College of Business
Eco 309-01W: Economic Forecasting [CRN 20464]
Syllabus (Spring 2024): 1/10/2024- 5/10/2024

Professor: Dr. Kishor Guru-Gharana
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Office Hours: MW: 9:30 am-12.30 pm
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Preferred Form of Communication: email (24/7 during semester)
Communication Response Time: within 24 hours
Class Hours/location: Web based class + frequent preannounced Zoom classes

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Course Description

This course is designed to investigate the techniques of the forecasting process as applied to business, finance, and economics. Experience is gained in using various popular forecast methods, developing a causal variable hypothesis for forecasting, and in collecting and analyzing data.

Course Objectives

1.Students will demonstrate the ability to develop models for forecasting using Minitab and Excel software. This involves the evaluation of four popular alternative forecast methods and deriving the best forecast from among the methods.

2. Students will demonstrate the ability formulate causal hypotheses and to use and forecast appropriate secondary data to forecast business performance.

3. Students will be able to compare different forecasting models based on the data pattern.

4. Students will be able to interpret results generated by computer software.

Course Requirements

Software Required: Excel with Analysis ToolPak (Free version)

1. **Click the File tab, click Options, and then click the Add-Ins category.**

If you're using Excel 2007, click the Microsoft Office Button  , and then click Excel Options

2. **In the Manage box, select Excel Add-ins and then click Go.**

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

3. **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 that the Analysis ToolPak is not currently installed on your computer, click Yes to install it.**

Prerequisites: (Lvl U ECO 231 Min Grade C or Lvl U ECO 2301 Min Grade C) and (Lvl U ECO 232 Min Grade C or Lvl U ECO 2302 Min Grade C) and (Lvl U BA 302 Min Grade C or Lvl U GBUS 302 Min Grade C or Lvl U ECO 302 Min Grade C)

No Textbook required. You will be provided with live class lecture notes and Zoom class videos with solved numerical examples, and other resources through D2L by the Professor.

Minimal Technical skills Needed: High school algebra; using Excel spreadsheet, Excel functions and Excel graphics; using PowerPoint and Data Analysis ToolPak.

Instructional Methods: The professor/instructor will provide live class lecture notes. Also, occasional pre-announced Zoom classes will be conducted during class time and will be announced at least by Friday of the previous week. In the Zoom class I will teach how to use Excel to solve numerical projects related to economic forecasting. After the Zoom class I will upload the recorded video and the text used in D2L content section. Questions can be asked in live classes or Zoom classes or through email. Participation in live and Zoom classes will count when the time comes for extra or bonus points which may be critically important when you are just below a letter grade threshold. Moreover, active class participation invariably improves your understanding.

Student Responsibilities/Tips for Success in the Course

1. Students are expected to:

a. Read and learn from the Lecture notes/ Instructions and videos provided by the Professor.
b. Work the assigned homework problems independently. Submit the homework problems by due date as indicated through D2L or as instructed through email.
d. Pay attention to the regular announcements through D2L and emails.

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

3. Homework problems are assigned and graded about every three to four weeks. Solution to Assignment problems will be provided after grading. You can submit early, but I will start grading only after the deadline.

5. Detailed Instructions with examples for each Chapter will be provided.

6. Feel free to ask questions in live class or Zoom class or through email. I am accessible 24/7 even during weekends or holidays.

7. 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.

8. Attendance Policy: Zoom Class attendance is not mandatory. However, regular class attendance is highly correlated with students’ performance in this class and will be counted at the time of bonus points for active participation at the end of the semester.

Grading

Grade Component	Points
Four Assignments (125*4)	500
Final Exam	500

Final grade in the course is the average from the student’s total score from the sum of (Assignments + Final) above.

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

EXAMS SCHEDULE

Exam	Starts*	Ends**	Chapters Covered
Final Exam (7 hrs)	**8 am Saturday, May 4th, 2024**	**11:59 pm Monday, May 6th, 2024**	**Comprehensive**

*Uploading will be done in the morning (8 a.m.) of the starting date. The Final has a four-days’ window period with enforced time limit once you start the tests. It has a Seven-hour time limit. The Exam is a single-take Exam. That is, you must finish the Exam in a single take (one-stretch).

