Course Title	**Financial Econometrics**				
Course Code	**ACF 312**				
Course Type	**Elective**				
Level	Undergraduate				
Year / Semester	Year 3 / Semester 6				
Teacher's Name	ARISTIDIS SAMITAS/GEORGE ANAYIOTOS/POLINA ELLINA				
ECTS	6	**Lectures / week**	2	**Laboratories / week**	1
Course Purpose and Objectives	Financial econometrics is the intersection of statistical techniques and finance. This course provides students the tools and skills to analyze historical financial data using econometric models. Topics include the key characteristics of financial data, linear regression analysis, volatility modeling, and others. This course also includes a practical application of Financial data analysis using the statistical package STATA.				
Learning Outcomes	Upon successful completion of this course, students should be able to: ▪ Deep understanding of the tools and methods used in financial econometrics ▪ Recognize the main issues of financial data analysis ▪ Conduct financial econometric techniques in financial data ▪ Understand the findings, interpret, and make conclusions related to the financial problem examined. ▪ Use statistical software for empirical research purposes. ▪ Enhance critical thinking by explaining financial problems using econometric methods.				
Prerequisites	MAT 201, MAT 202ACF 311	**Required**	NONE		
Course Content	▪ Brief review of statistics ▪ Classical linear regression model and diagnostic tests simple linear regression model, the assumptions of OLS, multicollinearity, heteroscedasticity, apply OLS technique using the statistical package STATA ▪ Univariate time series modeling and forecasting Moving average process, autoregressive process, autocorrelation, ARMA models, forecasting in Econometrics ▪ Modelling long-run relationships in Finance				

	stationarity and unit-root testing, cointegration ▪ Modelling volatility models of volatility, ARCH and GARCH models, asymmetric GARCH models, GARCH-in-mean, estimating models using a software package ▪ Panel Data Structure and organization of panel data sets, the fixed effects model, time-fixed effects models, panel data using a statistical software package
Teaching Methodology	This course will be delivered as a combination of interactive lectures, handouts, in-class problem-solving exercises and practice in compute laboratory using an econometric software that students will learn to apply statistical and econometric methods and tools to economic and financial problems.
Bibliography	▪ Financial Econometrics Wang Peijie Routledge 2009 2nd edition ▪ Analysis of Financial Time Series Ruey S. Tsay Wiley 2010 3rd edition ▪ Introductory Econometrics: A Modern Approach Jeffrey Wooldridge South-Western Cengage Learning 2012 5th edition ▪ Introductory Econometrics for Finance Brooks Chris Cambridge University Press 2019 4th edition ▪ Stata Guide to Accompany Introductory Econometrics for Finance (October 1, 2019). Brooks, Chris. Introductory Econometrics for Finance. Schopohl, Lisa and Wichmann, Robert and Brooks, Chris Cambridge University Press 2019
Assessment	Participation 10% Midterm Exam 30% Project 20%

	Final Exam 40%
Language	English