

Course No. ECONA304
Course title: Basic Econometrics
Nature of Course: DSE – 4
Number of credits: 6
Number of Lectures (L): Practical (P): Tutorial (T): 44:16:00

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models.

Course Outline

Unit	Title	Credits	
		L	P
I.	Elements of Statistical Inference Concepts of population, samples, parameter and statistic; Estimation theory: Point Estimation small sample properties, asymptotic properties, Interval Estimation, Testing of hypotheses: Null v/s Alternative hypothesis, Simple and Composite hypotheses, Procedure for testing of hypotheses; Type I and Type II errors; power of a test; level of significance, Confidence Interval, confidence limits, Degrees of freedom.	12	4
II.	Simple Linear Regression Models Two-variable linear regression model, Assumptions under CLRM, OLS method of estimation, Importance of stochastic error term, Properties of an estimator, Variance and covariance of the OLS estimator, Gauss-Markov theorem.	12	4
III.	Multiple Regression Models k-variable linear regression model, least squares estimators, Properties, R square and Adjusted R square, ANOVA.	10	4
IV.	Regression with Dummy Variables Dummy independent variables-dummy variable trap, Structural change Model, Interaction effects, Seasonal analysis of time series, Piecewise linear regressions.	10	4

Suggested Readings:

1. Kotsoyiannis, A.. Basic Econometrics. McGraw Hill, New Delhi.
2. Johnston J. Econometrics Methods, McGraw Hill
3. Kmenta J. Elements of Econometrics. University of Michigan Press
4. Maddala G. S. Econometrics Methods and Application. E. Elgar Pub
5. Richard J. Larsen and Morris L. Marx, An Introduction to Mathematical Statistics and its Applications, Prentice Hall, 2011.
6. D. N. Gujarati and D.C. Porter, Essentials of Econometrics, McGraw Hill, 4th edition, International Edition, 2009.