

TEMPLATE FOR COURSE SYLLABUS FOR NEP IMPLEMENTATION

Discipline: Science ☒ Arts, Humanities & Social Science ☒
Commerce ☐ BBA ☐ BCA ☐

Subject Name: **ECONOMICS**

Subject Code: (Will be provided by the University)

Semester: Semester I ☐ Semester II ☒ Semester III ☐ Semester IV ☐
Semester V ☐ Semester VI ☐ Semester VII ☐ Semester VIII ☐

Course Name: **BASIC STATISTICS**

Course Code: ECONMAJ204

Course Credit: Theoretical **3** Practical/Tutorial **1**

Marks Allotted: Theoretical **60** Practical/Tutorial **20**
Continuing Evaluation Attendance

Course Type (tick the correct alternatives):

Major Core ☒ AEC ☐
Interdisciplinary/ DSE ☐ SEC ☐
Minor / Generic Elective ☐ VAC ☐
Research Project/Dissertation ☐ Vocational ☐

Is the course focused on employability/entrepreneurship? YES ☒ NO ☐

Is the course focused on imparting life skills? YES ☐ NO ☒

Is the course based on Activity? YES ☐ NO ☒

Remarks by Chairman, UG BOS, if any

UG BOS Meeting Reference Number: 120/UG-24

Date: 25/07/2024

Course Code: ECONMAJ204

Course Name: Basic Statistics

Brief Course Description:

This course on Basic Statistics has six modules and is broadly grouped into two. The first two modules are on the collection and representation of data. The remaining four modules are on descriptive statistics. The suggested readings include books that will give students ample opportunity to learn statistical methods and analyse data sets.

Prerequisite(s) and/or Note(s):

- (1) Prior knowledge of statistics is optional.

Course Objectives:

Knowledge acquired:

- (1) Students will develop an understanding of the type of data and different methods for collection of data,
- (2) The course will help to develop an understanding of how to classify data and present the data.
- (3) Students will learn to make estimates of the characteristics from the data.

Skills gained:

- (1) After completion of the course, the students will be able to present the raw data in tabular form.
- (2) Students will develop the skill of graphical representation of data that will readily highlight the characteristics of the data.
- (3) Students will develop the skill of estimating the data's descriptive characteristics and interpret the results.

Competency Developed:

- (1) Applying the concept of basic statistics to real-life problems such as business data.
- (2) Develop the competency to interpret the statistical results and prepare a report.
- (3) The course will facilitate solving real-life problems by thinking logically and enhancing analytical ability.

Course Syllabus Overview:

Module-I: Collection of Data, Classification & Tabulation: [8 hrs]

Meaning of Statistics, Variable and Attribute, Primary and Secondary Data, Population and Sample, Complete Enumeration (or census) and Sample Survey, Classification, Tabulation.

Module II: Frequency Distribution and Representation of Data [5 hrs]

Simple series and frequency distribution, concepts associated with grouped frequency distribution, Construction of frequency distribution, cumulative frequency distribution, diagrammatic representation of frequency distributions, and frequency Curve.

Module III: Measures of Central Tendency [8 hrs]

Mean (Arithmetic Mean, Geometric Mean, and Harmonic Mean) and their properties, advantages, and disadvantages; Relation among A.M., G.M., and H.M; Median and Calculation of Median; Mode, Calculation of Mode, Relation between Mean, Median, and Mode, Quartile, Deciles, and Percentile.

Module IV: Measures of Dispersion [9 hrs]

Meaning and Usefulness of Measures of Dispersion, Quartile Deviation, Mean Deviation, Standard Deviation, Properties and Calculation of S.D., Relation between S.D. and other measures, Lorenz Curve, and Construction of Lorenz Curve.

Module-V: Moments, Skewness, and Kurtosis [5 hrs]

Moments, Skewness and Kurtosis, Central and non-central moments, different measures of skewness and Kurtosis

Module VI: Correlation and Regression [10 hrs]

Definitions, Bivariate data, Bivariate frequency distribution, Scatter Diagram, Covariance, the measure of association, Coefficient of Simple Correlation, Properties, and the calculation method. Concept of Rank correlation, Spearman's Rank Correlation, Measure of influence, Simple Linear Regression, properties of linear regression, Least Squares and Normal Equations, and determination of regression coefficient.

Tutorial Classes: [15 hrs]

Tutorial classes are meant to clarify better the contents of the course. Such classes are meant to promote teacher-student academic interactions and help to build a student's confidence and self-esteem.

Continuing Evaluation:

The course instructor will finalize the modalities of the continuing evaluation. A few suggestions for continuing evaluation are (a) written examination, (b) take-home assignment, and (c) presentation on the topic suggested by the course instructor.

Suggested Readings

Giri, P.K. and Banerjee, J. 2022. Introduction to Statistics Including Statistical Practical, Academic Publishers

Gun, A.M., Gupta, M.K. and Dasgupta, B 2013. Fundamentals of Statistics, Vol. I. World Press.

Gupta, S.C. 2018. Fundaments of Statistics, Himalayan Publishing House

Gupta, S.P. 2021. Statistical Methods; Sultan Chand & Sons

Kapur, J.N. and Saxena H.C. 2010. Mathematical Statistics, Sultan Chand Publications