Economics 309
Economic Forecasting
Summer 1 – 309.online

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Course web-page:	e-College
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Office Hours:	M-F 9 – 12 and by appointment.
Text:	*Business Forecasting 9*[th] 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/

Class Dates: 6/6 to 7/7 2016

COURSE DESCRIPTION

This class has a regularly scheduled Webinar that meets every Monday and Tuesday night at 6:30 CST in your e-College page. You are expected to attend. If you cannot, then you may watch the recorded sessions. Students who do not regular attend nor watch simply do not fare well.
Please make sure you have a microphone. This is NOT a texting back and forth Webinar.

Objectives of this course is 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 the 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
Week One

Chapter 1	Introduction to Forecasting
Chapter 2	A Review of Basic Statistical Concepts
Chapter 3	Data Patterns and Forecasting Techniques
Chapter 4	Moving Averages and Smoothing Methods
Chapter 5	Time-Series and Their Components

   ✓   *1*[st] *EXAM—Chapters 1, 2, 3, 4, and 5- end of week one*

Weeks 2-4

Chapter 6   Simple Linear Regression

Chapter 7, 8   Multiple Regression Analysis/Time Series

   ✓ *2ⁿᵈ EXAM—Chapters 6,7,8 - end of week 4*

Week Five

Chapter 9   Box-Jenkins (ARIMA) Type Forecasting Models   (4/20/4/27, 5/4)

   ✓   *Project due – <u>on last day of class</u>*

    ✓ *3ʳᵈ Hour Exam – end of week five*

<u>NOTE: This outline is subject to change! Regular WEBINAR attendance is needed to follow up with these changes and the assignments.</u>

GRADES AND ADMINISTRATIVE MATTERS:

Grades will be based on three hour exams (10%, 30%, 25%), class participation (5%), project (30%). 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, <u>unless</u> your professor is notified <u>prior</u> 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:

GRADES AND ADMINISTRATIVE MATTERS:
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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 matrix plot of all your variables. Please read your project outline handout as soon as possible. EACH completed part of the project will be due <u>THE WEEK FOLLOWING COMPLETION OF THAT PORTION OF OUR CLASS</u>. You need to bring the projects to class as well as upload them at turnitin.com. More on the project in class.

HELPFUL HINTS

Systematic study, rather than cramming, is advisable. WEBINAR 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.

  Student Considerations

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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- ✓ 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. The College of Business 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.
- ✓ A&M-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.

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.