Parkland College
Arba Minch
Short Term Trainings Programs

Data Analysis and Interpretation using STATA

About the Course
Learn the fundamentals of statistical data analysis and interpretation using STATA.

The Data Analysis and Interpretation using STATA course takes you from absolute beginner level of both STATA and statistical methods, to fairly advanced topics such as Analysis of Variance and regression. The course leans heavily on using the extremely flexible STATA command language, apart from utilizing the graphical user interface in few cases.

Target Participants
The Data Analysis and Interpretation using STATA course is designed for participants who intend to learn the use of Stata for data management and data analysis. Those working in the corporate world, public sector, research institution and NGOs.

Course Duration
- 10 Days at 8 hours a day

What you will learn
By the end of this course, the participants will be able to:
- How to create variables and enter data, data importing, and data preparation
- Best practices of using STATA such us using do-files, and logging
- Summarizing data using descriptive statistics
- Exploring relationships between different types of variables
- Choosing appropriate charts and developing them
- Transforming variables and managing the data to suit your analyses
- Choosing the appropriate inferential tests such as chi-square, t-tests and regression and running them
- How to interpret all the statistics presented in the course and presenting them using the APA format

Course Outline
1. **Introduction and getting started**
   1.1.What is STATA
   1.2.STATA interface
   1.3.Understanding STATA commands
   1.4.Using STATA help
2. **Statistics basics**

2.1.Understanding data
2.2.Understanding variables
2.3.Measurement levels – the key to choosing analyses
2.4.Branches of statistics

3. Getting data into STATA

3.1.Creating variables
3.2.Entering data
3.3.Importing data from an Excel file
3.4.Changing variable properties
3.5.Changing variable properties II – value labels and notes
3.6.Importing data from SPSS

4. Best practices working with STATA

4.1.Creating and using a do-file
4.2.Creating and using logs
4.3.Exploring the data set and variables

5. Exploring data using descriptive statistics

5.1.Frequencies
5.2.Interpreting and reporting frequencies
5.3.Summary statistics
5.4.Summary statistics II
5.5.Interpreting and reporting summary statistics

6. Exploring relationships between variables

6.1.Introduction to variable relationships
6.2.Mean comparisons – Relationship between categorical and continuous variables
6.3.Interpreting and reporting mean comparisons
6.4.Crosstabulation – relationships between 2 categorical variables
6.5.Interpreting and reporting crosstabulations
6.6.Correlation – relationship between 2 continuous variables
6.7.Interpreting and reporting correlations

7. Charts

7.1.Introduction to charts in STATA
7.2.Univariate bar chart
7.3.Pie chart
7.4.Histogram
7.5.Line chart
7.6.Multivariate bar chart
7.7.Scatter plot
7.8.Combo charts
7.9.Customizing charts

8. Transforming variables and managing data

8.1.Sorting data
8.2.Recoding
8.3.Computing variables
8.4.Filtering using IF

8.5.Filtering using IN
8.6.Disaggregating using BY
8.7.Merging data sets

9. Getting started with inferential statistics and hypothesis testing

9.1.Fundamentals of inferential statistics and hypothesis testing
9.2.Running, interpreting, and reporting correlations

10. Inferential statistics: mean comparisons

10.1. Mean differences – One sample t-test
10.2. Interpreting and reporting one sample t-test
10.3. Mean differences – Paired samples t-test
10.4. Interpreting and reporting paired samples t-test
10.5. Mean differences – Independent samples t-test
10.6. Interpreting independent samples t-test
10.7. Mean differences – one Way ANOVA
10.8. Interpreting One Way ANOVA
10.9. Reporting One Way ANOVA

11. Inferential statistics - linear regressions

11.1. Introduction to linear regression
11.2. Running a linear regression
11.3. Running a multiple linear regression
11.4. Interpreting multiple linear regression
11.5. Reporting regressions

12. Inferential statistics - nonparametric tests

12.1. Chi square of independence
12.2. Interpreting and reporting chi-square

Prerequisites

Familiarity with basic statistical knowledge is ideal. No prior working knowledge of Stata software is required for this course.

Training Approach

This Data Analysis and Interpretation using STATA course is delivered by our seasoned trainers who have vast experience as expert professionals in data analysis with Stata. The course is taught through a mix of practical activities, theory, group works and case studies. Training manuals and additional reference materials are provided to the participants.

Certification

Upon successful completion of this course, participants will be issued with a certificate.

Tailor-Made Course

We can also do this as a tailor-made course to meet organization-wide needs. A training needs assessment will be done on the training participants to collect data on the existing skills, knowledge gaps, training expectations, and tailor-made needs.