Eco 302-01W: Business & Eco Stat [CRN # 22110]
Syllabus (Spring 2026): 01/12/2026 – 05/08/2026

Professor: Dr. Kishor Guru-Gharana
Office: BA 208
Office Hours: Virtual Office hours- Monday 1-3.30 pm and Wednesday 1-3.30 pm. Zoom link will be emailed.
Class Hours: Web based class
Phone: 903.886.5703 (off); Fax: 903.886.5702
Preferred Form of Communication: email (24/7 during semester)
Communication Response Time: within 24 hours
Class Hours: Fully Web based

Email: kishor.guru-gharana@tamuc.edu

Course Information

Required Text: No textbook required. Professor will provide all the materials through D2L.

Software Required: Excel with Analysis ToolPak (Free version)

To enable the Data Analysis ToolPak in Excel, navigate to File > Options > Add-Ins. Select "Excel Add-ins" from the "Manage" dropdown and click "Go". Check the box next to "Analysis ToolPak" and click "OK". You can then access the tool under the "Data" tab, in the "Analysis" group.

If you're using Excel for Mac, in the file menu go to Tools > Excel Add-ins.

1. **In the Add-Ins box, check the Analysis ToolPak check box, and then click OK.**
    - **If Analysis ToolPak is not listed in the Add-Ins available box, click Browse to locate it.**
    - **If you are prompted saying "the Analysis ToolPak is not currently installed on your computer", click Yes to install it.**

Catalog Course Description: This course satisfies the background requirements for quantitative analysis and techniques. The course will cover descriptive statistics, inferential statistics and models with business applications to analyze business problems. Specific topics include: measures of central tendency and variation, probability distributions, estimation, hypothesis testing, regression and correlation.

Student Learning Outcomes:

By completing this course, the student will able to:

1) Calculate and apply measures of location and measures of dispersion.
2) Apply discrete and continuous probability distributions to various business problems.
3) Understand the meaning of null and alternative hypotheses, type I and type II errors and to perform test of hypothesis including Z and t-tests.
4) Calculate confidence interval for a population parameter for mean and proportions.
5) Compute and interpret the results of Bivariate Regression and Correlation Analysis.
6) Interpret regression results generated by a computer software.

Course Requirements

Minimal Technical skills Needed

High school algebra; using Excel spreadsheet, Excel functions and Excel graphics; and using PowerPoint.

Instructional Methods: The professor will provide lecture/notes through D2L Brightspace Content. Moreover, the Professor will provide power point slides with solved examples and explanations in D2L Brightspace. Questions can be asked through email.

Student Responsibilities/Tips for Success in the Course

1. Students are expected to:
a. Read text assignments as scheduled.
b. Read the Lectures/notes provided by the Professor.
c. Work the assigned homework problems independently. Submit the homework problems due as indicated in the appropriate drop box of D2L Brightspace.
d. Read the regular announcements in the Announcement section of the D2L Brightspace and download the posted materials with download links.

2. This syllabus is tentative for the semester. It is meant to be a guide. Certain topics may be stressed more or less depending on class progress, and certain topics may be omitted.

3. Homework problems are assigned and graded every 4 weeks. Solution to Assignment problems will be provided after the deadline for submission.

5. I provide detailed Instructions with examples for each Topic.

6. You must show your work in Essay type (or Written response) questions to receive full points. You only need to mark the correct answer in T/F and MC questions.

7. Feel free to ask questions through email or other online tools. I am accessible 24/7 through these channels even during weekends or holidays. You can ask any question related to the course topics and I try to answer them within few hours (usually within 24 hours).

8. Demeanor: “All students enrolled at the university shall follow tenets of common decency and acceptable behavior conducive to a positive learning environment”. See Students Guide Book.

9. Attendance Policy: This is fully Web based class.

Grading

Grade Component	Points
Four Assignments (4*100)	400

Final grade in the course is the average from the student's total scores from the four Assignments.

Average Range	Grade
90%-100%	A
80%-89%	B
70%-79%	C
60%-69%	D
Below 60%	F

MyLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at myLeo. https://leo.tamuc.edu

Learner Support

The One Stop Shop was created to serve you by providing as many resources as possible in one location. http://www.tamuc.edu/admissions/onestopshop/

The Academic Success Center provides academic resources to help you achieve academic success. http://www.tamuc.edu/campusLife/campusServices/academicSuccessCenter/

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

I generally respond to email questions within 24 hours

Course Specific Procedures/Policies

Missed examination: Missing Homework Assignment will result in zero score while missing the Final will result in grade "F". There will be no make-up Exam or make-up Assignment.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.

http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

ADA Statement

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 162

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

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

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

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette http://www.albion.com/netiquette/corerules.html

Campus Concealed Carry Statement

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 the Carrying Concealed Handguns On Campus

document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

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.

Topical Outline and Schedule of Assignments: The schedule will depend on class progress. Chapter assignments and tests may be altered as the class progresses. Students should read chapters and power point slides, and chapter Instructions provided by the Professor.

