R for M&E Data Analysis Training Course

Professional Development Training Course Outline

Category	Monitoring and Evaluation	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

R for M&E Data Analysis Training Course is designed to empower Monitoring and Evaluation professionals with cutting-edge analytical skills using R programming, the fastest-growing tool for data-driven decision-making. Participants will gain hands-on experience in data management, statistical analysis, visualization, and reporting, equipping them to translate raw data into insightful, actionable evidence. This course integrates modern M&E practices, real-world datasets, and case studies from international development programs to ensure learners can apply knowledge immediately in their professional contexts.

Through this training, participants will develop expertise in predictive analytics, trend analysis, and program performance evaluation. The course emphasizes practical learning, problem-solving, and critical thinking, ensuring participants master both technical R skills and their application to real-world M&E challenges. By the end, learners will be capable of designing dashboards, automating reports, and conducting robust statistical analyses, enabling evidence-based policy decisions and enhancing the impact of monitoring initiatives.

Programme Curriculum

R for M&E Data Analysis Training Course

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Course Objectives

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

1. Use R programming for M&E data cleaning, transformation, and management.
2. Conduct descriptive and inferential statistical analyses in R.
3. Visualize complex datasets using ggplot2 and interactive dashboards.
4. Apply trend analysis and forecasting for program performance.
5. Automate report generation and reproducible research workflows.
6. Perform impact evaluation using regression and causal analysis.
7. Integrate data from multiple sources for comprehensive M&E reporting.
8. Develop data-driven insights for decision-making in monitoring frameworks.
9. Conduct program performance analytics using R packages.
10. Use time-series analysis for project monitoring.
11. Create interactive visualizations for stakeholder presentations.
12. Implement quality assurance and validation checks for M&E datasets.
13. Apply best practices for reproducible and ethical data analysis.

Target Audience

1. Monitoring & Evaluation Officers
2. Program Managers and Coordinators
3. Data Analysts in Development and Nonprofit Sectors
4. Policy Analysts and Government Evaluation Specialists
5. Research Assistants and Interns in M&E
6. NGO and International Organization Staff
7. Academic Researchers in Social and Development Studies
8. Any professional interested in **enhancing data analytics skills** for monitoring and evaluation

Course Modules

Module 1: Introduction to R for M&E

- Understanding RStudio and R environment setup
- Basic R syntax and operations
- Data types and structures
- Importing and exporting datasets
- Case Study: Setting up R for a national health survey dataset

Module 2: Data Cleaning and Preprocessing

- Handling missing data and outliers

- Data transformation techniques
- String manipulation and data formatting
- Merging and reshaping datasets
- Case Study: Cleaning household survey data for a nutrition program

Module 3: Descriptive Statistics

- Summarizing datasets
- Measures of central tendency and variability
- Frequency tables and cross-tabulations
- Exploratory data analysis
- Case Study: Descriptive analysis of school enrollment data

Module 4: Data Visualization with ggplot2

- Creating bar charts, line plots, and histograms
- Customizing visualizations for reports
- Using color and themes effectively
- Advanced plotting techniques
- Case Study: Visualizing vaccination coverage trends

Module 5: Advanced Data Visualization

- Interactive dashboards with Shiny
- Mapping with spatial data
- Visual storytelling for stakeholders
- Data dashboards for real-time monitoring
- Case Study: Real-time M&E dashboard for a water project

Module 6: Inferential Statistics

- Hypothesis testing and confidence intervals
- t-tests, ANOVA, and chi-square tests
- Correlation and covariance analysis
- Reporting statistical findings
- Case Study: Evaluating training program effectiveness

Module 7: Regression Analysis

- Simple and multiple linear regression
- Logistic regression for categorical outcomes
- Model diagnostics and interpretation
- Predictive analytics in M&E
- Case Study: Predicting student performance based on interventions

Module 8: Time-Series Analysis

- Trend detection and seasonal analysis
- Forecasting program indicators
- Visualization of temporal data
- Application in project monitoring
- Case Study: Monitoring monthly clinic visits over a year

Module 9: Impact Evaluation Techniques

- Difference-in-differences
- Propensity score matching
- Randomized control trial basics
- Causal inference for M&E
- Case Study: Evaluating a community development program

Module 10: Data Integration and Management

- Combining datasets from multiple sources
- Using APIs and web scraping
- Data version control with Git
- Ensuring data consistency and integrity
- Case Study: Integrating government and NGO datasets

Module 11: Automating Reports

- R Markdown and reproducible reports
- Automated dashboards and summaries
- Custom templates for stakeholders
- Streamlining M&E reporting workflows
- Case Study: Automated monthly monitoring reports for a donor-funded program

Module 12: Quality Assurance in M&E Data

- Validation techniques
- Detecting inconsistencies and anomalies
- Data audit trails
- Ensuring compliance with standards
- Case Study: QA process for survey-based evaluations

Module 13: Ethics and Best Practices in Data Analysis

- Data privacy and confidentiality
- Ethical data use in evaluation
- Reproducible research practices
- Compliance with international standards
- Case Study: Ethical considerations in evaluating vulnerable populations

Module 14: Predictive Analytics for Decision-Making

- Forecasting project outcomes
- Risk analysis and scenario planning
- Machine learning basics in R
- Data-driven decision-making frameworks
- Case Study: Predicting dropout rates in education programs

Module 15: Capstone Project & Real-World Application

- Designing a full M&E data analysis project
- From raw data to actionable insights

- Reporting and presentation for stakeholders
- Peer review and feedback
- Case Study: Comprehensive evaluation of a multi-sector program

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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