

Generic Elective (GE) - Economics

BASIC STATISTICS FOR ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Semester	Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
			Lecture	Tutorial	Practical/ Practice		
II/IV/VI/VIII	Basic Statistics for Economics ECON022	4	3	1	0	Class XII pass	Math in XII

Learning Objectives

The Learning Objectives of this course are as follows:

- The course teaches students the basics of probability theory and statistical inference based on simple technical rigor.
- It includes introductory probability theories, sample distribution and hypothesis testing that set a necessary foundation for the econometrics course taught as a General Elective.

Learning outcomes

The Learning Outcomes of this course are as follows:

- The student will be able to analyse the data using basic statistical concepts.
- They will understand sampling characteristics, estimation as well as examining the hypotheses using discrete and continuous distributions.

SYLLABUS OF GE- 5

UNIT – I: Introduction and overview (12 hours)

Populations and samples; sample statistics; Descriptive Statistics.

UNIT – II: Basic concepts of probability (12 hours)

Spaces and events; probability concepts, conditional probabilities

UNIT – III: Probability distributions and Sampling (12 hours)

Random variables – discrete and continuous, various probability distributions - functions and characteristics; Commonly used distributions - uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables. Jointly distributions- conditional distributions and expectations, covariance and correlation

Unit – IV: Estimation and Hypothesis testing (9 hours)

Estimation of population parameters - methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals; Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test

Practical component (if any) - NIL