

**COMMON POOL OF DISCIPLINE SPECIFIC ELECTIVE (DSE)
COURSES
FOR semester-IV/V/VI**

Discipline Specific Elective 6 (DSE-6): Advanced Econometrics

Semester	Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
			Lecture	Tutorial	Practical/ Practice		
V/VII	Advanced Econometrics – ECON036	4	3	1	0	Class 12th with Mathematics	Basic Econometrics (ECON024)

Learning Objectives

The Learning Objectives of this course are as follows:

- A prerequisite for this course is the knowledge of concepts in the Basic Econometrics course.
- It builds on the compulsory Basic Econometrics course and teaches students a broad set of commonly used econometric methods.
- These include estimating models with limited dependent variables, the use of instrumental variables to estimate models with endogenous regressors, as also estimation methods for time series and panel data sets.

Learning outcomes

The Learning Outcomes of this course are as follows:

Students will learn the theoretical and practical basis for techniques widely used in empirical research and consider their application in a wide range of estimation problems.

Syllabus

UNIT I: Stages in empirical econometric research (3 hours)

UNIT II: The linear regression model: The matrix approach, Review of model specification, estimation and testing (6 hours)

UNIT III: Limited dependent variables: Logit and Probit models for binary responses, Tobit models for truncated data. (9 hours)

UNIT IV: Selected Topics: Instrumental variable estimation, Simultaneous equation models, Experiments and Quasi-Experiments. (9 hours)

UNIT V: Dynamic econometric models: distributed lag models, autoregressive models; Panel data models and estimation techniques (9 hours)

UNIT VI: Introduction to econometric software (R/GRETL/EViews/Stata: ANY ONE); publicly available data sets and software will be used to estimate models and apply the techniques learnt. (9 hours)

Recommended readings

- Wooldridge, J. (2014). Introduction to econometrics: A modern approach, 5th ed. Cengage Learning.
- Asteriou, D and Hall, Stephen G, Applied Econometrics, 4th Edition, 2021, Pal- grave Macmillan.
- James Stock and Mark Watson, Introduction to Econometrics, 4th Edition, 2019, Pearson.
- Gujarati, D., Porter, D. (2012). Basic econometrics, 5th ed. McGraw-Hill.
- Gujarati, D. (2014). Econometrics by Final Examinationple, 2nd ed. Palgrave Macmillan.
- G.S. Maddala and Kajal Lahiri, Introduction to Econometrics, 4th Edition, 2012, Wiley.
- Badi H. Baltagi, Econometrics, 5th Edition, 2011, Springer.
- J. Johnston and J. DiNardo (2001), Econometric Methods, Fourth Edition, Irwin Mcgraw Hill

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.