



BUSN 6303
Advanced Regression Analysis
Spring 2024
CRN 27622

Instructor:	Matthew Griffith, PhD
Email:	mdgriffith@utep.edu
Office Location:	Business Administration Building 228
Office Hours:	Tuesday 9:00 am - 10:30 am, 1:20 pm - 3:00 pm, Thursday 9:00 am - 10:30 am, 4:20 pm - 6:00 pm
Meeting Times:	1:30 - 4:20 pm Thursday
Meeting Location:	Business Administration 328

Course Description

This course is a study of linear and nonlinear regression methodologies, elementary time series analysis, and other introductory econometric topics. The course is designed to provide basic expertise in the application of econometric techniques to hypothesis testing, model building, diagnostic testing, and simulations analysis.

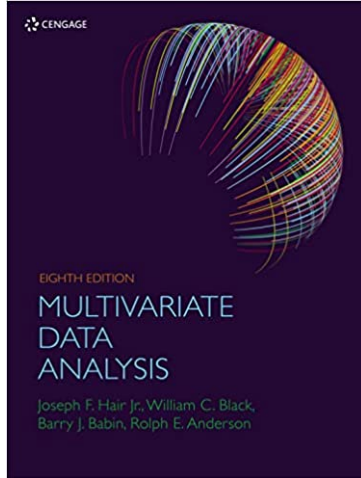
Learning Objectives

By the end of the course, students should be able to:

1. Choose the correct multivariate statistical procedure based on research question, study design, and data measurement.
2. Run regression and other multivariate statistical procedures including factor analysis, path analysis, and covariance-based structural equation models in SPSS and SAS.
3. Appropriately interpret statistical output of regression and multivariate procedures generated by a software package.
4. Summarize results of analysis in professional written reports.

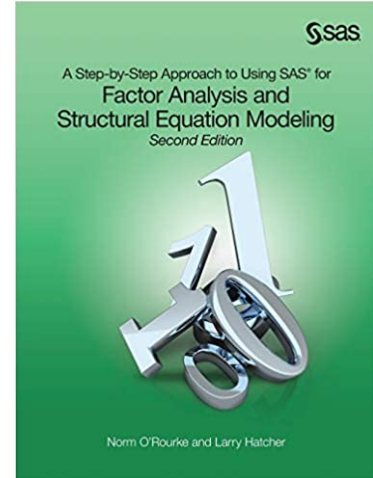
Text

Required



Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Andover, Hampshire, UK: Cengage Learning. ISBN 9781473756540

O'Rourke, N. & Hatcher, L. (2013). *A step-by-step approach to using SAS for factor analysis and structural equation modeling* (2nd ed.). Cary, N.C.: SAS Institute Inc. ISBN 9781599942308



Recommended

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). Thousand Oaks, CA: Sage. ISBN 9781526436566

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates. ISBN 9780805822236

or

Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and prediction* (3rd ed.). Fort Worth, TX: Harcourt Brace College Publishers. ISBN 9780030728310

Supplemental articles and readings will be given out during the course.

Required Software

All students will need access to IBM SPSS Statistics and SAS during both the live lectures and for homework/projects outside of class. You can access these from any internet connected computer through UTEP's MyApps at my.apps.utep.edu.

Grades

Grade Components

Homework		Weights
Research Paper		60%
		40%
Total	<hr/>	100%

Grading Scale

Grade	Points
A	90.0 – 100%
B	80.0 – 89.9%
C	70.0 – 79.9%

Grades lower than a C are not anticipated for this course, but if necessary, anyone receiving below 70% will receive a failing grade.

Homework

Several graded homework projects will be assigned over the course of the semester. Unless otherwise instructed, each assignment must be developed and completed on your own, without the help of others (see UTEP's *Handbook of Operating Procedures* <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html>). The purpose of each assignment is to reinforce the application of statistical concepts from the textbook and class. Each assignment is usually due the week after it is assigned.

Research Paper

A research paper will be due at the end of the semester that will demonstrate competency in statistical methods used in this class. The paper may focus on your area of interest but you must have access to suitable data. (I can help with data access for those of you who do not have other data.) I will need to approve your paper topics, data source, and analysis technique to ensure you are on the right track. Papers must be written explicitly for this course; papers that are revised or modified from other courses or other purposes are not acceptable.

