

ECO-578 BUSINESS and ECONOMIC STATISTICS

COURSE SYLLABUS

Fall 2018

Instructor: Dr. Mostafa Malki
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Office Hours: By appointment as needed

The best way to contact me outside of the classroom is by email. Please ONLY send emails to mostafa.malki@tamuc.edu. All emails must include ECON-578 and your section in the subject line. I will respond to emails within a 48 hour time period (not including weekends).

COURSE DESCRIPTION: Statistics for Business and Economics covers the following topics: central tendency and dispersion, probability distributions, the Central Limit Theorem, sample variability, estimation with confidence intervals, and tests of statistical significance. The course then extends inference by looking into: (i) small-sample tests for averages (t-test); (ii) hypothesis tests comparing two sample averages; and (iii) Chi-square tests. The course finally introduces the student to simple regression (fitting a line to a scatter plot) and multiple regression (the generalization of the regression technique to more than one explanatory variable).

COURSE OBJECTIVES:

You will explore and describe data, examine sampling distributions, make estimations, test hypotheses, perform simple and multiple regression analysis, and build models working both independently and collaboratively.

These applications will guide you to:

1. Explain the concepts of descriptive statistics and use sample statistics to make inferences about population characteristics;
2. Recognize different models of statistical processes such as hypothesis testing and linear and multiple regression, etc.;
3. Explain statistical processes and choose which process to use for particular data analysis applications;

4. Learn to interpret statistical results as a basis for decision making;
5. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
6. Apply non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.
7. Compute and interpret the results of Bivariate and Multivariate Regression and Correlation Analysis and also perform ANOVA and F-test. Further, understand both the meaning and applicability of a dummy variable and the assumptions which underline a regression model. Be able to perform a multiple regression using computer software.

TEXTBOOK AND OTHER REQUIRED MATERIALS:

Statistics for Business and Economics. James T. McClave, P. George Benson, Terry T Sincich, 13th edition. ISBN-13: 978-0-13-450659-3, ISBN-10: 0-13-450659-6

Pearson's **mystatlab** access code.

GRADING POLICY OF ACTIVITIES AND COURSE:

Evaluation of student performance will be based upon weekly quizzes, a midterm exam, and a final exam.

Course grading is based on the following assignments:

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|-----------------------|--------------------|
| 1. Weekly assignments | 40% of total grade |
| 2. Midterm Exam | 30% |
| 3. Final Exam | 30% |

Grades for the course will be determined by achieving the following average ranges:

Percentages for course grade level are as follows:

A= 90-100%

B= 80-89%

C = 70-79 %

D= 60-69%

F= 00-59%

Extra credit work will NOT be assigned so please do not ask.

Academic Honesty: All students are required to submit an agreement to follow the principles of the highest level of ethical and professional behavior.

Quizzes: There will be weekly quizzes given to assess your understanding of course material and assigned chapters. See the course schedule for approximate due dates.

Exams: There will be four exams given to assess your understanding of course material and progress. The exams will be based on material and on quizzes assigned. See the course schedule for approximate due dates.

Please note: Extensions or Make-ups will NOT be given. If a student misses the deadline for a quiz, the student will earn a grade of zero.

Students with Disabilities:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library

Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

StudentDisabilityServices@tamuc.edu

Students are held individually responsible for the information contained in the University catalog. Failure to read and comply with University regulations will not exempt students from whatever penalties they may incur.

- “All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.”
- Students enrolled in on-line courses have the same rights and responsibilities as students in live- taught courses.
- Refer to Student’s Guide Book located at:
www.tamuccommerce.edu/studentlife/guidebook.htm

PROFESSIONAL CONDUCT: The instructor reserves the right to manage a positive learning environment and thus will not tolerate inappropriate conduct in the course. If I feel that you have not contributed appropriately in class, or that you have complained about assignments and grading policies, your final course grade may be reduced accordingly. Additionally, I expect every student to maintain a professional level with respecting opinions of the instructor, students, and guest speakers. Please note: It is the student's responsibility to ask the instructor for additional information if the student does not understand the assignments required in this course. In addition, sending emails to other students complaining or inquiring about grades is not appropriate behavior. Understand that this factor is highly subjective and can reduce your overall course grade. In extreme cases, the instructor reserves the right to drop students from the class.

