

Course Code	EEC 5301	Semester	III
Course Title	BASIC ECONOMETRICS		
Credits	4	Type	Core

Course Description

The course is to introduce basic econometrics to the students and to equip them with basic tools of Econometric analysis. Course will be supplemented by Practical Class by using STATA and Gretl Software.

Course Outcome

By the end of the course, students are expected to be able to:

- Understanding in basic concepts application of econometrics
- Construction of simple econometric models
- Applications of software and interpretation of result

Course Structure

Module 1: Introduction to Different Methods in Econometrics

Basic Concepts and Methodology of Econometrics-Single Equation Regression Model- The Problem of Estimation-The method of Ordinary Least Squares- The Gauss-Markov Theorem-assumptions - Properties of OLS Estimators- Normality Assumption-Hypothesis Testing. Maximum Likelihood Method.

Module 2: Multiple Regression and Estimation

Multiple regression: estimation, testing the significance of coefficients– ANOVA-F test- The Coefficient of Determination and adjusted R^2

Module 3: Model Diagnostics

The Problems of Non Linearity, Multicollinearity, Heteroscedasticity and Autocorrelation - Detection and Remedial Measures –Specification Problem-- Errors in Measurement.

Module 4: Regression with Dummy Variables

Dummy independent variables –uses-slope and intercept-Dummy Variable trap- Interactive Effects; Seasonal Analysis-Piecewise linear regression – Structural Stability- Chow Test and its applications- Dummy Dependent Variable- Logit, Probit,Tobit models.

Module 5: Introduction to Time series

Introduction to time series - seasonality issues - Stationarity and Non Stationarity-Test for Nonstationary– cointegration. Prerequisites

Testing & Evaluation

Internal Evaluation consisting of Seminar, Assignment, Lab, Mid-term exam and final end semester examination.

References

Required Text Books:

- Dougherty, Christopher, Introduction to Econometrics, Oxford University Press.
- Studenmund, A.H. (2006): *Using Econometrics: A Practical Guide*, Pearson Addison Wesley, New York.
- Angrist, Joshua D. and Jorn-Steffen Pischke(2008) : *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, New Jersey, USA.
- Greene, William H. (2003): *Econometric Analysis*, 5th Edition, Pearson Education, Inc., New Jersey.
- Gujarati, D. N. and Sangeetha (2007): *Basic Econometrics*, , 4th Edition, Tata McGraw-Hill Publishing Company Ltd., New Delhi.
- Johnston, J. and John DiNardo, (1997): *Econometric Methods*, 4th Edition, McGraw-Hill Companies, Inc., London.
- Judge, G. et al. (1988): *Introduction to the Theory and Practice of Econometrics*, 2nd Edition, John Wiley & Sons, New York.
- Kmenta, Jan (1986): *Elements of Econometrics*, Macmillan Publishing Company, New York.
- Lardaro, Leonard (1993): *Applied Econometrics*, HarperCollins College Publishers, New York.
- Maddala, G. (1977): *Econometrics*, McGraw Hill Kogakusha, Ltd., Tokyo.
- Mukherjee, Chandan, Howard White and Marc Wuyt (1998): *Econometrics and Data Analysis for Developing Countries*, Routledge, London.
- Wooldridge, Jeffrey M. (2003): *Introductory Econometrics: A Modern Approach*, Second Edition, Thomson South Western, USA.

Additional References & Data Sources

- Dandekar, V. M. (ed.) (1972): *Database of the Indian Economy, Vol. II*, Statistical Publishing Society, Calcutta.
- Government of India (1999): *Guide to Official Statistics*, 4th Edition, Central Statistical Organisation, New Delhi.
- Government of India (1989): *National Accounts Statistics: Sources and Methods*, Central Statistical Organisation, New Delhi.
- Krishna, K. L. (1997): *Econometric Applications in India*, OUP, New Delhi.
- Minhas, B. S. (ed) (2002): *National Income Accounts and Data Systems*, Oxford University Press, New Delhi.
- Mukherjee, M. (1969): *National Income of India: Trends & Structure*, Statistical Publishing Society, Calcutta.
- Rao, C. R. (ed.) (1972): *Database of the Indian Economy, Vol. I*, Statistical Publishing Society, Calcutta.
- Roy Choudhury, Uma Dutta (1995): *National Income Accounting*, Macmillan, New Delhi
- www.rbi.org.in
- http://mospi.nic.in/mospi_nssso_rept_pubn.htm
- <http://development.thinkingwithdata.com>