CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES 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		
Statistical Software Package	2	0	0	2	Class XII	Basic course in Statistics

Learning Objectives

The Learning Objectives of this course are as follows:
- To familiarize students with data analysis using a statistical software package like SPSS or any other equivalent.
- To provide skills for research analysis and increaseemployability.
- To lay a foundation for advance data analysis work and higher education.

Learning outcomes

The Learning Outcomes of this course are as follows:
- After studying this course, students will be able to understand basic functions of statistical software package for managing variables and generate descriptive statistics to describe the data and analyze data through graphs and charts.
- After studying this course, students will be able to test differences in sample means.
- After studying this course, students will be able to identify relationships between variables and develop models for predicting dependentvariables on the basis of independent variables.
- After studying this course, students will be able to understand data structures and identify clusters in data.
- After studying this course, students will be able to identify principal components that are relevant from a host of variables.

SYLLABUS

Unit 1: Getting started with the Software (16 hours)

Introduction: Data Entry, Storing and Retrieving Files, Generating New Variables; Managing Data – Listing cases, replacing missing values, computing new variables, recoding variables, selecting cases, sorting cases, merging files, Graphs – Creating and editing graphs and charts; Descriptive Statistics Procedures: Frequencies, Descriptive, Explore, Cross Tabulation.

Unit 2: Hypothesis Testing for Means (12 hours)

T-tests: One sample test, Independent samples and paired samples t-test; ANOVA – One-way analysis of variance with post hoc analysis, Two-way analysis of variance.

Unit 3: Testing for Association between Variables   **(16 hours)**

Chi-square Test of Independence; Bivariate Correlation Analysis: Simple Scatter Plot; Correlation Coefficient: Pearson, Spearman Rho and Kendall Tau Coefficient. Factor analysis.

Unit 4: Regression Analysis   **(16 hours)**

Linear Regression: Simple Linear Regression, Multiple regression analysis with matrix scatterplot. Multiple Regression: Standard (Enter) and Stepwise Method. Binary Logistic Regression.

Essential/recommended readings

- Performing Data Analysis using IBM SPSS, Lawrence S. Meyers, Glenn C. Gamst, A. J. Guarino, Wiley Publication
- SPSS for Windows Step by Step A Simple Guide and Reference, Darren George and Paul Malley
- SPSS in Simple Steps, Kiran Pandya, Smruti Bulsari, Sanjay Sinha, Dreamtech Press

Suggestive Readings

- Using SPSS in Research, Dr. Radha Mohan, Neelkamal.

Examination scheme and mode:
Evaluation scheme and mode will be as per the guidelines notified by the University of Delhi.