



Health Services Academy with Collaboration Digital Skills Academy

Course Title: Diploma in Survey Data Analytics and Visualization

About this Course:

In this course, students will learn about data management and data analytical skills using multiple software. This course is designed for professionals and researchers who are practically engaged in Survey data collection, data management, data visualization and report writing. The course is divided into four major modules and will cover four applications. After completing this course, the participants will be able to develop data entry file in three software including CPro application and mobile app CAPI and will have hands on experience of data cleaning techniques, tabulation and visualization. In this course the students will also learn new techniques of data visualization using dashboards in Excel and Power BI.

Skills Students will develop:

Data Management, Databases Development in **CPro, CAPI, SPSS & Excel**, Data Cleaning Methods, Data Visualization, Dashboard Development using **Excel & Power BI**

Course Duration: 6 Months - 24 Weeks (2 Day per Week – Saturday and Sunday)

Course Fee: 80,000

What students will learn in this course:

Module 1: Introduction to Data:

- Foundation of Data
- Introducing Data Analytics
- Data Analytical Thinking
- Asking effective questions

- Making data-driven decisions
- Making data-driven decisions
- Understanding of spreadsheet basics
- Understanding data types and structures
- Databases: Where data lives
- Organizing and protecting your data
- Data Processing and Data Collection
- Data Cleaning Process

Module 2: Data Base Development and Data Entry:

I. Database Development in Excel

- Overview of MS Excel File
- How to use Google Sheet
- Developing Data Entry File using Questioner

II. Database Development in SPSS

- SPSS Overview (Presentation)
- SPSS Installation
- Overview of the SPSS File (Inserting Variables & Cases, Save, Delete, Edit)
- Creating Data Entry File in SPSS
- Missing Data Handling in SPSS
- Understanding of Variables and Data Set
- Entering Survey Data

III. Database Development in CSPro

- Introduction to CSPro
- Overview of CSPro Database
- Creating Dictionary
- Creating Forms
- Logics and Coding
- Getting Database ready for Data Entry (Running File)
- Entering Data in CSPro
- Data Entry Files Merging
- Data validation/comparison
- Exporting Data to other software (SPSS, Excel)
- Creating CAPI Form (Mobile based Application)

Module 3: Statistical Analysis:

I. Formulas and Data Analysis using MS Excel

- Essential Excel Data Analysis Functions
- Concatenate, Len, Days, Networkdays, Sumifs(), Averageifs(), Countsifs(), Find/Search,
- Left/Right, Rank()

- Ranges and Tables
- Data Cleaning – Text Functions, Dates and Times
- Conditional Formatting
- Sorting and Filtering
- Subtotals with Ranges
- PivotTables
- Data Validation
- Simple Linear Regression Model in Microsoft Excel

II. Statistical Formulas & Tests in SPSS

- Descriptive and Inferential Statistics
- Mean, Median, Mode
- Standard Deviation, Standard Error etc.
- Confidence Interval (Lower and Upper values)
- Frequency Analysis, Descriptive Statistics
- Identifying Duplicate Cases
- Compare Data Sets
- Transpose Data
- Aggregate Function
- Select Cases (Filters)
- Weight Cases
- Merge Files (Cases and Variables)
- Compute Variables (Adding, Subtraction etc.)
- Re-coding Variables
- Custom Tables
- Import and Export of Data (Data File & Output Tables)
- Correlation
- Regression Analysis
- Testing the Null Hypothesis with ANOVA
- Chi-square test
- One-Sample and Independent-Samples T Tests

Module 4: Data Visualization:

I. Data Visualization using MS Excel

- Simple graphs i.e, Bar Chart, Pie chart, Histogram chart, Scatter Diagram
- Developing Dashboard in Excel using Pivot Table

II. Data Visualization using SPSS

- Bar Chart, Pie chart, Histogram chart, Scatter Diagram, Boxplot etc.
- Graph/ Chart Formatting

III. Dashboards Development using MS Power BI

- Introduction Power BI Data Analytics: Microsoft Power BI

- Graphs & Charts in Power BI Desktop
- Power BI Desktop Models
- Relational Power using Power BI Desktop
- Power BI Desktop Dashboard Overview
- Discovering and Loading Power BI Desktop
- Dealing with Different Datasets in Power BI Desktop
- Power BI Data Queries
- Data Transformations using Power BI Desktop
- Conditional Data Transformations using Power BI Desktop
- Data Mashup using Power BI Desktop
- Creating Data using Power BI Desktop
- Conditional Formatting in Power BI Desktop
- Developing Cards using Power BI Desktop
- Power BI using Geographical Maps
- Exporting Dashboards from Power BI Desktop

Course Project

- Students will be required to submit short complete Project with Database Development, solving Data Cleaning issues, Tabulation and developing Dashboards.