EF3451: ECONOMIC AND BUSINESS FORECASTING

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Economic and Business Forecasting

Subject Code
EF - Economics and Finance
Course Number
3451

Academic Unit
Economics and Finance (EF)

College/School
College of Business (CB)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
EF3450 Principles of Econometrics or equivalent course

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

This course is designed to equip students with the knowledge and skills of econometric modelling and empirical analysis so that they can perform forecasts with economic and financial data. Topics include econometric approaches to forecasting, forecasting with ARIMA processes, unit root and co-integration tests, ARCH modelling, and forecast evaluation. It also enables students to use econometric software packages to conduct empirical analysis and to discover the appropriate models to match the intended forecasting applications. The main computer software packages used in this course may include R, Stata, Matlab and/or some other popular packages, which are essential tools for further studies and professional career development in the economic and finance areas.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Apply time series econometric models to forecast economic and financial variables and to compare and integrate different forecasting models to get a better understanding of potential applications of forecasting models.	50	x	x	x
2	Identify the pattern of economic fluctuations and estimate and explain the pattern of economic fluctuations by employing forecasting models.	20	x	x	x
3	Evaluate economic and financial forecasting performance, and determine how to improve on forecasting accuracy.	10	x	x	
4	Apply statistical and econometric software packages for forecasting practice.	20		x	x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures	Students will engage in formal lectures that will cover the econometric approaches to forecasting, forecasting with ARIMA processes, unit root and co-integration test, ARCH modelling, and forecast evaluation. Basic concepts and crucial assumptions of the models will be discussed, and how the models can be applied to perform a variety of forecasting tasks. Students will participate in the use of computer software and illustrate the applications of forecasting models by using case studies or real life examples.	1, 2, 3	3 hours lecture per week
2	Peer discussion and presentation	Students will engage in groups to share and present conclusions from their findings and discussions to the class. Other students will respond by critiquing the arguments and points of view.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Mid-term exam	1, 2, 3	15	-	No
2	Projects	2, 3	20	Please refer to the course outline from the course leader	Yes
3	Homework assignments	1, 2, 3, 4	15	Please refer to the course outline from the course leader	Yes

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Additional Information for ATs

Students are required to pass both coursework and examination components in order to pass the course.

Assessment Rubrics (AR)

Assessment Task

1. Mid-term exam

Criterion

Marks

Excellent (A+, A, A-)

Deep knowledge of core concepts and techniques in time-series econometric forecasting.

Good (B+, B, B-)

Good knowledge of core concepts and techniques in time-series econometric forecasting.

Fair (C+, C, C-)

Knowledge of core concepts and techniques in time-series econometric forecasting.

Marginal (D)

Sufficient familiarity with the subject of time-series econometric forecasting.

Failure (F)

Little evidence of familiarity with the subject of time-series econometric forecasting.

Assessment Task

2. Projects

Criterion

Marks

Excellent (A+, A, A-)

Very strong overall ability to discover and innovate. Capable of creatively integrating and synthesizing econometric forecasting techniques in wider contexts of business decision-making.

Good (B+, B, B-)

Good overall ability to discover and innovate. Capable of correctly applying econometric forecasting techniques in economics and business.

Fair (C+, C, C-)

Some ability to discover and innovate. Capable of applying econometric forecasting techniques in some contexts.

Marginal (D)

Marginal ability to discover and innovate. Some, albeit limited, ability to apply econometric forecasting techniques.

Failure (F)

Little evidence of ability to discover and innovate. Lack of ability to apply econometric forecasting techniques.

Assessment Task

3. Homework assignments

Criterion

Marks

Excellent (A+, A, A-)

Deep knowledge of core concepts and techniques. Very proficient in using statistical and econometric software to manipulate and analyse real world data.

Good (B+, B, B-)

Good knowledge of core concepts and techniques. Proficient in using statistical and econometric software to manipulate and analyse real world data.

Fair (C+, C, C-)

Knowledge of core concepts and techniques. Evidence of using statistical and econometric software to analyse real world data.

Marginal (D)

Elementary knowledge of core concepts and techniques. Some, albeit limited, evidence of using statistical and econometric software to analyse real world data.

Failure (F)

Little evidence of familiarity with the subject of time-series econometric forecasting. Lack of ability in using statistical and econometric software.

Assessment Task

4. Final examination

Criterion

Marks

Excellent (A+, A, A-)

Deep knowledge of core concepts and strong ability to apply the forecasting models and techniques outlined in CILOs.

Good (B+, B, B-)

Good knowledge of core concepts and good ability to apply the forecasting models and techniques outlined in CILOs.

Fair (C+, C, C-)

Knowledge of core concepts and some ability to apply the forecasting models and techniques outlined in CILOs.

Marginal (D)

Sufficient familiarity with the subject of time-series econometric forecasting.

Failure (F)

Little evidence of familiarity with the subject of time-series econometric forecasting.

Part III Other Information

Keyword Syllabus

1. Forecasting models.
2. Trend, seasonality, business cycle.

3. ARIMA model.
4. Regression.
5. VAR.
6. GARCH.
7. Time series.

Reading List

Compulsory Readings

	Title
1	Diebold, Francis X. (2007), Elements of Forecasting. Cincinnati: South-Western Publishing Co., 4th edition.
2	Diebold, Francis X. (2017), Forecasting in Economics, Business, Finance and Beyond, University of Pennsylvania.

Additional Readings

	Title
1	Newbold, Paul and Bos (1994), Theodore, Introductory Business and Economic Forecasting. Cincinnati: South-Western Publishing Co., 2nd edition.
2	DeLurgio, Stephen A.(1998), Forecasting Principles and Applications, Boston: Irwin/McGraw-Hill.
3	Evans, Michael K. (2002), Practical Business Forecasting, Oxford: Blackwell Publishing.
4	Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Econometric Models and Economic Forecasts, Boston: Irwin/McGraw-Hill, 4th edition.
5	Wooldridge, J.M. (2009), Introductory Econometrics: A Modern Approach. Thomson South-Western College Publishing, 4th edition.
6	Stock, J.H. and Watson, M.W (2020). Introduction to Econometrics, 4th edition, Published by Pearson.