Although the focus of the course is on data analysis, the paper should be complete and include theory/literature review/hypotheses, method (including appropriate analyses relevant to the course), results, and discussion sections. Research papers should mimic an empirical article you would find in AMJ, JAP, JM, etc. All papers should follow either the guidelines set forth in the Publication Manual of the APA or the AMA style guide depending on your program of study.

Course Policies

Attendance and Participation

Attendance is critical to stay on top of material and homework assignments. Thus, students are expected to attend class regularly, but not required. Ultimately the responsibility for all material is the responsibility of the student.

Late Work

Deadlines are firm—make-up and late work are generally not accepted. Exceptions will only be given at the discretion of the instructor for extenuating circumstances with adequate documentation and according to the policies outlined by the university.

Course Accessibility

Students with disabilities that may impact their learning or performance in this course are strongly encouraged to notify the instructor and contact the Center for Accommodations and Support Services (CASS) for assistance in ensuring special accommodations. CASS can be found in Union East 106; 915-747-5148; cass@utep.edu.

Illness Precautions

If you experience symptoms of a communicable illness, please stay home and seek medical advice if necessary. If you are feeling unwell, please let me know as soon as possible so that we can work out the appropriate accommodations.

Academic Honesty

Academic Integrity and Scholastic Dishonesty

Regarding academic integrity, this class abides by UTEP's *Handbook of Operating Procedures* and the Regents' *Rules and Regulations*. Please review the policies to learn your rights, obligations, and responsibilities at <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html>. Student performance should comply with the standards detailed within those documents.

Plagiarism

Plagiarism is a direct violation of UTEP's *Handbook of Operating Procedures* and will not be tolerated. Every student is expected to do their own work and all of the work produced will be expected to be completed in its entirety by the students who turned it in. **Any acts of plagiarism will result in failing the course immediately** (regardless of how well or how poorly you are doing at the time). This is a zero-tolerance policy. There are no second chances. Any and all acts of scholastic dishonesty will be reported to the Office of Student Conduct and Conflict Resolution.

Disclaimer

This syllabus, with its course schedule, is based on the most recent information about the course content and schedule planned for this course. Its content is subject to revision as needed to adapt to new knowledge or unanticipated events. Updates will remain focused on achieving the course outcomes. Students will be notified of changes and are responsible for attending to such changes or modifications as announced.

Course Outline

Please note that the following schedule is subject to change. It is your responsibility to verify dates and assignments.

Week	Dates	Textbook readings	General topics
	January 15	Dr. Martin Luther King, Jr. Holiday	
1	January 18	Hair et al. Ch. 1-2	Introduction and Overview
2	January 25	Field Ch. 8	Correlation <i>HW1 assigned</i>
3	February 1	Hair et al. Ch. 4	Simple Regression
4	February 8	Hair et al. Ch. 4 Pituch & Stevens Ch. 3	Multiple Regression <i>HW2 assigned</i>
5	February 15		Multivariate Regression
6	February 22	Pedhazur Ch. 3 or Cohen et al. Ch. 10	Regression Diagnostics
7	February 29	Field Ch. 11 http://davidakenny.net/cm/mediate.htm	Mediation
8	March 7	Field Ch. 11 https://davidakenny.net/cm/moderation.htm	Moderation <i>HW3 assigned</i>
	March 11-15	Spring Break	
9	March 21	Hair et al. Ch. 3 O'Rourke & Hatcher Ch. 2	Principal Components Exploratory Factor Analysis <i>HW4 assigned</i>

	March 28	Drop/Withdrawal Deadline	
	March 29	Cesar Chavez Holiday – Spring Study Day	
10	March 28	O'Rourke & Hatcher Ch. 3	Reliability
11	April 4	Hair et al. Ch. 12 O'Rourke & Hatcher Ch. 4	Path Analysis <i>HW5 assigned</i>
12	April 11	Hair et al. Ch. 13 O'Rourke & Hatcher Ch. 5	Confirmatory Factor Analysis
13	April 18	Hair et al. Ch. 14 O'Rourke & Hatcher Ch. 6	Structural Equation Modeling <i>HW6 assigned</i>
14	April 25		Structural Equation Modeling
15	May 2	Hair et al. Ch. 5, 6, 7, 15	Special Topics: Discriminant Analysis, Logistic Regression, ANOVA/ANCOVA/MANOVA, Multiple Group Models, Longitudinal Data, PLS
	May 3	Dead day	
16	May 10		Final Paper due at 8:00 am