SYLLABI

For

Value Added Course

Certificate Course in Advanced SPSS

Offered by

Department of Management Sciences

Masters of Business Administration
(Session: 2022-23)

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI
MASTERS OF BUSINESS ADMINISTRATION (MBA)

Certificate Course in Advance SPSS

Course Code: MS 506   **L-2 T-0 P-0 Credits 2**

Objectives: The course aims to provides a concise overview of how you can use SPSS to explore and analyze your data for research

Learning Outcomes:.
  ➢ To apply fundamental concepts of variables, effectively read and edit data, interpret data accurately.
  ➢ To calculate measures of central tendency, including mean, median, and mode.
  ➢ To proficient in calculating and interpreting variance, standard deviation, range, sample mean, sample variance, sample standard deviation, and coefficient of variation
  ➢ To perform chi-square tests and tests for proportions, enabling them to analyze categorical data effectively.

Course Contents:

Unit I   **(7 Hours)**

Basic on variable, data reading and editing, Data interpretation, Sampling size selection and sampling error, fundamental concepts of variables, effectively read and edit data, interpret data accurately, select appropriate sampling sizes, and understand and mitigate samplingerrors.

Unit II   **(8 Hours)**

Measure of central tendency: calculation of Mean, Median and Mode, central tendency, including mean, median, and mode, and comprehend their significance in analyzing and summarizing data Variance, standard deviation , Range, Sample mean, variance, S.D , Coefficient of variation, standard deviation, range, sample mean, sample variance, sample standard deviation, and coefficient of variation, and apply these measures to assess data variability.

Unit III   **(8 Hours)**

Chi square test and test for proportions, analysis of variance (ANOVA) to compare means across multiple groups, and they will interpret ANOVA results to determine significant differences

between the group means. Non Parametric hypothesis testing, nonparametric hypothesis testing, including the utilization of tests such as the Wilcoxon Sign Rank Test, Sign Test, Kruskal Wallis one-way test, Whitney U test, and Spearman Rank correlation coefficient test.

Unit IV   (7 Hours)

Basics : Parametric testing, Tests for mean and variance, t test, basics of parametric testing, understanding its underlying principles, assumptions, and appropriate application in analyzing data, enabling them to make informed statistical inferences, hypothesis tests for mean and variance, particularly using the t-test. Levene's test, Wilcoxon Sign Rank Test, Sign test, Kruskal Wallis one way test, Mann-Whitney U test, Spearman's Rank correlation coefficient test& Regression test.

Note: Latest Provisions to be taught.

Suggested Readings (All latest editions to be referred):

- Field, A. (2024). Discovering statistics using IBM SPSS Statistics. SAGE Publications Limited.
- Sürücü, L., Şeşen, H., & Maslakçı, A. (2023). Regression, mediation/moderation, and structural equation modeling with SPSS, AMOS, and PROCESS Macro. Livre de Lyon.
- Hodges, C. B., Stone, B. M., Johnson, P. K., Carter III, J. H., Sawyers, C. K., Roby, P. R., & Lindsey, H. M. (2023). Researcher degrees of freedom in statistical software contribute to unreliable results: a comparison of nonparametric analyses conducted in SPSS, SAS, Stata, and R. Behavior Research Methods, 55(6), 2813-2837.
- Privitera, G. J. (2023). Statistics for the behavioral sciences. Sage publications.
- Hastuti, S., & Rakhmawati, A. (2023). Short story writing learning based on local wisdom with digital book media for university students. International Journal of Instruction, 16(1), 821-832.

Evaluation Pattern: On the basis of MCQ exam followed by Viva Voce