

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

Course #: STAT 4385
(CRN 24614)
Course Title: Applied Regression Analysis
Credit Hrs: 3
Term: Spring 2017 (Instruction 01/17/2017 – 05/04/2017)
Course Meetings & Location: Liberal Arts Building 101
4:30-5:50pm MW
Prerequisite Courses: Minimum Grade of C on STAT 2480 or 3330 or 3320.
Instructor: Xiaogang Su
Office Location: Bell Hall 320
Contact Info: Phone: (915) 747-6860 [O]
xsu@utep.edu
Fax: (915) 744-6502
Office Hours: 1:00-2:00pm MW
Class Web page: <https://sites.google.com/site/xgsu00/stat4385>
Textbook(s), Materials: Required: *A Second Course in Statistics: Regression Analysis*, 7th Edition by Mendenhall & Sincich.

Suggested: *Special reprint of Applied Linear Statistical Models*, 5th ed., by Kutner, Neter, Nachtsheim & Li, 2012

Course Description and Learning Outcomes: Students will learn to apply appropriate statistical techniques on model building, fitting, validation and subsequent inferences for various problems. Through assigned homework, class discussions and hands-on labs, students will also acquire skills to identify real problems that require advanced mathematical and statistical knowledge. The course will cover statistical inference (hypothesis tests and confidence intervals), simple and multiple linear regression, experimental design. This course will provide a coverage of topics and methodologies common in survival analysis. Students will have opportunities to gain hands-on experiences with real-world data projects.

- Topic Outline
1. Introduction & Review: probability, expectation, distributions, statistical inference, types of regression models.
 2. Simple linear regression models
 3. Multiple linear regression models
 4. Model selection
 5. Model diagnostics
 6. Several special models: one/two-way ANOVA, ANCOVA, interaction, polynomial models.
 7. Logistic models and GLM (if time allows)
 8. Nonparametric nonlinear models (if time allows)

Course Activities/Assignments: The course will be taught with in-class instruction. Homework and computer projects will be assigned throughout the semester. We will also have midterm exams, pop quizzes, and a final exam. **NO LATE COURSEWORK WILL BE ACCEPTED, EXCEPT EXTREME SCENARIOS.**

Course Schedule:

03/13 - 03/17	Spring Break
03/31	Cesar Chavez Birthday
04/14	Spring Study Day (no class)
05/08 - 05/12	Final Exam Period
03/30	Course Drop Date

Final Exam Schedule: 05/08, Monday 4:00-6:45pm

Make-up Policy: All other assignments must be turned in on time.

Grading Policy: There will be a few of R-based computer project assignments, which make up 25% to your final score. There will also be a few in-class quizzes, which make up 10%. Two midterm exams each makes up 20% and the final exam is comprehensive worth 30%. No make-up exam will be given and no late project submission is accepted without justifiable reasons.

Note that there is 5% extra credit. Letter grades are determined according to the following scale (out of 105):

Grade Score

A	90+
B	80-89
C	70-79
D	60-69
F	<60

Attendance Policy: Class attendance is **REQUIRED** and helpful to decide borderline grades. If a student has to be absent from a particular class, he/she will be responsible for catching up with course material. Lecture and Lab attendance are required and noted at the beginning of class; more than a total of **TWO** unexcused absences will result in an instructor-initiated drop or final grade reduction. Your academic advisor will be consulted before final action is decided and taken. Moreover, if you expect to miss five or more class hours for any reason, please don't consider taking this course.

Academic Integrity Policy: Please see <http://academics.utep.edu/Default.aspx?tabid=23785>

Civility Statement: This is a class where participation is required. You will be participating in classroom discussions. All students will be treated with respect.

Disability Statement: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

Military Statement: If you are a military student with the potential of being called to military service and /or training during the course of the semester, you are encouraged to contact me as soon as possible.