Mid-night (11:59 p.m.) of the Last Date. Start well **before 5 pm of the last date for the Final. You can take the test earlier any day/time from 8 am **Saturday, May 4th, 2024**. Once the time passes 11:59 p.m. of the last date or you have spent the given time limit for the test (whichever comes first), the system will kick you out of the test. So, be extra careful about the time remaining while taking the test.

The final Exam is accessed through D2L Brightspace following Activities/Quiz/Exam route.

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. You can email any time (24/7) throughout the semester.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

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.

University Specific Procedures

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

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 discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

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

AI use in course

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors 'guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty

TOPICAL COURSE OUTLINE / CALENDAR

Topic	**Mode**	**Date/Due date (Class starts on 1/10/2024**	**Learning Goals**
Introduction to Forecasting	**D2L uploads + Zoom Lectures+ email attachments**	Week 1	Understand the importance Forecasting and overview of Forecasting Methods
Exploring Data Patterns and an Introduction to forecasting techniques	**D2L uploads + Zoom Lectures+ email attachments**	Week 2	Learn about Data types and patterns and be able to calculate Autocorrelations with different lags, use Different forecasting techniques; and calculate Different Measures of Forecast error
Moving Averages and Smoothing Methods	**D2L uploads + Zoom Lectures+ email attachments**	Weeks 3-4	Learn about strengths and weaknesses of Naïve models; Averaging method; Simple Moving Averages and Double Moving Averages and be able to use these models in real world examples. Be able to identify and calculate systematic Underestimation bias and learn how to correct it.
Assignment 1	uploaded in D2L	By 11.59 pm (midnight) on Wednesday, Feb 7th, 2024	
Exponential Smoothing Methods : Single, Double and Triple Exponential smoothing methods	**D2L uploads + Zoom Lectures+ email attachments**	Weeks 5-7	Learn how and when to use Exponential Smoothing Methods for trend and seasonal variation including Holt's two-parameters' method and Holt-Winters' three parameter methods (Seasonal)
Assignment 2 (Single Exponential Smoothing; Holt's Double Exp; and Winters' Triple Exp	Assignment uploaded in D2L	By 11.59 pm (midnight) on Wednesday, March 6th, 2024	

Time Series Component Decomposition	**D2L uploads + Zoom Lectures+ email attachments**	Weeks 8-10	Understand time series Decomposition into Trend, seasonal component, and cyclical plus irregular components. Be able to calculate and forecast Trend lines and measure Seasonality Indexes. Be able to derive Seasonally Adjusted Data and Forecast using Ratio-to-Moving average Model.
Assignment 3	Assignment Uploaded in D2L	By 11.59 pm (midnight) on Wednesday, April 3rd, 2024	
Simple Linear Regression	**D2L uploads + Zoom Lectures+ email attachments**	Weeks 11-12	Understand the theory and classical assumptions underlying the Regression Line, Standard Error of the Estimate and coefficient of Determination. Learn how to use regression for Forecasting Y. Understand the Decomposition of Variance. Be able to perform Hypothesis Testing and Analysis of Residuals.
Multiple regression with Time Series	**D2L uploads + Zoom Lectures+ email attachments**	Weeks 13-14	Understand Several Predictor Variables' model, Heteroscedasticity, Autocorrelation and Multicollinearity problems in Multiple regression. Learn how to use Excel for Multiple regression and be able to interpret results.
Assignment 4	Assignment Uploaded in D2L	By 11.59 pm (midnight) on Wednesday, May 1st, 2024	
Final Exam-time limit 7 hours One attempt and single stretch (no break) Chapters 1-8	Uploaded in D2L by 8 am Friday, December 8	Window period: **8 am Saturday, May 4th, to 11:59 pm Monday, May 6th, 2024**	