

DISCIPLINE SPECIFIC CORE COURSE – ECONOMICS

DSC-4 (Major) : Basic Statistics for Economics

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

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

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 examine the hypotheses using discrete and continuous distributions.

SYLLABUS OF DSC- 4

UNIT – I: Introduction and overview

Populations and samples; sample statistics; Descriptive Statistics.

UNIT – II: Basic concepts of probability

Spaces and events; probability concepts, conditional probabilities

UNIT – III: Probability distributions and Sampling

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

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