Dillard College of Business Administration
Syllabus:
Intro to Econometrics - 20370 - ECON 3543 Section 301
Summer I Session, 2025

All Classes are online

CONTACT INFORMATION:
INSTRUCTOR: Dr. John E. Martinez
OFFICE BLDG: Dillard College, Second Floor, Rm 255
OFFICE PHONE: (940) 397-4722
E-MAIL: john.martinez@msutexas.edu
OFFICE HOURS: by appointment
COURSE MATERIALS:
Required Text:
Gujarati, Damodar; **Essentials of Econometrics**, **Third edition**
ISBN 978-0-07-297092-0, Publisher: McGraw-Hill Irwin, Publication
date: 2006
4th edition of the text by the same author parallel closely with the 3rd
edition.
See APPENDIX I and II for comparison of 4th with 3rd edition.

**Access to the following software is required for this class: SAS
OnDemand for Academics (SODA) and access to EXEL**
The great news about SAS OnDemand for Academics (hence forth
called **SODA – SAS OnDemand of Academics**) is that you don't
have to download anything! You access SAS on a cloud platform.
Also, reading data from your real computer is quite simple.

SODA uses SAS Studio as the interface. SAS Studio provides an
environment that includes a point-and-click facility for performing

many common tasks, such as producing reports, graphs, data summaries, and statistical tests.

Registering for SODA

To gain access to SODA, you need to register with SAS Institute. Part of the registration process is to create a SAS profile. You do not need to sign up for a course in your SAS profile. Skip that portion of the instructions. To start, point your browser to: https://welcome.oda.sas.com. To sign up, just create your free SAS Profile and then sign in above to begin the registration process.

The text is designed to help students fully understand statistical analysis, its components, and its uses. Taking into consideration current statistical technology, its focuses on the use and interpretation of software, while also demonstrating the logic, reasoning, and calculations that lie behind any statistical analysis. Furthermore, the test emphasizes the application of regression tools to real-life business concerns. This multilayered, yet pragmatic approach fully equips students to derive the benefit and meaning of a statistical analysis.

Other Required Materials:

Students are required to have a video webcam. RESPONDUS will be used for monitoring purposes. Each student should have a thumb drive (USB) on which to keep various data sets and assignments that will be a part of each class. Projects and other selected assignments will include the requirement that electronic versions of your work be submitted. Maintaining these items on an accessible storage device will reduce stress that may otherwise develop with respect to submissions

COURSE DESCRIPTION:

The application of statistical methods to economic and financial analysis; particular attention is given to the regression analysis including limited and dichotomous dependent variables, regression diagnostics, hypothesis testing, analysis of variance, and selected

topics in time series forecasting. Students can earn a SAS Badge upon successful completion of this class, along with another approved course. See the **Addendum I** below for **Information about SAS Certification.**

COURSE PREREQUISITE:
Junior standing or above or consent of the chair, and BUAD 3033 or equivalent.

OBJECTIVES:
LEARNING GOALS:
General Learning Goals:
Upon successful completion of this course, the student should:
- Demonstrate problem-solving and decision-making abilities through the critical analysis, evaluation, and interpretation of business information.
- Demonstrate a competency in speaking and writing for common business scenarios.
- Be able to utilize available technology for common business applications.

Course Specific Learning Goals:
Upon successful completion of this course, the student should:
- Be able to utilize SAS and EXCEL programs for solving business and economic problems. Demonstrate a competency, not only in using SAS and EXCEL programs, but also in interpreting output generated from those technologies.
- Understand basic ordinary least squares (OLS) regression and its application in economic research.
- Grasp the assumptions under which OLS regression analysis is developed and understand the reasons for these assumptions.
- Develop an understanding of the classical regression model and understand issues that arise when its fundamental assumptions are violated and to develop an appreciation for limitations that

accompany OLS regression analysis and be able to identify instances in which application exceed common sense limitations.

- Demonstrate ability to read and interpret articles in which regression analysis is employed and identify specific items that validate (or invalidate) the model(s) and application(s).
- Understand extended applications of basic OLS regression analyses in selected, specialized econometric models.

