THE UNIVERSITY OF TEXAS AT TYLER
SOULES COLLEGE OF BUSINESS
Spring 2024

COURSE NUMBER: FINA 4357.001

COURSE TITLE: Business Forecasting

INSTRUCTOR: Dr. Vivek Pandey

OFFICE & E-MAIL: Location: COB 350.01; Phone: (903) 566-7224; Email: vpandey@uttyler.edu

OFFICE HOURS: Tuesday 2 - 4 pm & Wednesday 1:15 – 2:15 pm. Other times by appointment.

CLASS MEETING & LOCATION: Mondays & Wednesdays, 2:30 – 3:55 pm, COB 121

TEACHING METHOD: Lectures, class discussions, programming and analytical exercises

NOTE: THIS COURSE ONLY USES OPEN EDUCATIONAL RESOURCES WHICH ARE AVALIABLE TO STUDENTS AT NO COST

REQUIRED TEXT: Forecasting: Principles and Practice, 2nd Edition, By Rob J Hyndman and George Athanasoupoulos, Monash University, Australia. An electronic version of the textbook is available free of charge at https://otexts.com/fpp2/ Additionally, if you would like a printed copy, you can purchase one from Amazon.com. To be clear, a printed copy of the book is not required for this class, you should only buy it if you feel that online access to the free e-book will be insufficient for your needs.

REQUIRED ACCESSORIES: The statistical software we will use in this class is *R,* freely available from https://www.r-project.org/ and *R-Studio*, also available for free at https://www.rstudio.com. We will also use Datacamp to access online courses for learning the essentials of R and forecasting with R. This resource is provided free of charge for students in this course in conjunction with Datacamp for Classroom initiative.

COURSE DESCRIPTION: This course is dedicated to teaching students tools in econometrics that are especially useful in forecasting time series data, such as stock values, future energy prices, unemployment rate, GDP, etc.

LEARNING OBJECTIVES: Upon completion of this course, the student will learn the essentials of and demonstrate proficiency in:

- Graphical examination and visualization of time series data
- Decomposition of Times Series into trend, seasonal, cyclical, and irregular components
- Analyzing and forecasting the dynamics of business and economic data
- Evaluation of the forecasting accuracy for competing forecasting methods
- Using statistical analysis software (*R* and *R-Studio*) for data analysis and forecasts
- Making subjective forecast adjustments based on new information

CONTENT OUTLINE:

Week / Date	Ch.	Topic
Jan 17, 22	1	**Getting Started – Introduction to Forecasting**
Jan 22		*Self-introduction due on Discussion Board*
Jan 24, 29	2	**Time Series Graphics**
Jan 31		Practical Exercise 1: Running company/stock filters in EIKON
Feb 5, 7, 12	3	**The Forecaster's Toolbox**
Feb 7		*Practical Assignment 1 due*
Feb 14		*Datacamp Assignment 1 due: Intro to R for Finance*
Feb 14		Review for Exam 1
Feb 19		**Exam 1**
Feb 21		Lab Exercise for importing and merging data in R
Feb 26	4	**Judgemental Forecasts**
Feb 28		*Datacamp Assignment 2 due: Intro to Data Visualization …*
Mar 4		Lab Exercise for obtaining financial markets data and optimizing portfolios
Mar 6	5	**Time Series Regression Models**
Mar 11-16		***Spring Break! Aloha!***
Mar 18, 20	5	**Time Series Regression Models (Contd.)**
Mar 25		***Last day to withdraw from this course***
Mar 25		*Datacamp Assignment 3 due: Time Series Analysis in R*

Mar 25		Practical Exercise 2: Forecasting stock returns using the market model.
Mar 27, Apr 1	7	**Exponential Smoothing**
Apr 1		*Practical Assignment 2 due*
Apr 3		Review for Exam 2
Apr 8	**Exam 2**	
Apr 10, 15	8	**ARIMA Models**
Apr 15		*Datacamp Assignment 4 due: ARIMA models in R*
Apr 17		Practical Exercise: Fitting and evaluating various time series models
Apr 17		Lab Exercise for non-seasonal ARIMA model
Apr 22		*Practical Assignment 3 due*
Apr 22	12	**Some Practical Forecasting Issues**
Apr 24		*Datacamp Assignment 5 due: Forecasting in R*
Apr 24		Review for exam 3
May 1	**Exam 3**	

NOTE: *This class schedule is subject to revisions by the instructor if it is deemed necessary as a responsive action to class progress and time constraints.*

EVALUATION:

A student's grade for the class will be based on performance in exams, project assignments, and the level of participation in class. Below are the weights for the different components that comprise your grade in class.

Component	Weight
Exams	45%
Datacamp Assignments	35%
Practical Exercise Assignments	15%
Class participation	5%

GRADING SCALE

A standard 10-point scale is utilized to assign grades in class. The following is the scheme used to assign letter grades based on the overall weighted score received by a student from the various

activities described above.

Weighted Total Score	Grade
Greater than 90%	A
80% to less than 90%	B
70% to less than 80%	C
60% to less than 70%	D
Less than 60%	F

OTHER UNIVERSITY POLICIES:

Please see the appropriate links from the Syllabus page in your Canvas course to access information regarding policies and resources made available to you on the web by the University.