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

Credit Risk Analytics and Predictive Modelling Training Course

Comprehensive Course Syllabus, Practical Modules & Upcoming Schedules

PROGRAM SPECIFICATIONS & HIGHLIGHTS

DURATION
5 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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www.datastatresearch.org

Credit Risk Analytics and Predictive Modelling Training Course

Accounting and Finance • 5 Days Intensive • Accredited Certification

Course Overview

Credit Risk Analytics and Predictive Modelling Training Course is designed to equip professionals with advanced knowledge and practical skills in credit risk assessment, financial data analytics, predictive modelling, and portfolio risk management.

Key Skills & Software Tools Covered

MS Word • SAS Risk Management • Python • and R

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)
30 Nov 2026 – 4 Dec 2026	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
7 Dec 2026 – 11 Dec 2026	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
14 Dec 2026 – 18 Dec 2026	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
21 Dec 2026 – 25 Dec 2026	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
28 Dec 2026 – 1 Jan 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
4 Jan 2027 – 8 Jan 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
11 Jan 2027 – 15 Jan 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
18 Jan 2027 – 22 Jan 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
25 Jan 2027 – 29 Jan 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
1 Feb 2027 – 5 Feb 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
8 Feb 2027 – 12 Feb 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
15 Feb 2027 – 19 Feb 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
22 Feb 2027 – 26 Feb 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
1 Mar 2027 – 5 Mar 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
8 Mar 2027 – 12 Mar 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
15 Mar 2027 – 19 Mar 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
22 Mar 2027 – 26 Mar 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
29 Mar 2027 – 2 Apr 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
5 Apr 2027 – 9 Apr 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
12 Apr 2027 – 16 Apr 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
19 Apr 2027 – 23 Apr 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
26 Apr 2027 – 30 Apr 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
3 May 2027 – 7 May 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**

10 May 2027 – 14 May 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
17 May 2027 – 21 May 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
24 May 2027 – 28 May 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
31 May 2027 – 4 Jun 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
7 Jun 2027 – 11 Jun 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
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2 Aug 2027 – 6 Aug 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
9 Aug 2027 – 13 Aug 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
16 Aug 2027 – 20 Aug 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
23 Aug 2027 – 27 Aug 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
30 Aug 2027 – 3 Sep 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
6 Sep 2027 – 10 Sep 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
13 Sep 2027 – 17 Sep 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
20 Sep 2027 – 24 Sep 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
27 Sep 2027 – 1 Oct 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
4 Oct 2027 – 8 Oct 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**
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20 Dec 2027 – 24 Dec 2027	Nairobi	Classroom / 5d	**$1,500 USD / KES 110,000**

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

Course Curriculum & Modules

Credit Risk Analytics and Predictive Modelling Training Course

Introduction

Credit Risk Analytics and Predictive Modelling Training Course is designed to equip professionals with advanced knowledge and practical skills in credit risk assessment, financial data analytics, predictive modelling, and portfolio risk management. As financial institutions increasingly adopt artificial intelligence, machine learning, big data analytics, and automated credit decisioning systems, the ability to interpret borrower information and predict credit defaults has become essential. This course explores modern credit risk measurement frameworks, probability of default (PD), loss given default (LGD), exposure at default (EAD), credit scoring models, statistical analysis, and predictive algorithms used to strengthen lending decisions and improve financial performance.

The training provides practical insights into developing, validating, and implementing predictive credit risk models using real-world financial datasets and internationally recognised risk management practices. Participants will explore machine learning applications, stress testing, credit portfolio optimisation, model governance, and regulatory compliance under Basel frameworks and International Financial Reporting Standard 9 (IFRS 9). Through global case studies, practical exercises, and data-driven simulations, participants will develop the competencies required to identify emerging credit risks, reduce non-performing loans, improve lending strategies, and support sustainable financial decision-making in an increasingly digital financial services environment.

Course Objectives

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

- Understand advanced credit risk analytics and predictive modelling frameworks.
- Apply statistical techniques to assess borrower creditworthiness.
- Develop probability of default (PD) prediction models.
- Evaluate loss given default (LGD) and exposure at default (EAD).
- Implement machine learning algorithms for credit risk forecasting.
- Analyse financial datasets using advanced data analytics techniques.
- Develop and optimise credit scoring models.
- Apply artificial intelligence in automated credit decision-making.
- Conduct credit portfolio analysis and risk segmentation.
- Implement IFRS 9 expected credit loss modelling.
- Perform credit risk stress testing and scenario analysis.
- Validate predictive models using performance metrics.
- Strengthen credit risk governance and regulatory compliance.

Organizational Benefits

- Reduced loan default rates through predictive risk identification.
- Improved credit approval and lending decisions.
- Enhanced portfolio quality and profitability.
- More accurate credit risk forecasting.
- Improved compliance with Basel and IFRS 9 requirements.
- Reduced operational costs through automated credit assessment.
- Stronger financial risk management frameworks.
- Better customer segmentation and lending strategies.
- Improved identification of emerging credit vulnerabilities.
- Enhanced data-driven institutional competitiveness.

