Introductory Data Analysis Using SPSS

1. Data Handling

- Identify and demonstrate the steps to open an SPSS data file
- Save and import data from other sources into SPSS
- Input data manually using data entry techniques
- Label variables with appropriate dummy numbers for easy identification
- Recode data within the same variable for reclassification
- Recode data into different variables for better analysis
- Transpose data to switch rows and columns for better understanding
- Insert variables and cases to add new data points and expand the dataset
- Merge variables and cases to combine information for comprehensive analysis

2. Diagrammatic Representation

- Create simple bar diagrams to represent categorical data
- Construct multiple bar diagrams to compare multiple categories
- Develop sub-divided bar diagrams to show breakdown of categories
- Generate percentage diagrams to show proportions within a dataset
- Create pie diagrams to display proportions of a whole
- Construct frequency tables to summarize data distribution
- Develop histograms to visualize frequency distributions
- Generate scatter diagrams to show relationships between variables
- Construct box plots to display distribution and variability of data points

3. Descriptive Statistics

- Calculate and interpret measures of central tendency such as mean, median, and mode
- Calculate and interpret standard deviation as a measure of dispersion
- Calculate skewness and kurtosis to assess the shape of the data distribution
- Calculate correlation coefficients using Karl Pearson's and Spearman's Rank methods
- Perform normality tests to assess the distribution of data
- Conduct reliability analysis to assess the consistency and stability of data measurements

4. Methods of Curve Fitting

- Fit linear curves to data points to show trends and relationships
- Fit non-linear curves to data points to capture complex patterns
- Evaluate the goodness of fit for curve models to assess the accuracy of predictions

