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

Actuarial Financial Modelling and Insurance Valuation 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

Tel: +254 724 527 104 | +254 734 969 612

Email: training@datastatresearch.org

www.datastatresearch.org

Actuarial Financial Modelling and Insurance Valuation Training Course

Accounting and Finance • 10 Days Intensive • Accredited Certification

Course Overview

Actuarial Financial Modelling and Insurance Valuation Training Course provides comprehensive professional training in actuarial science, financial risk modelling, insurance valuation, and quantitative financial analysis.

Key Skills & Software Tools Covered

MS Word • Microsoft Excel • Prophet (FIS) • and R (RStudio)

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

Actuarial Financial Modelling and Insurance Valuation Training Course

Introduction

Actuarial Financial Modelling and Insurance Valuation Training Course provides comprehensive professional training in actuarial science, financial risk modelling, insurance valuation, and quantitative financial analysis. The course equips participants with practical skills in developing actuarial models, estimating insurance liabilities, calculating insurance reserves, forecasting future cash flows, and evaluating financial risks using advanced statistical techniques. It explores emerging industry practices, including International Financial Reporting Standard 17 (IFRS 17), predictive analytics, stochastic modelling, artificial intelligence, and data-driven actuarial decision-making.

Participants will gain practical knowledge of life and non-life insurance valuation, mortality and morbidity modelling, premium pricing, solvency assessment, capital adequacy, and financial forecasting. Through international case studies and practical modelling exercises, the course strengthens participants' ability to support strategic financial planning, regulatory compliance, enterprise risk management, and sustainable insurance operations. It also examines global actuarial standards, insurance market developments, and modern financial modelling tools used by leading insurance companies.

Course Objectives

- Develop advanced actuarial financial modelling competencies.
- Apply statistical analysis and predictive modelling techniques.
- Understand IFRS 17 insurance contract valuation requirements.
- Calculate insurance reserves and technical provisions.
- Evaluate mortality, morbidity, and longevity risks.
- Develop accurate insurance pricing and premium models.
- Apply stochastic modelling to financial risk assessment.
- Conduct life and non-life insurance valuations.
- Strengthen financial forecasting and scenario analysis.
- Assess insurance solvency and capital adequacy.
- Apply sensitivity analysis and stress-testing methodologies.
- Utilize advanced actuarial software and data analytics.
- Improve strategic decision-making through actuarial insights.

Organizational Benefits

- Improved accuracy of insurance financial valuations.
- Stronger enterprise risk management frameworks.
- Enhanced regulatory and IFRS 17 compliance.
- More effective insurance pricing strategies.
- Improved capital allocation and solvency management.
- Reduced financial uncertainty and valuation errors.
- Better forecasting and financial planning.
- Enhanced operational efficiency through automation.
- Stronger investment and portfolio management decisions.
- Improved competitiveness in insurance markets.

Target Audiences

- Actuaries and actuarial analysts.
- Insurance financial analysts and accountants.
- Insurance risk managers.

- Chief financial officers and finance managers.
- Insurance valuation specialists.
- Investment and portfolio managers.
- Financial consultants and auditors.
- Insurance regulators and compliance professionals.

Course Duration: 10 days

Course Modules

Module 1: Foundations of Actuarial Financial Modelling

- Principles of actuarial science and financial modelling.
- Actuarial assumptions and model development.
- Financial mathematics and compound interest.
- Model validation and documentation.
- Global case study: UK insurance actuarial modelling practices.
- Applications of actuarial models in strategic planning.

Module 2: Statistical Analysis and Probability Modelling

- Probability distributions and statistical inference.
- Regression and correlation analysis.
- Frequency and severity modelling.
- Bayesian analysis and predictive statistics.
- Global case study: US insurance claims prediction.
- Practical statistical modelling exercises.

Module 3: Life Insurance Valuation

- Life insurance product structures and valuation.
- Mortality and survival probability tables.
- Present value of future policy benefits.
- Life insurance liability calculations.
- Global case study: Canadian life insurance valuation.
- Policyholder behaviour and lapse assumptions.

