Contributor: Contributions in class reflect exceptional preparation. Ideas offered are always substantive, provide one or more major insights as well as direction for the class. Challenges are well substantiated and persuasively presented. If this person were not a member of the class, the quality of discussion would be diminished markedly.

Good Contributor: Contributions in class reflect thorough preparation. Ideas offered are usually substantive, provide good insights and sometimes direction for the class. Challenges are well substantiated and often persuasive. If this person were not a member of the class, the quality of discussion would be diminished.

Adequate Contributor: Contributions in class reflect satisfactory preparation. Ideas offered are sometimes substantive, provide generally useful insights but seldom offer a new direction for the discussion. Challenges are sometimes presented, fairly well substantiated, and are sometimes persuasive. If this person were not a member of the class, the quality of discussion would be diminished somewhat.

Non-Participant: This person says little or nothing in class. Hence, there is not an adequate basis for evaluation. If this person were not a member of the class, the quality of discussion would not be changed.

Unsatisfactory Contributor: Contributions in class reflect inadequate preparation. Ideas offered are seldom substantive, provide few if any insights and never a constructive direction for the class. Integrative comments and effective challenges are absent. If this person were not a member of the class, valuable air-time would be saved.

Attendance Policy

Students are expected to attend all fourteen (14) sessions and to remain in class for the duration of each session. Failure to attend class or arriving late may impact your ability to achieve course objectives which could affect your course grade. Students are expected to notify the instructor by telephone or e-mail of any anticipated absence or reason for tardiness.

University of Southern California policy permits students to be excused from class, without penalty, for the observance of religious holy days. This policy also covers scheduled final examinations which conflict with students' observance of a holy day. Students must make arrangements *in advance* to complete class work which will be missed, or to reschedule an examination, due to holy days observance. Please refer to Scampus, pg. 86 and to the USC School of Social Work Student Handbook, pp. 12-14.

Academic Accommodations

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. *Please be sure the letter is delivered to the instructor as early in the semester as possible.* DSP is located in STU 301 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. The phone number for DSP is (213)740-0776.

Emergency Response Information

To receive information, call the main number (213)740-2711 and then press #2. “For recorded announcements, events, emergency communications or critical incident information.”

To leave a message, call (213)740-8311

For additional University information, please call (213)740-9233

Or visit the University website: <http://emergency.usc.edu>

If it becomes necessary to evacuate the building, please go to the following locations carefully and using stairwells only. Never use elevators in an emergency evacuation.

University Park Campus

MRF Lot B

SWC Lot B

WPH McCarthy Quad

VKC McCarthy Quad

City Center Front of the building (12th & Olive)

Orange County Campus Faculty Parking Lot

Skirball Campus Front of building

Do not re-enter the building until given the “all clear” by emergency personnel.

Complaints

If you have a complaint or concern about the course or the instructor, please discuss it first with the instructor. If you feel that you cannot discuss it with the instructor, contact the Chair of the Doctoral Program. If you do not receive a satisfactory response or solution, contact your advisor and/or the Associate Dean for Student Affairs for further guidance.

Academic Honesty

Academic honesty in the composition of assignments is expected. If problems do arise for you regarding any aspect of the course, please talk with the instructor so that the problem(s) may be remedied. Violations of academic honesty in the preparation of assignments (e.g., plagiarism) will result in notification of the Assistant Dean of Academic Affairs at the University of Southern California, School of Social Work. Any hint of violation will result in no grade for the assignment as well as other possible actions.

Tips for Maximizing Your Learning Experience in this Course

- ✓ Complete required readings and assignments BEFORE coming to class.
- ✓ BEFORE coming to class, review the materials from the previous session AND the current session, AND scan the topics to be covered in the next session.
- ✓ Come to class prepared to ask any questions you might have.
- ✓ Participate in class discussions.
- ✓ AFTER you leave class, review the materials assigned for that session again, along with your notes from that session.
- ✓ If you don't understand something, ask questions! Ask questions in class, during lab, office hours, and/or through e-mail.
- ✓ Keep up with the assigned readings.
- ✗ Don't procrastinate or postpone working on assignments.

