



BUSN 6303
Advanced Regression Analysis
Spring 2020

Instructor: Matthew Griffith, PhD
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Office Location: Business Administration Building 228
Office Hours: Monday 10:20 am - 12:30 pm,
Wednesday 10:20 am - 12:30 pm
Meeting Times: 1:30 - 4:20 pm Wednesday
Meeting Location: Business Administration 310

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. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall. ISBN: 9780138132637

O'Rourke, N. & Hatch, 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

Supplemental readings will be given out during the course.

Grades

Grade Components

		Weights
Homework		60%
Research Paper		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

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.

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

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.

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

The policies, procedures, schedule, assignments, and evaluation criteria in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or at the discretion of the instructor to ensure better student learning. It is your responsibility to become aware of any announced changes and to note any changes in the syllabus or course schedule.

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 20	MLK, Jr. Holiday	
1	January 22	Hair et al. Ch. 1-2	Introduction and Overview
2	January 29		Correlation
3	February 5	Hair et al. Ch. 4	Simple Regression
4	February 12	Hair et al. Ch. 4	Multiple Regression <i>HW1 assigned</i>
5	February 19		Multivariate Regression
6	February 26		Regression Diagnostics
7	March 4		Mediation
8	March 11		Moderation <i>HW2 assigned</i>
	March 16-20	Spring Break	

9	March 25	Hair et al. Ch. 3 O'Rourke & Hatcher Ch. 2	Principal Components Exploratory Factor Analysis <i>HW3 assigned</i>
	March 27	Cesar Chavez Holiday Drop/Withdrawal Deadline	
10	April 1	O'Rourke & Hatcher Ch. 3	Reliability
11	April 8	Hair et al. Ch. 12 O'Rourke & Hatcher Ch. 4	Path Analysis <i>HW4 assigned</i>
	April 10	Study Day	
12	April 15	Hair et al. Ch. 13 O'Rourke & Hatcher Ch. 5	Confirmatory Factor Analysis
13	April 22	Hair et al. Ch. 14 O'Rourke & Hatcher Ch. 6	Structural Equation Modeling <i>HW5 assigned</i>
14	April 29		Structural Equation Modeling <i>HW6 assigned</i>
15	May 6	Hair et al. Ch. 5, 6, 7, 15	Special Topics: Discriminant Analysis, Logistic Regression, ANOVA/ANCOVA/MANOVA, Multiple Group Models, Longitudinal Data, PLS
	May 8	Dead Day	
16	May 11		Final Paper due at 8:00 am