Module 4: Non-Life Insurance Valuation

- General insurance valuation principles.
- Claims frequency and severity estimation.
- Outstanding claims reserve calculations.
- Loss development and incurred claims analysis.
- Global case study: Australian motor insurance claims.
- Catastrophe risk and claims modelling.

Module 5: IFRS 17 Insurance Contract Valuation

- IFRS 17 principles and implementation.
- Contractual service margin calculations.
- Risk adjustment and fulfilment cash flows.
- Measurement models and reporting requirements.
- Global case study: European insurers implementing IFRS 17.
- Financial statement preparation and disclosure.

Module 6: Insurance Premium Pricing and Product Modelling

- Risk-based insurance pricing methodologies.
- Premium calculations and profitability analysis.
- Expense loading and underwriting assumptions.
- Experience rating and pricing optimisation.

- Global case study: US health insurance pricing.
- Product profitability and sensitivity analysis.

Module 7: Stochastic Financial Modelling

- Introduction to stochastic processes.
- Monte Carlo simulation techniques.
- Random variables and probability distributions.
- Scenario generation and simulation analysis.
- Global case study: Swiss insurance market risk modelling.
- Practical stochastic valuation exercises.

Module 8: Insurance Reserves and Technical Provisions

- Principles of actuarial reserving.
- Claims reserves and premium provisions.
- IBNR and outstanding claims estimation.
- Reserve adequacy and liability assessment.
- Global case study: Lloyd's of London reserving practices.
- Reserve uncertainty and validation techniques.

Module 9: Mortality, Morbidity and Longevity Modelling

- Mortality and morbidity assumptions.
- Life expectancy and longevity projections.
- Mortality improvement modelling.
- Demographic and epidemiological risk analysis.
- Global case study: Japanese longevity risk assessment.
- Implications for pension and life insurance liabilities.

Module 10: Financial Risk Management and Solvency Assessment

- Insurance financial risk identification.
- Solvency capital requirements.
- Asset-liability management.
- Stress testing and scenario analysis.
- Global case study: Solvency II in European insurance.
- Capital adequacy and regulatory reporting.

Module 11: Investment Modelling and Asset-Liability Management

- Investment portfolio valuation.
- Discount rate selection and yield curves.
- Duration and convexity analysis.
- Asset-liability matching strategies.
- Global case study: Canadian pension and insurance funds.
- Investment risk and return optimisation.

Module 12: Advanced Financial Forecasting and Sensitivity Analysis

- Long-term financial projections.
- Cash flow forecasting techniques.
- Sensitivity and break-even analysis.
- Financial scenario planning.
- Global case study: South African insurance forecasting.
- Model uncertainty and assumption testing.

Module 13: Actuarial Software and Data Analytics

- Excel-based actuarial financial modelling.
- Introduction to R and Python for actuarial analysis.

- Data preparation and statistical automation.
- Predictive analytics and visualisation.
- Global case study: AI-driven insurance analytics in the US.
- Model governance and reproducibility.

Module 14: Reinsurance Valuation and Risk Transfer

- Reinsurance structures and principles.
- Treaty and facultative reinsurance valuation.
- Reinsurance pricing and cash flow modelling.
- Counterparty and credit risk assessment.
- Global case study: Swiss Re catastrophe risk transfer.
- Reinsurance effectiveness and capital relief.

Module 15: Integrated Actuarial Modelling and Practical Applications

- Developing integrated actuarial financial models.
- Combining valuation, pricing, and risk assessment.
- Model validation and performance evaluation.
- Regulatory reporting and management presentations.
- Global case study: Integrated insurance valuation in the UK.
- Final actuarial modelling simulation and presentation.

Training Methodology

- Expert-led presentations and interactive discussions.
- Practical actuarial financial modelling exercises.
- International insurance valuation case studies.
- Group assignments and technical problem-solving.
- Hands-on Excel, R, and Python applications.
- Simulation, scenario analysis, and model validation.
- Group presentations and professional knowledge assessments.

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/actuarial-financial-modelling-and-insurance-valuation-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.