Assessment:
Attainment of learning goals will be assessed by a combination of class discussions, problems and exercises in class, quizzes, and exams. Exercises and exams will assess student problem solving and decision making abilities as demonstrated by critical analysis, evaluation, and interpretation of business and economic information.

SYLLABUS CHANGE POLICY:
This syllabus is a guide for the course and is subject to change. All changes will be announced in class and students will be responsible for incorporating the changes into the syllabus. If, at some point, the university switches to an online format, then there will be significant changes in the manner in which exams are administered. Any exam taken online will be monitored through RESPONDUS, which will require students to have access to a webcam video.

COURSE POLICIES:
A. Attendance Policy:
Attendance is required for all in-class sessions for this course. You are expected to log into D2L a minimum of once weekly to check for updates and announcements via postings and email. See the university catalog for the University Class Attendance Policy.
B. Other Related Policies
Contact Procedures:
Sending messages either through my email is preferred [john.martinez@msutexas.edu]. If email is not possible, then through D2L. is the easiest asynchronous method of contacting me with a

substantial issue. I respond to your emails within 48 hours (usually much faster). Text messages to my cell phone work well for emergency issues. Calling me by cell is for pressing matters only.

Course Time: Deadlines indicated in the syllabus/D2L are for Central Daylight Time. If you are completing coursework in another time zone, please note the time difference and plan accordingly.

Missed Examination Policy: Not applicable. You are responsible for managing your schedule to complete the quizzes by the posted time / date. If an emergency arises (e.g. serious injury, serious illness or death in your immediate family) contact me ASAP for different test arrangements.

GRADING and EVALUATIONS:
A student's grade will be based on one of the following:
Three Major Exams 100%   1000 Points
Bonus Points

GRADE EVALUATION:
As a percent of total points:
A (Above 90), B (80-89), C (70-79), D (60-69), F (below 60)
Option I Total Points:
[Exam Avg. X 10.0] + [Bon Pts.]

Major exams:
Three major exams will be given. Each exam has two parts. One portion (A) is strictly over the textbook, and primary related to Chapter Examples. The other portion (B) over the SAS output from End-of-Chapter Problems. The questions from this part of exam will come primarily from output generated from designated SAS programs and from textbook examples.

Each exam is equally weighted and will involve calculation and derivation of answers as well as their interpretation and meaning. The SAS programs required to generate the SAS output are provided in a separate WORD file. Failure to take an exam on the scheduled date without prior approval will result either in an 'F' or 'I' (Incomplete) for the course. Online Exams have a specified time limit of two hours. Within a two-day window, students have the option as to the time, but are limited to one attempt only. Additional attempts constitute cheating and will be severely punished. The last major exam (III) is scheduled to be taken on the last day of class of the summer I session.

Missed Final Exam Policy:
No makeup exams are given. If a student has a legitimate reason for missing an Exam, the final exam score will replace the missing exam score. It is **your responsibility** to talk to instructor well in advance to ask to take the exam early. If I am not available in my office, you must leave a text message or e-mail **before the exam begins.** Provided there is a legitimate reason for missing the last exam, a student will receive a grad of 'I' for the course.

Class Participation:
Students are expected to participate in all class discussions.

Bonus Points:
Students may earn bonus points on a variety of assignments or on any number or other instructor approved activities.

Campus Carry:
Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For information regarding campus carry, please refer to the University's webpage at Campus Carry Polices Link.

Academic Integrity:
With regard to academic honesty, students are referred to the "Student Honor Creed" of **Midwestern State University Undergraduate Catalog**.

Americans with Disabilities Act:
This class follows the guidelines suggested by the Center for Counseling and Disabilities Services for those students who qualify for disability services. **See Midwestern State University Undergraduate Catalog.**

D2L:
The Midwestern State University D2L program will be incorporated into this class and will provide the primary default means of communication. Grades will be posted using D2L. **Each student is expected to master the use of the university website, D2L.** Assistance to achieve comfort using this program will be available as needed.

Syllabus Change Policy:
This syllabus is a guide for the course and is subject to change. All changes will be announced in class and students will be responsible for incorporating the changes into the syllabus. This syllabus is a guide for the course—not a "contract"—and is subject to change. Syllabus changes will be communicated via D2L.