COURSE EXPECTATIONS

Students will be expected to complete the assignments and use them as the basis for informed and active participation in class discussions throughout the semester.

Assignments are designed to enable students to integrate and apply class content. All written work will be assessed in light of clarity of presentation, organization, and the ability to integrate and apply the various concepts presented through readings, lectures, labs, and class discussions.

Detailed Course Content and Assignments

01.11.12: Session 1 – Class & Lab Cancelled

01.18.12: Session 2

Introduction to Course, Correlations

Required Reading: Kachigan Chapter 10 p. 195 – 220.

01.25.12: Session 3

ANOVA

Required Reading: Agresti & Finlay: p. 369-378 (Sections 12.1 & 12.2)

Problem set 1 due

02.01.12: Session 4

Introduction to Simple Linear Regression; The Regression Equation; Objectives and Model Assumptions; Descriptive Methods in Regression and Correlation

Required Reading: Agresti & Finlay, p. 255 – 276 (Sections 9.1 - 9.4)

Problem set 2 due

02.8.12: Session 5

Simple Linear Regression; Inferential Methods in Simple Linear Regression

Required Reading: Agresti & Finlay, p. 276 – 288 (Sections 9.5 - 9.6)

Problem set 3 due

02.15.12: Session 6

Introduction to Multivariate Relationships; Conceptual Models

Required Reading: Agresti & Finlay, p. 301 – 315 (Sections 10.1 - 10.5)

Problem set 4 due

Assignment 1: Selecting a Data Set due

02.22.12: Session 7

Multiple Regression and Interpretation of Results;

Required Reading: Tabachnick & Fidell pp.117-123, 128-131

Problem set 5 due

02.29.12: Session 8

Evaluation of the Multiple Regression Model -- Model Assumptions 1

Required Reading: Tabachnick & Fidell pp.125-128, 78-84

Problem set 6 due

Assignment 2: Conceptual Model due

03.7.12: Session 9

Evaluation of the Multiple Regression Model -- Model Assumptions 2

Required Reading: Tabachnick & Fidell pp.123-125, 85-91

Problem Set 7 due

03.14.12: SPRING RECESS

03.21.12: Session 10

Analytic Strategies for Multiple Regression, Relative Model Fitting

Required Reading: Tabachnick & Fidell, p.136-155

Assignment 3: Data Transformations and Model Assumptions due

03.28.12: Session 11

Moderation models and interactions in multiple regression

Required Reading: Agresti & Finlay, p. 341-345, in class handout

Problem set 8 due

04.04.12: Session 12

Mediation models with multivariate regression

Required Reading: Agresti & Finlay, p. 527 - 532 in class handout

Problem set 9 due

04.11.11: Session 13

Path Analysis

Required Reading: in class handout

Lab Assignment 5: Multivariate Model Results due

04.18.11: Session 14

Introductions to Advanced Linear Modeling Strategies

Problem set 10 due

04.25.11: Session 15

Mini Conference on your work for the semester.

05.9.12: Final Papers Due noon.

Week	Topic	Assignments
1/11	Class Cancelled	
1/18	Introduction & Correlations	
1/25	ANOVA	Problem Set 1
2/1	Simple Linear Regression (descriptive)	Problem Set 2
2/8	Simple Linear Regression (inferential)	Problem Set 3
2/15	Multivariate Relationships, Conceptual Models	Problem Set 4 Assignment 1: Data Set
2/22	Multiple Regression, Model Interpretation	Problem Set 5
2/29	Multivariate Regression Model Assumptions 1	Problem Set 6 Assignment 2: Conceptual Model
3/7	Multivariate Regression Model Assumptions 2	Problem Set 7
3/14	Spring Break	
3/21	Analytic Strategies for Multivariate Regression	Assignment 3: Data Cleaning and Model Assumptions
3/28	Moderation Models and Interaction Effects	Problem Set 8
4/4	Mediation Models	Problem Set 9
4/11	Path Analysis	Lab Assignment 5: Multivariate Results
4/18	Introductions to Advanced Linear Modeling Strategies	Problem Set 10
4/25	Mini-Conference on Your Work for the Semester	In Class Presentations of Papers