KOENIG SOLUTIONS · COURSE OUTLINE

FRM: Value-at-Risk, Monte Carlo & Black-Scholes

Learn to apply risk governance, quantitative methods and valuation models including Value-at-Risk, Monte Carlo and Black-Scholes-Merton.

4
MODULES

22
TOPICS

COURSE OVERVIEW

This course covers the foundations of risk management, including corporate risk governance, efficient portfolio construction, asset pricing models, enterprise risk frameworks and the GARP Code of Conduct. It then addresses quantitative analysis techniques such as Monte Carlo methods, volatility forecasting and Value-at-Risk estimation, followed by the financial markets and products that these methods are applied to, including futures, options, swaps, commodities, currencies and bonds. The final part covers valuation and risk models, including bond valuation, binomial trees, the Black-Scholes-Merton model, Value-at-Risk, loss estimation and stress testing.

WHO THIS COURSE IS FOR

- **Risk Managers**
- **Quantitative Analysts**
- **Portfolio Managers**
- **Financial Risk Professionals**
- **Derivatives Traders**

LEARNING OBJECTIVES

- Explain corporate risk governance and the risk-return trade-off
- Construct efficient portfolios using fundamental asset pricing models
- Describe enterprise risk management frameworks and data quality management
- Apply the GARP Code of Conduct to professional situations
- Apply Monte Carlo methods and volatility forecasting models
- Estimate Value-at-Risk using quantitative techniques
- Compare futures, forwards, options, swaps and other derivatives
- Evaluate bond valuation, binomial trees and the Black-Scholes-Merton model

COURSE SYLLABUS

4 Modules, 22 Topics

01

Foundations of Risk Management

This area focuses on a candidate's knowledge of foundational concepts of risk management and how risk management can add value to an organization and includes:

TOPICS

- An understanding of corporate risk governance and the trade-off between risk and return
- The construction of efficient portfolios
- Fundamental asset pricing models
- Enterprise risk management frameworks
- Data quality management
- A review of major financial disasters
- To emphasize the importance of ethics as a fundamental requirement for sound risk management, applications of the GARP Code of Conduct to professional situations are covered in this section as well

02

Quantitative Analysis

This area tests a candidate's knowledge of basic probability and statistics, regression and time series analysis, and various quantitative techniques useful in risk management such as:

TOPICS

Monte Carlo methods · Volatility forecasting models · Value-at-Risk estimation

03

Financial Markets and Products

This area tests the candidate's knowledge of financial products and the markets in which they trade, including:

TOPICS

- Futures and forwards
- Equity options, swaps, and other derivatives
- Commodities
- Currencies
- Corporate bonds and interest rates
- A basic understanding of arbitrage arguments and hedging related to these financial products

04

Valuation and Risk Models

This area of FRM Pa will test a candidate's knowledge of valuation techniques and risk models. This includes:

TOPICS

- Basic bond valuation and bond hedging
- Valuation using binomial trees
- An understanding of the Black-Scholes-Merton model
- Value-at-Risk (VaR)
- Expected and unexpected loss estimation
- Stress testing

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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