

Economics 309
Economic Forecasting
Fall 2014 – 309.01e

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Office Hours: M-F 9 – 12 and by appointment.
Text: *Business Forecasting* 9th ed., Hanke and Wichern.
Pearson/Prentice Hall, Inc, ISBN: 139780132301206
Software: You need to rent the student version of MINITAB for 6 months at
<http://www.onthehub.com/minitab/>
Important Dates: See University academic calendar

COURSE DESCRIPTION

Objectives of this course are to introduce the student to the basics of both regression and time series techniques and their application to real business situations as well as the use of current software available for forecasting. After taking this course students will be able to apply different forecasting techniques to empirically test economic theories and policy analysis and professionally present the results of their analysis.

COURSE OUTLINE

		<u>(week of)</u>
Chapter 1	Introduction to Forecasting	(8/25)
Chapter 2	A Review of Basic Statistical Concepts	(9/1)
Chapter 3	Data Patterns and Forecasting Techniques	(9/8)
Chapter 4	Moving Averages and Smoothing Methods	(9/15)
Chapter 5	Time-Series and Their Components	(9/22)
	✓ <i>1st EXAM—Chapters 1, 2, 3, 4, and 5- tentative: 9/30</i>	
Chapter 6	Simple Linear Regression	(9/29, 10/6, 10/13)
Chapter 7, 8	Multiple Regression Analysis/Time Series	(10/20, 10/27,
	11/3,11/10)	
	✓ <i>2nd EXAM—Chapters 6,7,8 - tentative: 11/4</i>	
Chapter 9	Box-Jenkins (ARIMA) Type Forecasting Models	(11/17,11/24,12/1)

✓ *Project due – on last day of class*

✓ *3rd Hour Exam – Chapter 9
exam.*

Week of Finals but only an hour

NOTE: This outline is subject to change! Regular class attendance is needed to follow up with these changes and the assignments.

GRADES AND ADMINISTRATIVE MATTERS:

Grades will be based on three hour exams (10%, 20%, 25%), class participation (5%), project (40%). The project will be due the day of the last exam. Plan well in advance for the exams: there will be no early exams and no make-up exams. An exam that is missed will be considered an F, unless your professor is notified prior to the exam and the excuse is a legitimate medical one or officially approved. Regardless of the excuse, if you miss two tests you will automatically fail the class. Assignments will be announced in the class; it is your responsibility to keep up with the assignments. Late assignments will not be accepted. Course grades will be assigned as:

90 – 100 %	A
80 – 89 %	B
70 – 79 %	C
60 – 69 %	D
Below 60 %	F

PROPOSAL FOR THE PROJECT

The proposal will include your data that I will assign to you in class and at least 3 independent variables (your choice), data sources (the website you got it from), data description, simple statistics and relevant plots on all variables, and the correlation matrix. Please read your project outline handout as soon as possible. Completed project will be due the very last day of class. You need to bring the projects in class as well as upload them at turnitin.com. I will provide you a password later in the semester. **HOWEVER**, I strongly urge you to turn in the parts of your project as we complete that material during the semester. **DO NOT WAIT TILL the END** of the semester to complete your project. The majority of students who take this approach end up failing the class. More on the project in class.

HELPFUL HINTS

Systematic study, rather than cramming, is advisable. Class attendance is strongly recommended; former students have indicated that the material covered in class is very helpful at the time of the examinations. Reading the assigned materials, working the assigned exercises, taking notes in class, and using the office hours are important learning tools. Specific assignments will be announced orally in the class and it is your responsibility to keep up with all the assignments.

A textbook has been placed on 2 hour reserve in the library in case the dog ate yours. They can be checked out from the circulation desk.

All students enrolled at the university shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. 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:

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**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

The College of Business and Entrepreneurship at Texas A&M University-Commerce students will follow the highest level of ethical and professional behavior. Actionable Conduct includes illegal activity, dishonest conduct, cheating, and plagiarism. Failure to abide by the principles of ethical and professional behavior will result in sanctions up to and including dismissal from the university.

PLAGIARISM Plagiarism represents disregard for academic standards and is strictly against University policy. Plagiarized work will result in an “F” for the course and further administrative sanctions permitted under University policy. Guidelines for properly quoting someone else’s writings and the proper citing of sources can be found in the APA Publication Manual. If you do not understand the term “plagiarism”, or if you have difficulty summarizing or documenting sources, contact your professor for assistance.

STUDENT WORKLOAD University graduate students are expected to dedicate a minimum of *90 clock hours* during the term/semester for a 3SH course delivered online.

Course Objectives

- 1 Be able to calculate and interpret basic sample statistics.
- 2 Be able to determine the components of a time series.
- 3 Distinguish between stationary, nonstationary, and random data.
4. Understand and distinguish between different types of smoothing.
5. Understand the concept of decomposition.
- 6 Be proficient in using at least one software package to forecast.
- 7 Understand and interpret simple and multiple regression analysis.
- 8 Be able to identify the violation to regression assumptions.
- 9 Understand and run ARIMA Model.
10. Be able to conduct residual diagnostics.

This course is part of the business core.

Criteria	1(Unsatisfactory)	2 (Emerging)	3 (Proficient)	4 (Exemplary)
Understanding of time series data and components using various statistical and graphical tools.	Student can't demonstrate understanding of the components.	Student can identify some components.	Student can identify most components using most of the tools.	Student can identify all components using all the tools.
Understanding of Regression Analysis and application to both time series and cross section data.	Student cannot demonstrate an understanding of regression analysis.	Student demonstrates an understanding of some regression concepts but cannot apply it.	Student demonstrates an understanding of the concept of regression and can apply those concepts.	Student demonstrates an understanding of the concept of regression and can apply to time series and cross section data.
Understanding and application of different univariate time series models including but not limited to Smoothing, Decomposition, and ARIMA.	Student cannot demonstrate an understanding of univariate methods.	Student demonstrates an understanding of some/ all of the univariate time series models but can't apply.	Student demonstrates an understanding of some/ all univariate time series models and apply some of them successfully.	Student demonstrates an understanding of all univariate time series models and apply them successfully.
Identification of the best model from alternative models and obtaining forecasts using at least one software.	Student cannot demonstrate an understanding of the model selection processes.	Student can demonstrate an understanding of 1 out of 3 of these processes.	Student can demonstrate an understanding of 2 out of 3 of these processes.	Student can demonstrate an understanding of the entire processes.