OTHER RELEVANT INFORMATION:
Midwestern State University Student Handbook:
See the most recent MSU Student Handbook for a statement of the university's policy on academic dishonesty. Any other questions not specifically addressed by this syllabus are governed by the student handbook. Make sure you have a copy and are familiar with all the procedures therein. Pay close attention to the Code of Student Conduct section.

Medical or Other Serious Problems:
Please take time and make the effort to advise me if you have difficulties that require my attention to properly evaluate your classroom participation and activities.

Tape Recordings and Cell Phones:
Tape recording of lectures is permitted. You may not tape record any information or class discussion when a graded test is being reviewed. Cell phones and pagers are prohibited unless the instructor has granted permission to have them in class.
Return of Exams: For any in-class exam, failure to return exam will result in a 0 for that exam.

Grade Postings: Exam grades will be posted using D2L.
Plagiarism Statement:
"By enrolling in this course, the student expressly grants MSU a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and educational purposes."

Lower Grades:
The instructor reserves the right to lower any student's final grade by a letter grade for:
(A) A negative, rude, unreasonably argumentative or inattentive attitude in class, or,
(B) Repeatedly disrupting the class for any reason (tardiness), or,
(C) Not showing respect for fellow classmates' questions or opinions.

Course Content and Outline:
Essentials of Econometrics, 3/e Damodar N. Gujarati
Chap 1 The Nature and Scope of Econometrics
[Problems to be solved with SAS] – 1.6 & 1.7

Part I BASICS OF PROBABILITY AND STATISTICS

Chap 2   Review of Statistics I: Probability and Probability Distributions
[Problems to be solved with SAS] – 2.14, 2.16-17
Chap 3   Characteristics of Probability Distributions
[Problems to be solved with SAS] – 3.9-10, 3.13, 3.15-16
Chap 4   Some Important Probability Distributions
[Problems to be solved with SAS] – 4.10-11, 4.13, 417, 4.19-20
Chap 5   Statistical Inference: Estimation and Hypothesis Testing
[Problems to be solved with SAS] – 5.7-10, 5.12, 5.15, & 5.20

Exam I: Two separate exams, one for Part A and one for Part B are scheduled to begin on Monday, Jun. 9 starting at 8:00am and to be completed by midnight on Tuesday, Jun. 10. Both parts will be online via D2L - with each having a two-hour time limit – and monitored by RESPONDUS.

The two parts can be taken in any order on the same day, or on different days. It is the student's choice as to what when to take the two exams, provided they are both completed by midnight on Tuesday, Jun. 10.

Part II THE LINEAR REGRESSION MODEL

Chapter 6 Basic Ideas of Linear Regression: The Two-Variable Model
[Problems to be solved with SAS] – 6.12, 6.13, 6.15, 6.16, 6.17, 6.18, 6.19 & 6.21
Chapter 7 The Two-Variable Model: Hypothesis Testing
[Problems to be solved with SAS] – 7.12-16, 7.18-23
Chapter 8 Multiple Regression: Estimation and Hypothesis Testing
[Problems to be solved with SAS] – 8.14, 8.16, 8.17, 8.18, & 8.19
Chapter 9 Functional Forms of Regression Models
[Problems to be solved with SAS] – 9.12, 9.13, 9.15, 9.16, 9.17, 9.18, 9.19 & 9.21
Chapter 10   Dummy Variable Regression Models

[Problems to be solved with SAS] – 10.11, 10.12, 10.19, 10.20 & 10.21

Exam II: Two separate exams, one for Part A and one for Part B are scheduled to begin on Friday, Jun. 20 starting at 8:00am and to be completed by midnight on Saturday, Jun. 21. Both parts will be online via D2L - with each having a two-hour time limit – and monitored by RESPONDUS.

The two parts can be taken in any order on the same day, or on different days. It is the student's choice as to what when to take the two exams, provided they are both completed by midnight on Tuesday, Jun. 21.

Part III REGRESSION ANALYSIS IN PRACTICE
Chapter 11   Model Selection: Criteria and Tests
Chapter 12   Multicollinearity: What Happens if Explanatory Variables are Correlated?
Chapter 13   Heteroscedasticity: What Happens if the Error Variance is Nonconstant
Chapter 14   Autocorrelation: What Happens if Error Terms are Correlated?
Exam III: Both the A and B portions are scheduled for the last class period of the summer I session on Thursday, July 3.

