B.E. International Program

Faculty of Economics, Thammasat University

Course Outline
EE 435 (3 credit) Introductory Financial Econometrics
Semester 1/2013

Credit 3 (3-0-6) (Lecture 3 hrs - Lab 0 hrs - Self study 6hrs)

Class Meeting Lecture : Room 205, Tuesday and Thursday 15.30 -17.00.

Instructor

Teerawut Sripinit Email: tsripinit@econ.tu.ac.th
Office Hour: Room 468, Tuesday and Thursday 17.00-18.30
or by appointment.

Corse Description

The estimation methods of financial econometrics models, such as least square method and maximum likelihood, with the emphasis on time-series model including univariate time-series model, high frequency time-series model, multivariate time-series model; financial forecasting; The regression estimation of variables with long run relationship and short run dynamics; The application of model to analyze financial economics issues.

Prerequisite EE325 (or EE425)

Books

*Tsay (T), R. Analysis of Financial Time Series. 3rd Ed., Hoboken, NJ: John Wiley & Sons, 2010.

*Jonathan D. Cryer and Kung-Sik Chan, Times Series Analysis with Applications in R, 2nd Ed., Springer.

Brooks (B), C. Introductory Econometrics for Finance. 2nd Ed., Cambridge University Press, 2008.

John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, The Econometrics of Financial Markets, Princeton University Press.

* Main Texts

Course Evaluation

Assignment	20 %	Group of four
Midterm Exam	35 %	15.30 -17.00, Thursday 3rd October 2013
Final Exam	45 %	9.00 -12.00, Tuesday 17th December 2013

Course Plan

Unit 1 : Introduction

Sessions	Topic
3-4	1. Time Series and Stochastic Processes 2. Means Variances and Covariances 3. Fundamental Distributions (Normal, Chi, and F) 4. Stationarity 5. Unit Root and Stationary 6. Correlation and Autocorrelation Functions 7. White noise process 8. Estimation (OLS and MLE) 9. Trends 10.Seasonal Models
Readings	CC. Ch 2 , 3.1 T. Ch1, Ch 2.1, 2.2, 2.3, 2.7, 2.8

Linear Time Series Model

Unit 2 : Autoregressive Models

Sessions	Topic
3-4	Autoregressive (AR) Models Specification Properties Estimation Forecast and Forecast Error
Readings	CC. Ch 4 T. Ch 2.4

Unit 3 : Moving Average Models

Sessions	Topic
3-4	Moving Average (MA) Specification Properties Estimation Forecast and Forecast Error
Readings	CC. Ch 4 T. Ch 2.5

Unit 3 : Autoregressive (Integrated) Moving Average Model

Sessions	Topic
3-4	Autoregressive (Integrated) Moving Average Model (ARIMA) Specification Properties Estimation Forecast and Forecast Error
Readings	CC. Ch 5 T. Ch 2.6

MIDTERM EXAM

Volatility Model

Unit 4 : Autoregressive Conditional Heteroscedastic Model

Sessions	Topic
3-4	Autoregressive Conditional Heteroscedastic (ARCH) Model Specification Properties Estimation Forecast and Forecast Error
Readings	CC. Ch 12.1 12.2 T. Ch 3.1, 3.2, 3.3, 3.4

Unit 5 : Generalized Autoregressive Conditional Heteroscedastic Model

Sessions	Topic
2-3	Generalized Autoregressive Conditional Heteroscedastic (GARCH) Model Specification Properties Estimation Forecast and Forecast Error
Readings	CC. Ch 12.3 T. Ch 3.5

Multivariate Time Series Model

Unit 6 : Vector Autoregressive Model

Sessions	Topic
4-5	Vector Autoregressive (VAR) Model Specification Properties Estimation Forecast and Forecast Error Cointegration and Error Correction Model Impulse Response Functions Variance Decomposition (Extension to VMA)
Readings	T. Ch 8.1, 8.2, 8.5, 8.6

FINAL EXAM