

Programme	: M. Com	
Course Code	: COO 416	Title of the Course: Advanced Econometrics.
Number of Credits	: 4	
Effective from AY	: 2018-19	

Prerequisites:	Students have studied B. Com and basic understanding of Statistics and Econometrics.
Need, Description, and Objectives	Economic relationships can be estimated and tested through Econometrics models. The models taught in the course can be applied in the areas of accounting, finance, marketing and management and in many social science disciplines. The course aims at bridging the gap between theoretical and practical understanding of various concepts under different disciplines through application of econometrics models. The course is divided into 4 units with equal weightage covering important and relevant areas of econometric applications. The course is designed to introduce advanced econometric theory and models for students to equip with the necessary skills, knowledge and techniques for data analysis. The usage of various statistical software packages during the course will help in simplifying complex data and serve as a basis for empirical research analysis.

Content:	UNIT 1: Econometric Modelling: Model Specification and Diagnostic Checking Simple and Multiple Regression – Introduction - Functional Forms of Regression Model: log-linear model, semi-log model, reciprocal model and logarithmic reciprocal Model Specification criteria: Model Selection Criteria – Types of Specification Error – Consequences of Model Specification Error – Test of Specification Errors – Errors of Measurement. (<i>Practicals Using Econometrics Software</i>). UNIT 2: Dummy Variable and Qualitative Response Regression Model Dummy variables – Nature – ANOVA & ANCOVA Models – Cautions in the use of Dummy Variable – Interaction Effect using Dummy Variable – Use of Dummy Variable in Seasonal Analysis -Tests for Structural Stability: Dummy Variable Approach, Chow Test for Structural Stability Qualitative Response Models - Nature – Linear Probability Model – Logit Model – Probit Model – Tobit Model (<i>Practicals Using Econometrics Software</i>). UNIT 3: Time Series Econometrics Introduction - Stationary and Non Stationary Time Series –Spurious Regression – Tests for non-stationarity: Graphical method - Correlogram, Augmented Dickey Fuller Test Time Series Modelling - ARIMA Model – Modelling the variance: ARCH-GARCH models – Vector Auto Regressive Model (VAR) and Causality Tests – Cointegration and Error Correction. (<i>Practicals Using Econometrics Software</i>). UNIT 3: Panel Data Econometrics Introduction – Advantages of Panel Data –Pooled OLS Regression –Fixed Effects Least Square Dummy Variable – Fixed Effects within Group	12 hours 45 12 hours 12 hours 12 hours
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	Estimator – Random Effects Model – Properties of Various Estimators - Fixed Effects versus Random Effects Model – Breush and Pagan Lagrange Multiplier Test – Hausman Test Non-Stationary Panel - Panel Unit Root Test: Levin and Lenin Test(LL), Maddala and Wu Test (MW), Im, Pesaran and Shin Test (IPS) – Panel Cointegration Test: Kao Test, McCoskey and Kao Test, Pedroni Test , Larsson <i>et al.</i> test (<i>Practicals Using Econometrics Software</i>)	
Pedagogy:	The following methods and forms of study are used in the course: • Lectures. • Casestudies. • Practicals in the class as well as in computer lab. using Eviews, Gretl and other statisticalsoftware's)	
Reference / Readings:	1. Brooks, C., Introductory Econometrics for Finance, 2008, Cambridge University Press 2. Dimitriou Asteriou & Stephen G. Hall, Applied Econometrics, 2011, Palgrave Macmillan 3. Gujarati, D., Essentials of Econometrics, 2006, McGraw-Hill 4. Greene, W., Econometric Analysis, 2003, Prentice Hall 5. Maddala & Lahiri, Introduction to Econometrics, 2009, Wiley India Edition 6. Ramanathan., Introductory Econometrics with applications, 2002, Thomson South-Western 7. Dougherty, Christopher, Introduction to Econometrics, 4th Edition, 2011, Oxford University Press.	
Learning Outcomes:	On successful completion, students will be able to: • explain model specification errors • understand various application of qualitative response regression models • understand various application of Time Series Model • understand various application of Panel regression models	

