



INTRODUCTION TO STATISTICAL ANALYSIS USING SPSS

COURSE DESCRIPTION:

The focus of this course is an introduction to the statistical components of SPSS. This is an application-oriented course and the approach is practical. You'll take a look at several statistical techniques and discuss situations in which you would use each technique, the assumptions made by each method, how to set up the analysis using SPSS as well as how to interpret the results. This includes a broad range of techniques for exploring and summarizing data, as well as investigating and testing underlying relationships. You will gain an understanding of when and why to use these various techniques as well as how to apply them with confidence, and interpret their output, and graphically display the results using SPSS.

1. Introduction – data understanding

Data Files, Structuring Files, Data Types, Continuous vs. Discrete variables, parametric vs. nonparametric variables, Nominal vs. Ordinal data types, Integers vs. Ratios data types

2. Data preparation

Transformation, computing new variables, coding variables, filtering, weighting/ranking, sorting data, merging files, splitting files, Likert Scale, Reliability (Cronbach Alpha), split half, Guttman

3. Descriptive statistics

Frequencies, exploring data, crosstabulation, ratios

4. Comparing means

Pre-analysis - Confidence Interval, Type I error/ α , Null Hypothesis H_0 , Alternative Hypothesis H_a .

One sample T Test, Independent Sample T Test, Paired Sample T Test, One way ANOVA

5. Regression

Linear regression, Ordinal Regression, Binary Logistic

6. Nonparametric tests

Chi Square, Binomial, Nonparametric Test, Multiple responses

7. Charts – Chart Builder

Bar, Line, Area, Pie, Scatter, Histograms, and BoxPlots.

8. Control charts

X-bar, R, S charts and p, nP charts charts