All students enrolled at the University will follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. See Student's Guide Handbook, Rules and Procedures, Code of Student Conduct at <http://www.tamuccommerce.edu/studentlife/guidebook67.pdf>

ACADEMIC INTEGRITY: Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citation, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

In this course the need for collaboration is undeniable if you are to excel, even in cases of individual work. There is a fine line in this process. You are encouraged to seek the help and advice of others. However, you must do your own work. My personal policy, which will guide this course, is this: I trust you to behave honestly and ethically in all circumstances. Please ask me if you have questions about what is proper and what is not.

NONDISCRIMINATION STATEMENT

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all Federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status.

Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

CAMPUS CONCEALED CARRY

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified

law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to <https://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf> and/or consult your event organizer. Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

Tentative Course Schedule

Please Note: The instructor reserves the right to change this schedule as circumstances may dictate. All changes to this schedule will be announced on the course homepage.

Week	Text	Assignments
Week 1 (8/29-9/4)	Chapter 1 Statistics, Data, & Statistical Thinking	Assignment 1
Week 2 (9/5-9/11)	Chapters 2 Methods for Describing Sets of Data	Assignment 2
Week 3 (9/12-9/18)	Chapter 3 Probability	Assignment 3
Week 4 (9/19-9/25)	Chapters 4 Random Variables & Probability Distributions	Assignment 4
Week 5 (9/26-10/2)	Chapters 5 Sampling Distributions	Assignment 5
Week 6 (10/3-10/9)	Chapter 6 Inferences Based on a Single Sample: Confidence Interval	Assignment 6
Week 7 (10/10-10/16)	Chapter 7 Inferences Based on a Single Sample: Tests of Hypotheses	Assignment 7
Week 8 (10/17-10/23)	Midterm Exam	Midterm Exam
Week 9 (10/24-10/30)	Chapter 8 Inferences Based on Two Samples	Assignment 8
Week 10 (10/31-11/6)	Chapter 9 Design of Experiments and Analysis of Variance	Assignment 9

Week 11 (11/7-11/13)	Chapter 10 Categorical Data Analysis	Assignment 10
Week 12 (11/14-11/20)	Chapter 11 Simple Linear Regression	Assignment 11
Week 13 (11/21-11/27)	Chapter 12 Multiple Regression and Model Building	Assignment 12
Week 14 (11/28-12/4)	Chapter 12 Multiple Regression and Model Building	Assignment 13
Week 15 (12/5-12/10)	TBA	
Final Week (12/12-12/14)	Final Exam	Final Exam

Chapter 1: 1, 5, 6, 7, 8, 9

Chapter 2: 12, 18, 22

Chapter 3: 3, 10, 14, 18, 20, 37, 41, 46, 47, 49, 53, 54, 59, 60, 65

Chapter 4: 5, 10, 11, 13, 19, 20, 22, 24, 25, 26

Chapter 5: 1, 3, 4, 8, 11, 12, 14, 17, 18, 20, 27, 28, 29, 41, 42, 43, 44, 45, 66, 67, 78

Chapter 6: 1, 2, 5, 7, 9, 13, 15, 19, 20, 21, 22, 23, 31, 32, 33, 34, 35, 46, 60, 61

Chapter 7: 4, 9, 11, 13, 17, 18, 20, 21, 23, 24, 26, 29, 30, 31, 32, 41

Chapter 8: 6, 15, 16, 17, 18, 34, 35

Chapter 9: 1, 2, 3, 4, 5, 7, 9, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 27, 29, 31, 43, 44, 46, 48, 50

Chapter 10: 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22, 23, 25, 32, 36, 35, 52, 54

Chapter 11: 3, 4, 5, 6, 8, 11, 12, 14, 15, 16, 19, 25, 28, 32, 33 , Additional problems 1, 2

Chapter 13: 1, 2, 5, 7, 8, 13, 14, 15, 16, 19, 21, 22, 27, 28

Chapter 14: 1, 2, 3, 4