

Multivariate Statistics

AB4 313, MW 4:30 –6:00

3 Hours of Academic Credit

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Office hours: MW 2 – 3:30; other days and times by appointment

Text: Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA: Sage.

Some additional assigned readings will also be available on Electronic Reserve from the Newton Gresham Library

Objectives

The course will provide an introduction to common multivariate statistical analyses and the software used to conduct them. Five analyses will be covered in sufficient detail to prepare you to interpret your own data in the future: multiple regression, logistic regression, discriminant analysis, multivariate analysis of variance, and exploratory factor analysis. As time permits, other analyses will be covered in sufficient detail to facilitate your understanding of their use in published articles: these may include path analysis, confirmatory factor analysis, and meta-analysis.

<u>Topic</u>	<u>Reading</u>	<u>Exam</u>
Intro: Multivariate Statistics are our friends	Chapters 1 & 2	
Data are our friends, too	3	
Multiple regression: The basics	4 pp. 147-177; 205-210; 213-217	1
More multiple regression	5	
Logistic regression	6	2
Discriminant analysis	7	
MANOVA	9 - 11	3
Exploratory factor analysis	12	
A glance at path analysis	pp. 585-610	4 Dec 13

Notes and News

The four exams will each comprise one-fourth of your course grade. The exams will include both conceptual inquiries and requests to interpret output from SPSS. A portion of each exam grade will also come from take-home computer assignments due on the exam day.

Please read your assignments in advance of each class. I will assume that you have, and that you already know what material is causing you grief. I'll seek to reinforce and amplify, not duplicate, our reading's coverage.

Class attendance is not required, but I hope you'll find it foolish to miss class, as interesting, testworthy things that are not in the book will be mentioned in every class.

The Small Print: SHSU proudly adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential, of course. However, no accommodation can be made until you register with the Counseling Center.

The University Code of Student Conduct and Discipline, Section 5.3, states that you are expected "to engage in all academic pursuits in a manner that is above reproach and to maintain complete honesty and integrity both in and out" of the classroom. Disciplinary action that will involve failure of, and expulsion from, our course will be initiated against any student accused of any form of academic dishonesty.

If you miss an exam in order to observe a religious holy day, I will happily provide you the exam on the following Friday at 2:00. However, University policy requires you to notify me in writing of your wish to be absent due to religious holy days. Please plan ahead, and, for more info on this and the other policies mentioned above, feel free to check out our official University guidelines at www.shsu.edu/syllabus.

You will be asked to provide a formal evaluation of me and my course near the end of the semester.

Visitors will ordinarily be welcome in our class as long as they are well-behaved, but please check with me before you bring visitors to class. I get to be the judge of who's well-behaved and who's not, and anyone (including you) who does not, in my judgment, display sufficient decorum and respect for others will be asked to leave the room.

*** I reserve the right to answer any phone that rings in this room. ***

Finally, I am substantially revising this course to serve you better. As a result, the syllabus – particularly our exam schedule – is open to modification as our progress through the course takes shape.

Readings for our First Unit

Statistics as Principled Argument

Kirk, R. E. (2001). Promoting good statistical practices: Some suggestions. *Educational and Psychological Measurement*, 61, 213-218.

Multiple Regression

Wampold, B. E., & Freund, R. D. (1987). Use of multiple regression in counseling psychology research: A flexible data-analytic strategy. *Journal of Counseling Psychology*, 34, 372-382.