Financial Mathematics and Quantitative Analysis Training Course

1 – 5 February 2027
Addis Ababa

AGILE LEADERS
Training Center

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Ref: 418_223636 **Date:** 1 – 5 February 2027 **Location:** Addis Ababa **Fees:** 4500 Euro

Overview

Financial Mathematics and Quantitative Analysis Training Course is a one-week foundation course for finance, investment-support, risk, and treasury professionals who leave with a Quantitative Finance Analysis Workbook. The course connects mathematical relationships, rates of change, time value of money, descriptive statistics, probability, distributions, sampling, estimation, correlation, regression, scenario calculations, and communication of quantitative evidence. Agile Leaders Training Center delivers this course on financial mathematics and quantitative analysis.

Who Should Attend

- Finance functions responsible for calculations, comparisons, forecasts, and decision support
- Investment-support functions responsible for return, risk, valuation, and data analysis
- Risk functions responsible for probability, distributions, scenarios, and evidence summaries
- Treasury functions responsible for cash-flow timing, rates, funding, and exposure analysis
- Planning functions responsible for assumptions, estimates, sensitivities, and management reports
- Professionals who need a structured quantitative foundation before advanced financial modelling

The course assumes participants can use a spreadsheet and basic arithmetic and leaves out advanced calculus, stochastic processes, programming, derivative pricing, and professional examination preparation.

Departments and Industries

The course supports quantitative financial analysis across corporate, financial, service, and institutional settings.

- Finance, treasury, risk, investment, and planning departments
- Banking, insurance, asset-management, and professional-services organizations
- Manufacturing, energy, engineering, and logistics organizations
- Technology, telecommunications, retail, and hospitality organizations
- Healthcare, education, nonprofit, and public institutions
- Shared-services, analytics, and management-reporting teams

Learning Objectives

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

- Apply algebraic functions and rates of change to financial relationships
- Use time-value calculations to compare cash flows and returns
- Analyze financial data with descriptive statistics and visual summaries
- Evaluate probability distributions, expected values, and risk measures
- Use sampling, estimation, correlation, and regression for evidence-based analysis
- Build and communicate scenario calculations with documented assumptions

Course Agenda

Day 1: Mathematical Relationships for Finance

- Financial Variable and Equation Map
- Ratio, Percentage and Index Calculation Sheet
- Linear and Nonlinear Function Comparison
- Rate-of-Change and Sensitivity Table
- Quantitative Assumption and Unit Checklist

Day 2: Time Value and Return Calculations

- Simple and Compound Growth Model
- Present and Future Value Calculation
- Annuity and Uneven Cash-Flow Schedule
- Net Present Value Decision Table
- Holding-Period and Annualized Return Analysis

Day 3: Statistics and Probability

- Data Classification and Quality Screen
- Central Tendency and Dispersion Summary
- Financial Data Visualization Selection
- Probability Rule and Decision Tree
- Expected Value and Distribution Profile

Day 4: Estimation and Relationships

- Sampling Method and Bias Checklist
- Point Estimate and Confidence Range
- Hypothesis Evidence Interpretation
- Correlation Matrix and Limitation Review
- Simple Regression Output Diagnostic

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Day 5: Quantitative Finance Practice

- Suggested Exercise: Financial Relationship and Sensitivity Analysis
- Suggested Exercise: Time-Value and Return Comparison
- Suggested Exercise: Probability and Distribution Assessment
- Suggested Exercise: Estimation and Regression Evidence Review
- Capstone Exercise: Quantitative Finance Analysis Workbook

Practical Exercises

The course uses suggested activities to connect calculations, data, uncertainty, relationships, and financial decisions.

- Suggested activity: translate a finance question into variables, equations, units, assumptions, and sensitivity ranges.
- Suggested activity: compare cash-flow alternatives using time-value and return calculations.
- Suggested activity: summarize a financial dataset and evaluate probability, distribution, sampling, and estimation evidence.
- Suggested activity: interpret correlation and regression outputs and communicate scenarios, limitations, and decision implications.

FAQs

Who suits financial mathematics and quantitative analysis training, and what does it assume?

Financial mathematics and quantitative analysis training suits professionals who use spreadsheet calculations and need a structured foundation in financial relationships, statistics, probability, estimation, and regression.

How does foundation quantitative analysis differ from quantitative finance modelling?

Foundation quantitative analysis develops core calculations and interpretation skills, while quantitative finance modelling may require calculus, programming, stochastic processes, optimization, simulation, and specialized pricing methods.

Why does time value of money matter in financial analysis?

Time value of money makes cash flows occurring at different times comparable through growth, discounting, present value, future value, and return calculations.

What is the difference between correlation and regression in financial analysis?

Correlation summarizes the direction and strength of association between variables, while regression estimates a specified relationship and supports prediction or explanation subject to assumptions and limitations.

How should quantitative financial evidence be communicated?

Quantitative financial evidence should state the question, data, units, assumptions, method, result, sensitivity, uncertainty, limitations, and decision implication in language suited to the audience.

Conclusion

Participants leave with a Quantitative Finance Analysis Workbook containing equations, cash-flow calculations, data summaries, probability profiles, estimates, correlations, regressions, and scenarios. The workbook changes isolated calculations into a traceable analytical process. It supports consistent methods, visible assumptions, cautious interpretation, and clearer communication of financial evidence.