SPSS Essentials Training Course

Certificate in Data Analysis Using SPSS

Aim

This is a certificate course on the applications and effective use of the software package "Statistical Package for Social Sciences" (SPSS). The course is an applied course, which highlights how SPSS can be used to facilitate the summarization and interpretation of information. The course emphasizes a systematic problem solving approach over memorization, to both understand SPSS and information analysis.

This course is aimed at University staff who want to use IBM SPSS to complement or enhance their statistical analysis, but who do not have the time to study the associated techniques from scratch. The course is intended for beginner IBM SPSS users.

The main aim is to teach participants basic statistics, and how IBM SPSS can help in analyzing data efficiently. Course participants will learn how to input data into IBM SPSS, how to create variables, how to illustrate data graphically, how to get simple statistics such as mean, variance etc., and reliability analysis, which is essential to validate results obtained from a questionnaire. The only essential prerequisite is familiarity with MS Windows and the basic concepts of MS Excel.

Intended Learning Outcomes

Upon successful completion of this course, the candidate will be able to:

A. Read-in, enter, organize, and save data in a suitable way
B. Calculate/recode variables and prepare data for analysis
C. Conduct descriptive and basic inferential statistics
D. Be familiar with SPSS presentation of statistical output
E. Create and edit graphical displays of data
F. Calculate data and interpret results related to the following statistical procedures: Two-way ANOVA, ANCOVA, MANOVA, Multiple Regression, Factor Analysis,
G. Collect, screen, and code data.
H. Use SPSS to solve statistical problems.

Course Duration

- Total Course Duration is **25 Hours/** 5 days

Assessment

The final assessment will involve a small project. Course members will be supplied with a computer file containing data and an outline of a research context to which the data in the file relate. The assessment will consist of selecting appropriate analytical techniques to explore the data and throw light on the research question. The assignment will include a commentary on which techniques were used for which purpose and why and a discussion giving an interpretation of these results, what inferences can be based on them and what limitations should be placed on these inferences.

Course Content

1. **Introduction**
    a. Introduction to SPSS
    b. Installing and Configuring SPSS
    c. SPSS: general description, functions, menus, commands
    d. SPSS file management
    e. Input and data cleaning
    f. Defining variables
    g. Manual input of data
    h. Automated input of data and file import
2. **Input and data cleaning**
    a. Defining variables
    b. Manual input of data
    c. Automated input of data and file import
3. **Data manipulation**
    a. Data Transformation
    b. Syntax files and scripts
    c. Output management
4. **Descriptive analysis of data**
    a. Frequencies - Descriptive
    b. Explore

c. Crosstabs

5. **SPSS Graphics**
    a. Histograms
    b. Bar graphs and Pie charts
    c. Scatter plots
    d. Clustered bar graphs
    e. Box plots and Line graphs
6. **Statistical tests**
    a. Means
    b. T-test
    c. Two-way ANOVA, ANCOVA, MANOVA
    d. Non parametric tests
    e. Normality tests
7. **Correlation and Regression**
    a. Linear correlation and regression
    b. Multiple regression (linear)
8. **Multivariate analysis**
    a. Factor analysis
    b. Cluster analysis