

Programme : M.Com.
 Course Code : COO345
 Course Title : **Basic Econometrics**
 Number of Credits : 4
 Effective from AY : 2020-21

Need of the Course	: Econometrics as a discipline provides tremendous opportunity for understanding observed phenomena and relationships in the domain of social sciences. While the discipline of econometrics offers simple to very complex models for examining these relationships, a course in basic econometrics is needed to create foundation for grasping these advanced techniques and developing models that are able to explain more complex behaviour of economic variables. Basic econometrics course serves as the preliminary step in understanding econometric tools and modelling procedures.
Description of the Course	: Basic econometrics course is designed to provide knowledge of fundamental concepts in econometrics and familiarise learners with basic econometric tools. The course details on regression methodology of modelling including its forms, assumptions and diagnostics. It further includes topics in econometric analysis of cross-section data with particular focus on dummy variables and basic time series econometric models for forecasting.
Objectives of the Course	: (i) To provide foundational knowledge of regression analysis and develop skills in applying regression models to data. (ii) To provide knowledge and skills of diagnostic testing with respect to regression models. (iii) To enable learners master basic econometric techniques for analysis of cross-section data. (iv) To enable learners acquire skills in basic time series analysis and forecasting using econometric and event study methodology.

Course Content

Unit 1	: Introduction to Econometric Methodology and Regression Analysis	10 Hours
Econometrics – meaning, and significance of econometrics in business decisions - Methodology of econometric analysis – Nature and sources of data for econometric analysis – Preparation of data for analysis - Introduction to classical linear regression model - Assumptions of CLRM – Specification and estimation of bivariate and multiple regression models – Hypothesis testing and statistical inference – Properties of least square estimators (BLUE) – Basic model diagnostics using goodness of fit statistics – Regression terminology – Regression vs causation – Regression vs correlation – Reporting the results of regression analysis.		
Unit 2	: Econometric Modeling and Diagnostic Testing	16 Hours
Selection of model variables – Selection of functional form of regression – Model selection criteria –		

Issues in regression modelling - Autocorrelation, Heteroscedasticity, Multicollinearity – Consequences, tests for detection and remedial measures – Model misspecification errors – Types, consequences and tests of misspecification errors – Errors of measurement and relevant consequences.		
Unit 3	: Econometric Analysis of Cross-Section Data	10 Hours
Cross-section data – Data considerations and preparation, Sources of cross-sectional data – Cross-section data models - Dummy variables: Nature, ANOVA & ANCOVA Models – Cautions in the use of Dummy Variable – Interaction Effect using Dummy Variable – Applications of Dummy Variables - Seasonal Analysis, Structural breakpoint analysis using dummy variables.		
Unit 4	: Econometric Analysis of Time Series Data	12 Hours
Time series concepts – Stationarity in time series: Concept, Significance, Tests of stationarity in time series, ACF and PACF functions, Unit root tests, Transforming non-stationary time series – Econometric modelling and forecasting using time series data – AR, MA, ARMA and ARIMA modelling – Diagnostics and forecasting using ARIMA – Event study methodology.		
Pedagogy	: lectures/ case analysis/assignments/class room interaction/lab	
Reference/Readings	1. Asteriou Dimitrius,(2006), Applied Econometrics, Palgrave Macmillan, New York 2. Cameroon Samuel (2005), Econometrics, McGraw Hill, New York. 3. Davidson, J. (2000) Econometric Theory, Blackwell, USA 4. Goldberger, A.S. (2000) Introductory Econometrics, Harvard University Press, Cambridge. 5. Greene, W. (2004) Econometric Analysis, Prentice Hall, New York. 6. Gujarati, D. (2004) Basic Econometrics, McGraw Hill, New Delhi. 7. Hayashi, F (2000), Econometrics, Princeton University Press, Princeton. 8. Pattreson, Kerry (2000) An Introduction to Applied Econometric: Time Series Approach, Palgrave Macmillan, New York 9. Ramanathan Ramu (2002), Introductory Econometrics with applications, Thomson South Western, Singapore 10. Wooldridge (2006), Introductory Econometrics, Thomson-South Western, Singapore.	
Course Outcome	Upon completion of the course learners will be able to: CO1. Apply methodology of regression analysis in developing models for data in social sciences. CO2. Perform diagnostic tests on regression models and improvise their models. CO3. Demonstrate application of dummy variables for varied purposes in the context of cross-section data. CO4. Develop basic time series models for forecasting using ARIMA structure. CO5. Apply event study methodology on time series data for research and analytical purposes.	

Online Resources

<https://www.youtube.com/user/econometricsacademy>

<https://www.youtube.com/user/patobi1>

<https://sites.google.com/site/econometricsacademy/home>

<https://www.economicsnetwork.ac.uk/teaching/Online%20Text%20and%20Notes/Econometrics>

<https://www.ssc.wisc.edu/~bhansen/econometrics/Econometrics.pdf>