Datastat Research
Building Capacity in Training and Research

DATASTAT TRAINING IN

OFFICIAL COURSE PROSPECTUS

Center for Advanced Research & Professional Development

Nairobi Training Center • Global Virtual Academy • Corporate On-Site

ACCOUNTING AND FINANCE

Financial Risk Modelling and Quantitative Risk Measurement Training Course

Comprehensive Course Syllabus, Practical Modules & Upcoming Schedules

PROGRAM SPECIFICATIONS & HIGHLIGHTS

DURATION
10 Days Practical Hands-on

DELIVERY MODES
In-Person Class & Live Virtual

CERTIFICATION
Accredited Certificate of Completion

INTAKES / DATES
Multiple Cohort Schedules Included

PREPARED FOR:

Valued Participant

Email: training@datastatresearch.org | Issued: November 24, 2026

Academic & Professional Training Year: 2026

DATASTAT TRAINING INSTITUTE

P.O. Box 102802-00101, Nairobi, Kenya

Training Centers: Nairobi • Mombasa • Kigali • Dubai • Live Virtual Academy

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Financial Risk Modelling and Quantitative Risk Measurement Training Course

Accounting and Finance • 10 Days Intensive • Accredited Certification

Course Overview

Financial Risk Modelling and Quantitative Risk Measurement Training Course provides comprehensive knowledge and practical skills for identifying, analysing, quantifying, and managing financial risks in complex business environments.

Key Skills & Software Tools Covered

MS Word • MATLAB • RStudio • and Python (NumPy • SciPy • and Pandas)

Upcoming Training Schedules

Confirmed cohort intakes and venues. Both physical in-person classroom and live virtual online seats are available.

TRAINING DATES	LOCATION / VENUE	FORMAT / DURATION	INVESTMENT (FEE)
7 Dec 2026 – 18 Dec 2026	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
21 Dec 2026 – 1 Jan 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
4 Jan 2027 – 15 Jan 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
18 Jan 2027 – 29 Jan 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
1 Feb 2027 – 12 Feb 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
15 Feb 2027 – 26 Feb 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
1 Mar 2027 – 12 Mar 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
15 Mar 2027 – 26 Mar 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
29 Mar 2027 – 9 Apr 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
12 Apr 2027 – 23 Apr 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
26 Apr 2027 – 7 May 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
10 May 2027 – 21 May 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
24 May 2027 – 4 Jun 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
7 Jun 2027 – 18 Jun 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
21 Jun 2027 – 2 Jul 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
5 Jul 2027 – 16 Jul 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
19 Jul 2027 – 30 Jul 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
2 Aug 2027 – 13 Aug 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
16 Aug 2027 – 27 Aug 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
30 Aug 2027 – 10 Sep 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
13 Sep 2027 – 24 Sep 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
27 Sep 2027 – 8 Oct 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**

11 Oct 2027 – 22 Oct 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
25 Oct 2027 – 5 Nov 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
8 Nov 2027 – 19 Nov 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
22 Nov 2027 – 3 Dec 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**
6 Dec 2027 – 17 Dec 2027	Nairobi	Classroom / 10d	**$3,000 USD / KES 220,000**

* Corporate discounts and customized cohort scheduling are available for teams of 3 or more participants.

Course Curriculum & Modules

Financial Risk Modelling and Quantitative Risk Measurement Training Course

Introduction

Financial Risk Modelling and Quantitative Risk Measurement Training Course provides comprehensive knowledge and practical skills for identifying, analysing, quantifying, and managing financial risks in complex business environments. The course explores advanced financial risk modelling techniques, quantitative analytics, statistical methods, Value at Risk (VaR), Expected Shortfall (ES), stress testing, scenario analysis, Monte Carlo simulation, and predictive risk analytics. Participants will develop expertise in measuring market risk, credit risk, liquidity risk, and operational risk while applying data-driven approaches to strengthen financial stability, regulatory compliance, and enterprise risk management.

The training also examines emerging trends in financial risk analytics, artificial intelligence, machine learning, financial econometrics, and model validation. Through practical exercises and international case studies, participants will learn to develop reliable risk measurement frameworks, interpret quantitative risk indicators, evaluate financial exposures, and support strategic decision-making. The programme incorporates global regulatory standards, Basel frameworks, IFRS 9 principles, and advanced risk management practices to enhance institutional resilience, portfolio performance, and sustainable financial growth.

Course Objectives

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

- Understand advanced financial risk modelling principles and frameworks.
- Apply quantitative methods to financial risk measurement.
- Develop statistical models for market and credit risk analysis.
- Calculate Value at Risk and Expected Shortfall.
- Conduct Monte Carlo simulations and scenario analysis.
- Apply machine learning to financial risk prediction.
- Evaluate credit risk and probability of default.
- Analyse liquidity risk and financial stress indicators.
- Perform sensitivity analysis and stress testing.
- Understand Basel regulatory requirements and risk governance.
- Validate quantitative models and assess model risk.
- Apply financial econometrics and predictive analytics.
- Strengthen enterprise-wide financial risk management strategies.

Organizational Benefits

- Improved financial risk identification and measurement.
- Stronger enterprise risk management frameworks.
- Enhanced regulatory compliance and reporting.
- Reduced financial losses and unexpected exposures.
- Improved credit portfolio management.
- More accurate financial forecasting and stress testing.
- Stronger investment and capital allocation decisions.
- Enhanced data-driven strategic planning.
- Improved financial resilience and institutional stability.
- Increased stakeholder confidence and accountability.

