MAGNA SKILLS DEVELOPMENT INSTITUTE

Capacity Building • Professional Training • Organisational Development

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Course Profile Document

NGO Management and Policy Development

Data Analysis using R

Prepared as a professional course profile for delegate review, sponsorship approval and organisational training planning.

COURSE CODE	DELIVERY	DURATION	PREPARED FOR
MSDI	**Online / Face-to-Face**	**Flexible**	**Organisation Approval**

Register for this Course

View Online Course Page

Course Overview

This hands-on course, custom-designed by Magna Skills, equips professionals with the practical skills to perform data analysis using R—one of the most powerful open-source programming languages for statistical computing. Participants will learn to import, clean, manipulate, visualize, and analyze data, turning raw data into actionable insights. The course bridges the gap between theory and practice, focusing on real-world applications in research, policy-making, monitoring & evaluation, and reporting.

Whether you're in government, NGO, academia, or private sector, this course will enable you to confidently handle data-driven projects using R.

Course Outcomes

1. By the end of this course, participants will be able to:
    1. Understand the fundamentals of R programming for data analysis.
    2. Import, clean, and manipulate datasets efficiently using R packages like *dplyr* and *tidyr*.
    3. Perform exploratory data analysis (EDA) and generate insights using data visualization techniques with *ggplot2*.
    4.

Conduct statistical tests and basic predictive modeling with R.

5. Apply data analysis skills to real-world projects in sectors such as health, education, finance, or governance.

Course Outline / Curriculum

1. **Introduction to R and RStudio**
   - Installing R & RStudio
   - Navigating the RStudio interface
   - Writing and running R scripts
2. **Working with Data in R**
   - Importing CSV, Excel, and web-based data
   - Data types and structures
   - Data frames, lists, and vectors
3. **Data Cleaning and Manipulation**
   - Handling missing values
   - Filtering, selecting, and arranging data with `dplyr`
   - Merging and reshaping datasets with `tidyr`
4. **Data Visualization with ggplot2**
   - Creating bar charts, histograms, boxplots, and scatter plots
   - Customizing themes and labels
   - Creating dashboards and reports
5.

Descriptive Statistics

- Measures of central tendency and dispersion
- Frequency tables and cross-tabulations
- Summary statistics by group

6. **Inferential Statistics**
   - Hypothesis testing: t-tests, chi-square, ANOVA
   - Confidence intervals
   - Interpreting p-values and statistical significance
7. **Regression and Correlation Analysis**
   - Linear regression modeling
   - Correlation matrices
   - Residual analysis and model diagnostics
8. **Time Series and Forecasting (Optional Module)**
   - Time series decomposition
   - Forecasting with ARIMA
   - Visualization of trends and seasonality
9. **R Markdown and Reporting**
   - Creating dynamic reports
   - Exporting to PDF, HTML, and Word
   - Automating data analysis reports
10.

Capstone Project: Real-World Data Analysis

- Individual or group project using actual datasets
- Presentation of findings
- Feedback and course wrap-up

Course Format

- **Duration**: 1 or 2 Weeks (Intensive face-to-face or live online sessions)
- **Tools Needed**: Laptop with R & RStudio installed
- **Assessment**: Quizzes, Assignments, Capstone Project
- **Certificate**: Issued by Magna Skills upon successful completion

Target Audience

Key Course Benefits

Work-Ready Skills

Delegates leave with practical tools, templates and methods they can apply immediately at work.

Better Institutional Results

The programme supports stronger planning, reporting, compliance, accountability and service delivery.

Sponsor-Friendly

This document is designed to help supervisors, HR units and sponsors approve delegate participation quickly.

Professional Recognition

Delegates receive training documentation and a certificate of completion after successful participation.

Our Training Centres & Delivery Options

Magna Skills offers flexible delivery through face-to-face training centres across Africa and beyond, plus Online / E-Learning for delegates who prefer remote participation.

Southern Africa

Practical training destinations with strong travel access and delegate support.

- Pretoria, South Africa
- Vic Falls, Zimbabwe
- Livingstone, Zambia

East Africa

Popular regional centres for government, NGO and donor-funded project teams.

- Kigali, Rwanda
- Kampala, Uganda
- Nairobi,
- Zanzibar, Tanzania

West Africa & Islands

Strategic locations for regional networking and executive capacity building.

- Accra, Ghana
- Port Louis, Mauritius

International Executive Venue

Premium destination training for senior teams and international delegates.

- Dubai, United Arab Emirates

Online / E-Learning

Attend from anywhere through live online, blended or self-paced learning options.

- Online, E-Learning
- Remote Teams
- Flexib

Organisation-Based Training

Magna Skills can also arrange dedicated in-house training for ministries, NGOs and companies.

- Onsite
- Custom Dates
- Group Training

Ready to Nominate Delegates?

Use the links below to register, review the live course page or contact Magna Skills for organisation-based training support.

Register / Apply Online | **View Full Course Page**

About Magna Skills

Magna Skills Development Institute provides practical capacity building programmes for government departments, NGOs, public institutions, donor-funded projects and private sector professionals across Africa. Our training approach combines expert facilitation, real workplace case studies, practical tools, post-training support and professional documentation that helps organisations strengthen staff performance and service delivery.

Government Training | NGO Capacity Building | Corporate Workshops | Online Learning | Face-to-Face Training | Certifica

Approval & Authorisation Form

This section may be completed by the organisation, department, HR office, finance office or sponsor approving delegate participation. It can be attached to an internal memo, procurement request or training approval submission.

Organisation / Department	
Delegate Name(s)	
Approved Course	Data Analysis using R
Preferred Delivery Mode	☐ Online ☐ Face-to-Face ☐ Organisation-Based Training
Preferred Training Venue / Date	
Estimated Number of Delegates	
Budget / Vote Number	
Contact Person	
Email / Mobile	

Authorised Name _____ Signature / Stamp _____ Date _____