

THE UNIVERSITY OF TEXAS AT TYLER
SOULES COLLEGE OF BUSINESS
Fall 2023

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 2 - 3 pm. Other times by appointment.

CLASS MEETING & LOCATION: Tuesdays & Thursdays, 12:30 – 1:55 pm, COB 121

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

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

REQUIRED TEXT: Forecasting: Principles and Practice, 2nd Edition, By Rob J Hyndman and George Athanasopoulos, 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
Aug 22, 24	1	Getting Started – Introduction to Forecasting
Aug 29		<i>Self-introduction due on Discussion Board</i>
Aug 29, 31	2	Time Series Graphics
Sep 5		Practical Exercise: Running company/stock filters in EIKON
Sep 7, 12, 14	3	The Forecaster’s Toolbox
Sep 12		<i>Practical Assignment 1 due</i>
Sep 14		<i>Datacamp Assignment 1 due: Intro to R for Finance</i>
Sep 19		Review for Exam 1
Sep 21		Exam 1
Sep 26		Lab Exercise for importing and merging data in R
Sep 28	4	Judgemental Forecasts
Oct 3		<i>Datacamp Assignment 2 due: Intro to Data Visualization ...</i>
Oct 3		Lab Exercise for importing and merging data in R
Oct 5, 10, 12	5	Time Series Regression Models
Oct 17		Practical Exercise: Forecasting stock returns using the market model. Lab Exercise for obtaining financial markets data and optimizing portfolios
Oct 19		<i>Practical Assignment 2 due</i>
Oct 19, 24	7	Exponential Smoothing

Oct 26		<i>Datacamp Assignment 3 due: Time Series Analysis in R</i>
Oct 30		<i>Last day to withdraw from this course</i>
Oct 31		Review for Exam 2
Nov 2		Exam 2
Nov 7, 9	8	ARIMA Models
Nov 14		Practical Exercise: Fitting and evaluating various time series models
Nov 14		<i>Datacamp Assignment 4 due: ARIMA models in R</i>
Nov 16		Lab Exercise for non-seasonal ARIMA model
Nov 20 - 24		<i>Thanksgiving Break! Gobble Gobble!</i>
Nov 28		<i>Practical Assignment 3 due</i>
Nov 28	12	Some Practical Forecasting Issues
Nov 30		<i>Datacamp Assignment 5 due: Forecasting in R</i>
Nov 30		Review for exam 3
Dec 5 or 7		Exam 3 (Administered as per UTT final exam schedule TBA)

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.