Target Audiences

- Chief Financial Officers and Finance Directors.
- Risk Managers and Enterprise Risk Analysts.
- Banking and Financial Services Professionals.
- Investment and Portfolio Managers.
- Credit Risk Analysts and Officers.
- Financial Modellers and Quantitative Analysts.
- Internal Auditors and Compliance Officers.
- Economists, Actuaries and Financial Consultants.

Course Duration: 10 days

Course Modules

Module 1: Foundations of Financial Risk Modelling

- Financial risk concepts and classifications.
- Quantitative risk measurement frameworks.
- Financial risk modelling principles.
- Risk appetite and tolerance assessment.
- Model assumptions and limitations.
- Case Study: JPMorgan Chase and enterprise financial risk management.

Module 2: Statistical Methods for Risk Analysis

- Probability distributions and statistical inference.
- Descriptive and inferential statistics.
- Correlation and regression analysis.
- Time-series data analysis.
- Volatility estimation techniques.
- Case Study: Goldman Sachs and statistical financial modelling.

Module 3: Market Risk Measurement

- Interest rate and currency risks.
- Equity and commodity price exposures.
- Market volatility measurement.
- Sensitivity and duration analysis.
- Risk factor identification.
- Case Study: UBS and global market risk management.

Module 4: Value at Risk and Expected Shortfall

- Value at Risk methodologies.
- Historical simulation approaches.
- Parametric and variance-covariance models.
- Expected Shortfall calculations.
- Backtesting and model accuracy.
- Case Study: Basel market risk framework implementation.

Module 5: Credit Risk Modelling

- Probability of Default estimation.
- Loss Given Default measurement.
- Exposure at Default calculations.
- Credit scoring and rating models.
- IFRS 9 expected credit loss modelling.
- Case Study: HSBC credit risk assessment practices.

Module 6: Liquidity Risk Quantification

- Liquidity coverage measurement.
- Net Stable Funding Ratio analysis.
- Cash flow risk modelling.
- Funding concentration analysis.
- Liquidity stress testing.
- Case Study: Northern Rock and liquidity risk failures.

Module 7: Operational Risk Modelling

- Operational risk identification.
- Loss distribution approaches.
- Scenario-based operational risk analysis.
- Fraud and cyber risk quantification.
- Key Risk Indicators development.
- Case Study: Société Générale and operational trading losses.

Module 8: Monte Carlo Simulation Techniques

- Monte Carlo simulation principles.
- Random variable generation.
- Portfolio risk simulations.
- Statistical convergence assessment.
- Simulation-based forecasting.
- Case Study: Investment portfolio risk simulation at global asset managers.

Module 9: Financial Econometrics and Time-Series Modelling

- Financial time-series characteristics.
- ARCH and GARCH volatility models.
- Regression-based risk estimation.
- Forecasting financial market volatility.
- Model selection and diagnostics.
- Case Study: Black Monday and volatility modelling.

Module 10: Stress Testing and Scenario Analysis

- Financial stress testing frameworks.
- Macroeconomic scenario development.
- Reverse stress testing.
- Sensitivity and impact analysis.
- Capital adequacy under stress.
- Case Study: European Banking Authority stress testing exercises.

Module 11: Portfolio Risk and Diversification

- Portfolio variance and covariance.
- Systematic and unsystematic risks.
- Diversification measurement.
- Risk-adjusted performance indicators.
- Portfolio optimisation techniques.
- Case Study: BlackRock portfolio risk analytics.

Module 12: Artificial Intelligence and Machine Learning in Risk Modelling

- Predictive financial risk analytics.
- Machine learning algorithms.
- Credit default prediction.
- Anomaly and fraud detection.
- Model interpretability and explainable AI.

- Case Study: JPMorgan Chase AI-powered risk analytics.

Module 13: Basel Frameworks and Regulatory Risk Measurement

- Basel III capital requirements.
- Basel market risk standards.
- Regulatory capital modelling.
- Risk-weighted asset calculations.
- Model governance and compliance.
- Case Study: Global banking institutions implementing Basel III.

Module 14: Quantitative Model Validation and Model Risk

- Model validation methodologies.
- Independent model review.
- Backtesting and benchmarking.
- Model uncertainty assessment.
- Documentation and governance.
- Case Study: Federal Reserve supervisory model risk management practices.

Module 15: Integrated Financial Risk Management and Reporting

- Enterprise-wide risk integration.
- Quantitative risk dashboards.
- Risk reporting and communication.
- Financial risk appetite frameworks.
- Strategic risk-based decision-making.
- Case Study: Barclays and integrated financial risk governance.

Training Methodology

- Interactive presentations and expert-led discussions.
- Practical financial modelling exercises and simulations.
- Real-world quantitative risk measurement assignments.
- Group discussions and international case study analysis.
- Hands-on statistical analysis and financial data interpretation.
- Stress testing, scenario modelling and problem-solving exercises.
- Group presentations and knowledge-sharing sessions.
- Practical assessments and action planning.

Register as a group from 3 participants for a Discount

Send us an email: info@datastatresearch.org or call +254724527104

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 DATASTAT CONSULTANCY LTD account, as indicated in the invoice so as to enable us prepare better for you.

Certification & Learning Methodology

- Hands-on practical delivery with real-world datasets, case studies, and lab exercises.
- Post-training mentorship, access to class resources, and customized follow-up support.
- Participants who successfully complete the course receive an accredited Datastat Certificate of Completion.

How to Enroll & Reserve Your Seat

1. Online Registration: Visit https://datastatresearch.org/courses/financial-risk-modelling-and-quantitative-risk-measurement-training-course to register online.
2. Email Booking: Send participant details to training@datastatresearch.org for official invoice & reservation.
3. Support & Assistance: Inquire via phone +254 724 527 104 | +254 734 969 612.