

**SYLLABUS**

University Unit: CCSA – Social and Applied Sciences Center		
Graduate Program: PPGA – Business Management		
Course: ☒ Academic Master Science ☒ Academic doctorate ☒ Professional Master		
Discipline Time series Econometrics		Code: ENST54955
Professor: Eli Hadad Junior		DRT: 1148294
Workload: 32 hours	Credits: 2	☐ Mandatory ☒ Optional
<u>SYLLABUS:</u> The main objective of this course is to develop the skills needed to do empirical research in fields operating with univariate and multivariate time series data sets. The course aims to provide students with techniques and receipts for estimation and assessment of quality of financial and economic models. The course will also emphasize recent developments in Time Series Analysis and will present some open questions and areas of ongoing research.		
<u>PROGRAMMATIC CONTENT:</u> • Presentation and application of the basic tools of econometrics of time series. • Data Generating Process and Theory of forecasting. • Models for univariate time series: Autoregressive (AR), moving average (MA) and ARIMA, Time-dependent seasonal components, Stationarity, Tests for stationarity • The Random Walk Model, White noise model and Box-Jenkins methodology. Forecasting using ARIMA, Model Selection • Multivariate Time Series: Dynamic models with time-shifted explanatory variables, Vector Autoregression (VAR) and Var with Error Correction Mechanism (VECM). • Granger's Causality tests. Stationarity, unit roots and cointegration. • Forecasting using multivariate time series. • Qualification in the use of the main econometric software such Stata and Oxmetrics.		
<u>ASSESSMENT CRITERIA:</u> Empirical Research using financial and/or economic data A - Excellent: corresponds to grades in the interval between grades 9 and 10 B - Good: corresponds to grades in the interval between grades 8 and 8.9 C - Regular: corresponds to grades in the interval between grades 7 and 7.9 R - Disapproved: corresponds to grades in the interval between degrees 0 and 6.9		



BASIC BIBLIOGRAPHY

ENDERS, W. **Applied econometric time series**. 4. ed. Hoboken: Wiley, 2014.

HAMILTON, J. D. **Time series analysis**. Princeton: Princeton University Press, 1994.

HENDRY, D. F. **Dynamic econometrics**. Oxford: Oxford University Press, 2009.

JUSELIUS, K. **The cointegrated VAR model**. Oxford: Oxford University Press, 2009.

TSAY, R. S. **Analysis of financial time series**. Hoboken: Wiley, 2010.

COMPLEMENTARY BIBLIOGRAPHY

BECKETTI, S. **Introduction to time series using Stata**. College Station: Stata Press, 2013.

BOFFELLI, S.; URGAS, G. **Financial econometrics using Stata**. College Station: Stata Press, 2016.

STOCK, J. H.; WATSON, M. W. **Econometrics**. Boston: Pearson, 2017.

STUDENMUND, A. N. **Using econometrics: a practical guide**. 7. ed. Boston: Pearson, 2017.

VERBEEK, M. **A guide to modern econometrics**. 4. ed. Chichester: Wiley, 2012.

WOOLDRIDGE, J. M. **Introductory econometrics: a modern approach**. 6. ed. Boston: Cengage Learning, 2016.