

Data Analysis and Interpretation

Introduction

The purpose of the course is to provide researchers with a comprehensive set of tools and techniques to code, explore, analyze, and interpret data. Students will experience the features and functionality of SPSS (Statistical Package for the Social Sciences) and NVivo, as robust and comprehensive data analysis software. The students will learn how to handle different types of data formats and text-based documents such as emails, interviews, focus group transcripts, surveys, and multimedia files such as videos and audio recordings.

The course will develop competency in using a range of tools for cleaning and transforming raw data into a usable format. Students will be able to perform tasks like merging datasets, recoding variables, and creating new variables with ease. The students will be provided with hands-on practice regarding advanced statistical procedures and techniques that can help them gain valuable insights from their data. They will also be skilled in generating a range of visualization options such as charts, graphs, and plots to present their results in a visually appealing manner.

REQUIREMENTS:

- The course is offered to Researchers /MS/ MPhil/ PhD Scholars.

CURRICULUM:

Sr. No.	Contents
1	Data Entry in SPSS • Data Coding • Data Entry
2	Computation of Variables • Step by Step Process to Compute Variables
3	Reliability and Validity of the Instrument Factor Analysis Exploratory • Factor Analysis • Confirmatory Factor Analysis
4	Descriptive Statistics • Mean • Median • Mode • Standard Deviation • How to Create Charts and Graphs • (Application, Computation, Graphical Representation, and Interpretation)

Sr. No.	Contents
5	Inferential Data Analysis • One Sample T-Test • Independent Samples (Un-Paired) T-Test • Two Samples (Paired) T-Test • Cohen's d Effect Size for T-Test • One-Way ANOVA • Two-Way ANOVA • (Application, Computation, Graphical Representation, and Interpretation)
6	Correlation Analysis • Pearson correlation • Kendall rank correlation • Spearman correlation • Point-Biserial correlation • (Application, Computation, Graphical Representation, and Interpretation)
7	Regression Analysis • Linear Regression Analysis • Multiple Regression Analysis • (Application, Computation, Graphical Representation, and Interpretation)
8	Mediation Analysis • (Application, Computation, Graphical Representation, and Interpretation)

Sr. No.	Contents
9	Moderation Analysis • (Application, Computation, Graphical Representation, and Interpretation)
10	Structure Equation Modeling • (Application, Computation, Graphical Representation, and Interpretation)

Outcomes:

- Proficiency in efficiently managing and manipulating large datasets, demonstrating the ability to handle extensive data without sacrificing performance or accuracy.
- Competence in importing and organizing data from diverse sources, including Excel, surveys, interviews, and focus groups, streamlining data organization for analysis purposes.
- Mastery in conducting a spectrum of statistical analyses, encompassing descriptive statistics, correlation analysis, regression analysis, factor analysis, structural equation modeling, and more, to derive meaningful insights from the data.
- Capability to collaborate effectively by sharing datasets, analyses, and findings in real-time with colleagues or project collaborators, fostering seamless teamwork and knowledge exchange.
- Proficient use of data visualization techniques like bar charts, scatter plots, line graphs, histograms, etc., to explore, identify, and communicate patterns, trends, and relationships inherent within the data to facilitate comprehensive understanding

BENEFITS:

- Handle large datasets efficiently.
- To import and organize data from different sources such as Excel, surveys, interviews, or focus groups.
- Process thousands of variables and cases without compromising performance or accuracy.
- Perform various statistical analyses such as descriptive statistics, correlation analysis, regression analysis, factor analysis, structure equation modeling, etc.
- Share their datasets, analyses, and results with colleagues or project collaborators in real-time.
- Generate bar charts, scatter plots, line graphs, histograms, etc. to explore patterns, trends, and relationships within their data.

Skill-Wise Earnings:

Skill Level	Avg Monthly Salary
Junior	50k-70k
Mid-Level	70k-150k
Advanced	120k-300k
Freelancer	50k-300k

Affiliation & Collaboarations

