BSDP 601: Statistical Software Package   **Total Hours: 30**

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 increase employability.
- 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 analyse 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 dependent variables 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 I: Getting started with the Software: **8 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 II: Hypothesis Testing for Means: **7 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 III: Testing for Association between Variables: **7 Hours**

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

Unit IV: Regression Analysis: **8 Hours**

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

Text & References:

- Performing Data Analysis using IBM SPSS, Lawrence S. Meyers, Glenn C. Gainst, 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

Dean
Faculty of Commerce
Jamuhar, Rohtas (Bihar)

Coordinator
IQAC (NAAC)
Gopal Narayan Singh University
Jamuhar, Sasaram, Rohtas (Bihar)