ADDENDUM I
Information about SAS Certification

Taking SAS certification exams help you validate your skills and increase your value to an employer. You can choose SAS certifications across many subjects, including programming, data management, and analytics, to name a few. For more information on SAS certification go here:
https://www.sas.com/en_us/certification.html. All students, teachers, professors or staff associated with an academic institution qualify for **50% discount** on all SAS certification exams. Please contact

certification@sas.com to receive the discount code that will reduce the exam fee by 50% during the registration process.

Resources for Learning SAS
SAS Certification Prep Guides:
https://www.sas.com/store/books/categories/certification-guide/cBooks-cbooks_categories-cbooks_categories_12-p1.html
SAS Skill Set Learning Goals include: Data Visualization, SAS Programming, Statistical Analysis, and Descriptive Analytics. Visit SAS Communities Visit our online sites to share and connect with other SAS users and build your SAS skills. Don't miss key communities including: SAS Certification, SAS Training, SAS Academy for Data Science, SAS Programming, New SAS User, SAS Analytics U and SAS Viya for Learners.
https://communities.sas.com/t5/Learn-SAS/ct-p/learn

APPENDIX I	
Essentials of Econometrics - 4th edition compared to 3rd ed. Damodar N. Gujarati	
Essentials of Econometrics **4th ed**	Essentials of Econometrics **3rd ed**
Chap 1: The Nature and Scope of Econometrics	Chap 1 The Nature and Scope of Econometrics
Introduction: Basics of Probability and Statistics	**Part I BASICS OF PROBABILITY AND STATISTICS**
Appendix A: Review of Statistics: Probability and Probability Distributions	Chap 2 Review of Statistics I: Probability and Probability Distributions
Appendix B: Characteristics of Probability Distributions	Chap 3 Characteristics of Probability Distributions
Appendix C: Some Important Probability Distributions	Chap 4 Some Important Probability Distributions
Appendix D: Statistical Inference: Estimation and Hypothesis Testing	Chap 5 Statistical Inference: Estimation and Hypothesis Testing
EXAM-I	EXAM-I
Part I: The Linear Regression Model	**Part II The Linear Regression Model**
Chap 2: Basic Ideas of Linear Regression	Chap 6 Basic Ideas of Linear Regression:
Chap 3: The Two-Variable Model: Hypothesis Testing	Chap 7 The Two-Variable Model: Hypothesis Testing
Chap 4: Multiple Regression: Est. and Hyp. Testing	Chap 8 Multiple Regression: Est. and Hyp. Testing
Chap 5: Functional Forms of Regression Models	Chap 9 Functional Forms of Regression Models
Chap 6: Dummy Variable Regression Models	Chap 10 Dummy Variable Regression Models
EXAM-II	EXAM-II
Part II: Regression Analysis in Practice	**Part III Regression Analysis In Practice**

Chap 7: Model Selection: Criteria and Tests Chap 8: Multicollinearity: Correlated Explanatory Vars? Chap 9: Heteroscedasticity: Nonconstant Error Variance? Chap 10: Autocorrelation: Correlated Error Terms? EXAM III	Chap 11 Model Selection: Criteria and Tests Chap 12 Multicollinearity: Correlated Explanatory Var? Chap 13 Heteroscedasticity: Nonconstant Error Variance Chap 14 Autocorrelation: Correlated Error Terms? EXAM III
Part III: Advanced Topics in Econometrics Chap 11: Simultaneous Equation Models Chap 12: Selected Topics in Single-Equation Regression Models	**Part IV Advanced Topics In Econometrics*** Chap 15 Simultaneous Equation Models Chap 16 Selected Topics in Single Equation Regression Models
Appendices APPENDIX E: STATISTICAL TABLES APPENDIX F: COMPUTER OUTPUT OF EVIEWS, MINITAB, EXCEL, AND STATA	**Appendices** **APPENDIX A: STATISTICAL TABLES** **APPENDIX B: COMPUTER OUTPUT OF EVIEWS, MINITAB, EXCEL, AND STATA**