Course Title:	**Statistical Computing**
Course Code:	**BSTA-204**
Semester:	**IV**
Credit Hours:	**03**

Learning Outcomes

By the end of this course, students will be able to:

1. understand data analysis.
2. deal with issues related to data entry.
3. apply analysis, and methods of evaluation related to business.
4. implement and evaluate primary and secondary data during their professional career.

Course Outline

Unit – I

1.1 Introduction

Variables their types and scales of measurement. Introduction to SPSS package: structure of windows, procedures, abilities and limitations, Editing and manipulating files. Applications of Compute, Recode, select cases Command. Library Functions.

1.2 Exploring data

Frequency distributions, descriptive statistics, and graphical representation of a Data. Statistical Assumptions (Normality, Randomness, Homogeneity).

Unit – II

2.1 Applications of Probability Distributions

Binomial, Hypergeometric, Poisson, Normal in Business. Computation of Mean, Variance and Standard deviation for these distributions.

2.2 Statistical Inference

Tests about Mean/Median (Parametric and Non-Parametric): i) Single sample ii) Two samples for dependent and independent Cases, iii) More than two Samples for dependent and independent cases. Tests about Proportions: i) Single Proportion ii) Several proportions for equal and unequal cases. Tests about Homogeneity (Variance): i) Two Samples ii) More than Two Samples.

Unit – III

3.1 Cross-tabulation of distribution

Studying the relationship between two categorical variables. Cell statistics and table statistics. Applications of Regression and Correlation.

- **Teaching-learning Strategies:**

Class Lecture method, which includes seminars, discussions, assignments and projects. (Audio-visual tools are used where necessary)

- **Assignments-Types and Number with calendar:**

According to the choice of respective teacher.

- **Assessment and Examinations:**

According to the University's Semester Rules.

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	It takes place at the mid-point of the semester.
2.	Formative Assessment	25%	It is continuous assessment. It includes: Classroom participation, attendance, assignments, and presentations, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

Textbooks:

1. Field, A. P. (2020). *Discovering statistics using SPSS* (3rd ed.). London, England: SAGE.
2. Hinton, P. R., & McMurray, I. (2017). *Presenting your data with SPSS explained*. Taylor & Francis.

Suggested Readings:

1. Baarda, B., & van Dijkum, C. (2019). *Introduction to Statistics with SPSS*. Routledge.
2. Denis, D. J. (2018). *SPSS data analysis for univariate, bivariate, and multivariate statistics*. John Wiley & Sons.
3. Morgan, G. A., Barrett, K. C., Leech, N. L., & Gloeckner, G. W. (2019). *IBM SPSS for introductory statistics: Use and interpretation*. Routledge.
4. Stockemer, D., Stockemer, & Glaeser. (2019). *Quantitative methods for the social sciences*. Springer International Publishing.