Target Audiences

- Credit risk managers and analysts.
- Banking and financial services professionals.
- Risk management consultants.
- Financial analysts and investment professionals.
- Credit officers and loan portfolio managers.

- Data scientists and business intelligence analysts.
- Microfinance and digital lending professionals.
- Auditors, regulators, and compliance officers.

Course Duration: 10 days

Course Modules

Module 1: Fundamentals of Credit Risk Analytics

- Credit risk concepts and analytical frameworks.
- Types of credit risk and financial exposure.
- Credit risk identification and measurement.
- Data-driven credit risk management.
- Global case study: European banking sector credit risk practices.
- Emerging trends in predictive credit risk analytics.

Module 2: Credit Risk Data Management and Preparation

- Financial data collection and integration.
- Data cleaning and preprocessing techniques.
- Feature engineering and variable selection.
- Missing data and outlier management.
- Global case study: US consumer lending data preparation.
- Credit data quality and governance frameworks.

Module 3: Statistical Foundations of Credit Risk Modelling

- Descriptive and inferential statistics.
- Probability distributions and correlation analysis.
- Regression analysis for credit risk.
- Hypothesis testing and statistical significance.
- Global case study: UK retail banking credit analysis.
- Statistical interpretation of borrower behaviour.

Module 4: Probability of Default Modelling

- PD estimation methodologies.
- Logistic and probit regression models.
- Borrower default prediction techniques.
- Calibration and probability estimation.
- Global case study: European bank default prediction.
- PD model performance assessment.

Module 5: Loss Given Default and Exposure at Default

- LGD estimation methodologies.
- EAD measurement and forecasting.
- Recovery rate and collateral analysis.
- Credit conversion factor estimation.
- Global case study: US commercial banking recovery modelling.
- Integration of PD, LGD, and EAD.

Module 6: Advanced Credit Scoring Techniques

- Traditional and behavioural credit scoring.
- Scorecard development and optimisation.
- Risk segmentation and borrower classification.
- Credit scoring performance measurement.
- Global case study: South African consumer lending.
- Automated creditworthiness assessment.

Module 7: Machine Learning for Credit Risk Prediction

- Supervised and unsupervised learning.
- Decision trees and random forests.
- Gradient boosting and XGBoost applications.
- Support vector machines and neural networks.
- Global case study: Digital lending in China.
- Machine learning model interpretation.

Module 8: Artificial Intelligence and Predictive Analytics

- Artificial intelligence in credit assessment.
- Predictive analytics and forecasting techniques.
- Automated lending decision systems.
- Explainable artificial intelligence applications.
- Global case study: US fintech credit underwriting.
- Bias detection and responsible AI modelling.

Module 9: Credit Portfolio Risk Analytics

- Portfolio concentration risk assessment.
- Credit risk diversification strategies.
- Portfolio segmentation and optimisation.
- Migration matrices and transition probabilities.
- Global case study: European corporate credit portfolios.
- Portfolio performance monitoring.

Module 10: IFRS 9 Expected Credit Loss Modelling

- IFRS 9 impairment requirements.
- Expected credit loss estimation.
- Three-stage impairment classification.
- Forward-looking macroeconomic assumptions.
- Global case study: International bank IFRS 9 implementation.
- Scenario-weighted credit loss forecasting.

Module 11: Credit Risk Stress Testing and Scenario Analysis

- Credit stress testing methodologies.
- Macroeconomic sensitivity analysis.
- Scenario development and simulations.
- Recession and economic downturn modelling.
- Global case study: US Federal Reserve bank stress tests.
- Capital adequacy and resilience assessment.

Module 12: Model Validation and Performance Monitoring

- Predictive model validation frameworks.
- Accuracy, precision, recall, and F1-score.
- ROC curves and area under the curve (AUC).
- Model stability and back-testing.
- Global case study: UK banking model validation.
- Model recalibration and continuous monitoring.

Module 13: Credit Risk Technology and Analytics Tools

- Python for credit risk analytics.
- R programming for statistical modelling.
- SQL for financial data extraction.
- Power BI for credit risk dashboards.

- Global case study: Digital banking analytics in Singapore.
- Automated reporting and model deployment.

Module 14: Credit Risk Governance and Regulatory Compliance

- Basel credit risk regulatory frameworks.
- Model risk management and governance.
- Regulatory reporting and documentation.
- Data privacy and ethical AI considerations.
- Global case study: European Central Bank supervisory practices.
- Internal controls and audit requirements.

Module 15: Advanced Predictive Modelling and Capstone Project

- Developing integrated credit risk models.
- Predicting borrower default probabilities.
- Optimising model accuracy and reliability.
- Presenting predictive analytics findings.
- Global case study: Microfinance credit prediction in Kenya.
- Capstone simulation: Building an end-to-end credit risk predictive model.

Training Methodology

- Instructor-led presentations and interactive discussions.
- Practical credit risk modelling exercises using financial datasets.
- Hands-on Python, R, SQL, and Power BI applications.
- Group assignments and collaborative problem-solving sessions.
- International banking and fintech case study analysis.
- Predictive modelling simulations and capstone project presentations.
- Knowledge assessments, demonstrations, and practical evaluations.

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/credit-risk-analytics-and-predictive-modelling-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.