Chapter	Modes of Instruction	Date/Due date	Chapter Goals
Topic 1 **What is Statistics**	Lecture notes/PPT slides/Handouts through D2L Brightspace and emails		1. Understand why we study Statistics 2. Explain what is meant by *descriptive statistics* and *inferential statistics* 3. Distinguish between *qualitative* and *quantitative* variables 4. Describe how a *discrete* variable is different from a *continuous* variable 5. Distinguish among the *nominal, ordinal, interval, and ratio* levels of measurement.

Topic 2 **Describing Data**: **Tabular/Graphical Methods:** Frequency tables, Frequency Distributions, and Graphic Presentations	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Organize *qualitative data* into a *frequency table*. 2. Present a frequency table as a *Bar Chart* or a *Pie Chart*. 3. Organize quantitative data into a *frequency distribution.* 4. Present a frequency distribution for quantitative data using *histograms, frequency polygons, and cumulative frequency polygons*.
Topic 3 **Describing Data:** Numerical measures	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Calculate the *arithmetic mean, weighted mean, median, mode, and geometric mean*. 2. Explain the characteristics uses, advantages, and disadvantages of each *measure of location*. 3. Identify the position of the *mean, median*, and *mode* for both *symmetric* and *skewed distributions.* 4. Compute and interpret the *range, mean deviation, variance,* and *standard deviation*. 5. Understand the characteristics, uses, advantages, and disadvantages of each *measure of dispersion*. 6. Understand *Chebyshev's theorem* and the *Empirical rule* as they relate to a set of observations.
Topic 4 **A Survey of Probability Concepts and basic rules**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Define probability. 2Describe the *Classical, Empirical,* and *Subjective* approaches to probability. 3. Explain the terms *experiment, event, outcome, permutations, and combinations* 4. Define the terms *conditional probability and joint probability*. 5. Calculate probabilities using the *Rules of Addition* and the *Rules of Multiplication*.
Assignment 1	Topics 1-4	Tuesday Feb 10, 2026 by 11.59 pm (midnight)	

Topic 5 **Discrete Probability Distributions**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Define probability distribution and random variable. 2. Differentiate between *discrete and continuous probability distributions*. 3 Calculate the mean, variance, and standard deviation of a discrete distribution. 4. Describe the characteristics and compute probabilities using the *binomial probability distribution* – use of tables and computer. 5. Describe the characteristics and compute probabilities using the *Poisson distribution* – use of tables.
Topic 6 **Continuous Probability Distributions**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Understand the difference between *discrete and continuous probability distributions*. 2. Understand the characteristics of the *normal probability distribution*. 3. Define and calculate *Z* values. 4. Determine the probability is between two points on a *normal probability distribution*. 5. Determine the probability an observation is above or below a point on a *normal probability distribution.*
Assignment 2 (Topics 5-6)	**Emailed and/or provided through D2L Brightspace**	**by 11:59 pm Tuesday, March 10, 2026**	**Submit though D2L Brightspace**
Topic 7 **Sampling Methods and the Central Limit Theorem**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Explain why a *sample* is often the only feasible way to learn something about *population*. 2. *Describe methods to select a sample.* 3. Define and construct a *sampling distribution* of the sample mean. 4. Understand and explain the *central limit theorem*. 5. Use the central limit theorem to find probabilities of selecting possible sample means from a specified population.

Topic 8 **Estimation and Confidence Intervals**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Define a *point estimate*. 2. Define *level of confidence*. 3. Construct a *confidence interval* for a population mean when the *population standard deviation* is unknown: learn about *t-distribution.* 4. Construct a confidence interval for a *population proportion*. 5. Calculate the *required sample size* for either an *attribute or a variable.*
Topic 9 **One Sample Test of Hypothesis**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Define *Hypothesis* and *Hypothesis testing*. 2. Describe the *five-step hypothesis-testing procedure*. 3. Distinguish between a *one-tailed* and a *two-tailed test of hypothesis.* 4. Conduct a hypothesis test regarding a population mean. 5. Conduct a test of hypothesis about a population proportion. 6. Define *Type I* and *Type II* errors.
Assignment 3	**Topics 7-9**	**By midnight of April 7, 2026**	
Topic 10 **Linear Regression and Correlation**	Chapter notes/PPT slides/Handouts through D2L Brightspace and emails		1. Understand and interpret the terms independent and dependent variables. 2. Calculate and interpret *coefficient of correlation*, the *coefficient of determination* and the *standard error of the estimate*. 3. Calculate the least squares *regression line* and interpret the *slope* and *intercept values*. 4. Conduct *tests of significance* on the *regression coefficients*. 5. Learn about *prediction* of dependent variable using regression.
Assignment 4	**Uploaded in D2L Brightspace and/or emailed**	**Tuesday, May 5, 2026 by 11:59 pm**	**Topic 10**