

GENERIC ELECTIVE (GE)-BBA (FIA)

FUNDAMENTALS OF ECONOMETRICS

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course	Department offering the course
		Lecture	Tutorial	Practical/ Practice			
FUNDAMENTALS OF ECONOMETRICS (GE-4)	4	3	0	1	Class XII Pass	NA	Department of Finance and Business Economics

Learning Objectives

The Learning Objectives of this course are as follows:

- This course provides a comprehensive introduction to basic econometric concepts and techniques.
- It covers estimation and diagnostic testing of simple, multiple regression models, panel data models, and dummy variable regression with qualitative response regression models.

Learning Outcomes

The Learning Outcomes of this course are as follows:

- Understanding of basic econometrics and its assumptions and the impact of violations of classical assumptions.
- Interpretation of functional forms of regression model.
- Understanding of models using dummy variables and Qualitative Response Regression Models.

SYLLABUS OF GE-4

Unit 1

Introduction to Econometrics and an overview of its applications; Simple Regression with Classical Assumptions; Least Square Estimation and BLUE, Properties of estimators, Multiple Regression Model and Hypothesis Testing Related to Parameters – Simple and Joint. Functional forms of regression models.

Unit 2

Violations of Classical Assumptions: multicollinearity, heteroscedasticity, autocorrelation, and model specification errors, their identification, their impact on parameters; tests related to

parameters and impact on the reliability and the validity of inferences in case of violations of Assumptions; methods to take care of violations of assumptions.

Unit 3

Understanding the impact of change in scale of variables on output. Understanding and calculation of information criteria for model selection: AIC, BIC, and HQC. Understanding and calculation of R Square and adjusted R Square. Understanding of outliers and their impact on the model's output.

Unit 4

Dummy variables: Intercept dummy variables, slope dummy variables, Interactive dummy variables, Use of Dummy Variables to model qualitative/Binary/Structural changes, Other Functional Forms, Qualitative Response Regression Models or Regression Models with Limited Dependent Variables - Use of Logit, and Probit Models.

Practical component (if any) – *Recommendation Computer Package to be Used: Use of softwares like E-Views, R, and STATA to solve real-life problems and check assumptions, taking care of assumption violations, and test goodness of fit, and for estimation of Logit, and Probit Models is recommended.*

Essential/Recommended Readings:

1. Christopher Dougherty. Introductory Econometrics. Oxford University Press.
2. Gujarati, N. Damodar. Basic Econometrics. New Delhi: McGraw Hill.
3. Gujarati, N. Damodar. Econometrics by Examples. New Delhi: McGraw Hill.

Suggestive Readings:

1. Pindyck, Robert S. and Daniel L. Rubinfeld Econometric Models and Economic Forecasts. Singapore: McGraw Hill.
2. Ramanathan, Ramu (2002). Introductory Econometrics with Applications (5th ed.). Thomson South-Western.