**Parkland College**

**Arba Minch**

**Short Term Trainings Programs**

**Research Design, Data Management and Statistical Analysis using SPSS**

**About the Course**

Upon completion of this SPSS short course on research design, data management and statistical Analysis , the participants will develop competence in quantitative techniques through hands-on practices in study design, data collection, and management, as well as the analysis and interpretation of data.

**Target Participants**

This SPSS short course is designed for participants who intend to learn how to plan, implement effective research studies including data management analysis. Those who are working in the private sector, government institutions, research institutions and NGOs.

**Course Duration**

* 21 Days at 8 hours a day

**What you will learn**

By the end of this course the participants will be able to:

* Understand and appropriately use statistical terms and concepts
* Design and Implement universally acceptable research
* Develop of functional research protocol
* Design both quantitative and qualitative data collection tools
* Perform data analysis tasks with SPSS
* Perform simple to complex data management tasks using software
* Statistical tests using SPSS software
* Writing reports from survey data

**Course Outline**

1. Introduction to research
2. Introduction to research
3. Different types of research
4. Formulation of research problem statement
5. Formulation of research hypothesis
6. Overview of Evaluation
	1. Evaluation Objectives
	2. Evaluation Criteria
	3. Evaluation Questions
7. Research Design
	1. Quantitative Research Approaches
	2. Qualitative Research Approaches
8. Sampling
	1. Sampling Techniques
	2. Probability
	3. Non-probability
	4. Sample size determination
9. Data Collection Methods in Research
	1. Quantitative data collection methods
	2. Qualitative data collection
	3. Creating an evaluation framework
10. Data Collection tools in Research
	1. Survey Questionnaire design
	2. FGD guide design
	3. KII guide design
11. Developing Research Protocol
	1. What is a research protocol?
	2. Basic concepts of a research protocol
	3. Structure of a research protocol
12. Mobile Data Collection and Processing (ODK)
	1. Introduction to mobile data gathering
	2. Design of survey forms using ODK build and XLSForm
	3. Use ODK collect to gather data
	4. Use ODK aggregate to upload data to the server
	5. Work with spatial data (GPS coordinates)
13. Introduction to SPSS statistical software
	1. SPSS interface and features
	2. Key terminologies used in SPSS
	3. Views: Variable, Data views, Syntax editor
	4. Data file preparation
	5. Data entry into SPSS
	6. Data manipulation: merge files, spit files, sorting files, missing values
14. Basic Statistics using SPSS
	1. Descriptive statistics for numeric variables
	2. Frequency tables
	3. Distribution and relationship of variables
	4. Cross tabulations of categorical variables
	5. Stub and Banner Tables
15. Graphics using SPSS
	1. Introduction to graphs in SPSS
	2. Graph commands in SPSS
	3. Different types of Graphs in SPSS
16. Statistical Tests using SPSS
	1. One Sample T Test
	2. Independent Samples T Test
	3. Paired Samples T Test
	4. One-Way ANOVA
17. Statistical Associations in SPSS
	1. Chi-Square test
	2. Pearson’s Correlation
	3. Spearman’s Rank-Order Correlation
18. Predictive Models using SPSS
	1. Linear Regression
	2. Multiple Regression
	3. Logistic Regression
	4. Ordinal Regression
19. Longitudinal Analysis using SPSS
	1. Features of Longitudinal Data
	2. Exploring Longitudinal data
	3. Longitudinal analysis for continuous outcomes
20. Qualitative Data Analysis using NVivo
	1. Introduction to NVivo
	2. NVivo workspace
	3. Uploading qualitative data into NVivo
	4. Coding and making nodes
	5. Use of queries
	6. Project visualization
21. Survey Report writing and Dissemination
	1. Survey report format
	2. Survey report content
	3. Survey findings dissemination
	4. Use of survey findings for decision making

**Training Approach**

This SPSS short course is delivered by seasoned trainers who have vast experience as expert professionals interacting with SPSS software. 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.

**Prerequisites**

Basic statistical knowledge and prior working knowledge of SPSS software are required for this course.

**Tailor-Made Course**

We can also do this as 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.