Vantage Africa
School of Leadership

Introduction:
This is a 3 months **Certified Data Analysis & Visualization Professional Course** that aims at making you an expert in Data Analysis and Visualization. We will first meet physically for 3 days, then continue online for 3 months, meeting once a week for one and a half hours. For maximum learning, this course will be delivered through a combination of live and E-Learning sessions

Live Sessions
We will meet for 3 days (9am to 5pm) and learn everything that we need to in order to become Certified Data Analyst Professionals. This will be a practical training, and every participant will be guided through the process of Analyzing and Visualizing a dataset of their choice. The sessions will be highly interactive and lively.

E-Learning Sessions
Every participant will be registered on an E-learning Platform. Here, we have a host of prerecorded sessions, PPT notes, M&E toolkits, templates, samples, links etc all aimed at equipping participants with the most current Data Analysis skills. After each session, a self-assessment quiz is provided to reinforce learning. Once a participant completes a session including the quiz, the system opens the following session.

Course Completion
In order for you to be considered to have completed the course, you will need to fulfill the following criteria: 1. Attend the physical training (or join the class virtually) 2. Create Interactive dashboards and reports using Power BI and Tableau 3. Understand best practices for effective data analysis using SPSS, STATA and R 4. Complete 15 E-Learning lessons and pass 5 quizzes **5.** Clear the fees

A certificate will be issued upon completion of the course, which will make you eligible be a Data Analyst Professional

Day Time	Topic / Activity	Details
Day 1		
08:30 AM – 09:00AM	Registration & Welcome	Participant check-in and opening remarks
09:00AM – 10:30AM	Introduction to Data Analysis	Core concepts, importance in various fields, and real-world applications of data analysis
10:30AM – 10:45AM	Tea/Coffee Break	
10:45AM – 12:30PM	SPSS: Basics	Importing, cleaning, and organizing data, Coding Data in SPSS
12:30PM – 13:30PM	Lunch Break	
13:30PM – 15:30PM	SPSS: Practical Exercises	Hands-on practice with calculating descriptive statistics (mean, median, mode, standard deviation), creating various charts (bar, line, pie), and conducting basic statistical analysis
15:30PM – 15:45PM	Tea/Coffee Break	
15:45PM – 17:00PM	SPSS Output Interpretation	Understanding the generated output tables and charts, focusing on best practices for effectively reporting data findings.
17:00PM – 17:30PM	Q&A and Wrap-Up	Session for clarifications, discussion on the day's topics, and assignment of optional preparation for Day 2
Day 2		
08:30 AM – 09:00AM	Recap & Q&A	Review of Day 1 concepts and addressing participant questions.

09:00AM – 10:30AM	R: Introduction & Data Analysis	Overview of the R environment, using R for data cleaning, data manipulation (e.g., filtering, merging), and basic statistical analysis.
10:30AM – 10:45AM	Tea/Coffee Break	
10:45AM – 12:30PM	R: Practical Exercises	Hands-on exercises in advanced data transformation and performing common statistical modeling techniques.
12:30PM – 13:30PM	Lunch Break	
13:30PM – 15:30PM	Stata: Introduction & Analysis	Introduction to the Stata interface, importing data, essential data cleaning, and initial regression modeling.
15:30PM – 15:45PM	Tea/Coffee Break	
15:45PM – 17:00PM	Stata: Practical Exercises	Applied exercises focused on running various regression models, utilizing data models, and interpreting Stata output.
17:00PM – 17:30PM	Integrating SPSS, R & Stata	Discussion and demonstration of how to combine the strengths of all three tools for building reproducible workflows and following best practices in statistical projects.
Day 3		

08:30 AM – 09:00AM	Recap & Q&A	Review of Day 2 concepts, especially the R and Stata coding fundamentals.
09:00AM – 10:30AM	Tableau: Introduction	Connecting to various data sources, preparing and cleaning data within Tableau, and creating initial data visualizations.
10:30AM – 10:45AM	Tea/Coffee Break	
10:45AM – 12:30PM	Tableau: Practical Exercises	Building interactive dashboards and mastering techniques for effective data storytelling with visualizations.
12:30PM – 13:30PM	Lunch Break	
13:30PM – 15:30PM	Power BI: Introduction	Understanding the Power BI ecosystem, data modeling principles, and creating compelling visualizations and reports.
15:30PM – 15:45PM	Tea/Coffee Break	
15:45PM – 17:00PM	Power BI: Practical Exercises	Hands-on session on building dynamic and functional dashboards using Power BI features.
17:00PM – 17:30PM	Integrating All Tools	Capstone session demonstrating the full data pipeline: from raw data (analyzed in SPSS/R/Stata) to final visualization and actionable insights (in Tableau/Power BI)

17:00 – 17:30	Closing & Certification Guidance	Final remarks, course evaluation, certification details, and next steps for the optional 3-month online training.

Week	Topic (Zoom Link to be Provided)- Every Tuesday Evening, 1.5 hours
Week 1	**Introduction to Data Analysis & Tools Overview:** *Understand data analysis concepts, workflow, and toolset (SPSS,STATA, Power BI, Tableau, Fabric).*
Week 2	**Excel Basics for Data Analysis: R***eview essential Excel features — formulas, formatting, sorting, and filtering.*
Week 3	**Descriptive Statistics & Data Exploration:** *Summarize and explore data distributions.*
Week 4	**Inferential Statistics & Hypothesis Testing:** *Conduct t-tests, chi-square tests, and ANOVA.*
Week 5	**Regression Analysis & Correlation:** *Apply linear and logistic regression using R, Stata, and SPSS.*
Week 6	**Advanced Data Management Techniques:** *Connect data, model relationships, and build interactive dashboards.*
Week 7	**Power BI – Dashboard Design & Data Modeling:** *Connect data, model relationships, and build interactive dashboards.*
Week 8	**Tableau –** Advanced Visual AnalyticsExplore Tableau for storytelling and interactive dashboards.
Week 9	**Microsoft Fabric – Introduction & Architecture:** *Understand Microsoft Fabric environment and its role in analytics.*
Week 10	**Microsoft Fabric with Power BI Integration:** *Connect Fabric as a datasource to Power BI for real-time analytics.*
Week 11	**Predictive Analytics – Foundations:** Introduce predictive modeling concepts (regression, classification, etc.).
Week 12	**Machine Learning & Model Evaluation**: Build simple predictive models and assess their performance.