

Course Structure:

FRM Pattern I

Concept	Weightage
Foundation of Risk Management	20 %
Quantitative analysis	20 %
Financial Markets and products	30 %
Valuation And risk models	30 %

FRM Pattern II

Concept	Weightage
Market Risk Management	20%
Credit Risk Management	20 %
Operational and Integrated Risk Management	20%
Liquidity and Treasury Risk measurement and Management	15%
Risk Management and Investment Management	15%
Current Issues in Financial Markets	10%

Curriculum

The curriculum of the FRM course demands a dedicated knowledge of risk management techniques, quantitative and qualitative skills that can help a professional to specialize in certain roles. However, the FRM certification helps to build certain skills among the other professionals who take up this course.

Topic Weight and detailed Curriculum:

Level 1:

1. Foundation of Risk Management (20%)

- Basic risk types, measurement, and management tools
- Creating value with risk management
- Risk governance and corporate governance
- Credit risk transfer mechanisms
- The Capital Asset Pricing Model (CAPM)
- Risk-adjusted performance measurement
- Multifactor models
- Data aggregation and risk reporting
- Financial disasters and risk management failures
- Ethics and the GARP Code of Conduct

2. Quantitative Analysis (20%)

- Discrete and continuous probability distributions
- Estimating the parameters of distributions
- Population and sample statistics
- Bayesian analysis
- Statistical inference and hypothesis testing
- Measures of correlation

- Linear regression with single and multiple regressors
 - Time series analysis and forecasting
 - Simulation methods
3. **Financial Markets and Products (30%)**
- Structures and functions of financial institutions
 - Structure and mechanics of over-the-counter (OTC) and exchange markets
 - Structure, mechanics, and valuation of forwards, futures, swaps, and options
 - Hedging with derivatives
 - Interest rates and measures of interest rate sensitivity
 - Foreign exchange risk
 - Corporate bonds
 - Mortgage-backed securities
4. **Valuation and Risk Model (30%)**
- Value-at-Risk (VaR)
 - Expected shortfall (ES)
 - Estimating volatility and correlation
 - Economic and regulatory capital
 - Stress testing and scenario analysis
 - Option valuation
 - Fixed income valuation
 - Hedging
 - Country and sovereign risk models and management
 - External and internal credit ratings
 - Expected and unexpected losses
 - Operational risk

Level 2:

1. Market Risk Measurement and Management (20%)
- Modeling dependence: correlations and copulas
 - Term structure models of interest rates
 - Volatility: smiles and term structures
 - Fundamental Review of the Trading Book
- VaR and other risk measures
 - a. Parametric and non-parametric methods of estimation
 - b. VaR mapping
 - c. Backtesting VaR
 - d. Expected shortfall (ES) and other coherent risk measures
 - e. Extreme Value Theory (EVT)
2. Credit Risk Measurement and Management (20%)
- Credit analysis
 - Default risk: quantitative methodologies
 - Expected and unexpected loss
 - Credit VaR

- Counterparty risk
 - Credit derivatives
 - Structured finance and securitization
3. Operational Risk and Resiliency (20%)
- Principles for sound operational risk management
 - Risk appetite frameworks and enterprise risk management (ERM)
 - Risk culture and conduct
 - Analysing and reporting operational loss data
 - Model risk and model validation
 - Risk-adjusted return on capital (RAROC)
 - Economic capital frameworks and capital planning
 - Stress testing banks
 - Third-party outsourcing risk
 - Risks related to money laundering and financing of terrorism
 - Regulation and the Basel Accords
 - Cyber risk and cyber resilience
 - Operational resilience

4. Liquidity & Treasury Risk Measurement and Management (15%)

- Liquidity risk principles and metrics
- Liquidity portfolio management
- Cash-flow modeling, liquidity stress testing, and reporting
- Contingency funding plan
- Funding models
- Funds transfer pricing
- Cross-currency funding
- Balance sheet management
- Asset liquidity

Risk Management and Investment Management (15%)

- Factor theory
- Portfolio construction
- Portfolio risk measures
- Risk budgeting
- Risk monitoring and performance measurement
- Portfolio-based performance analysis
- Hedge funds

Current issues in Financial Markets (10%)

- Blockchain
- Fintech revolution
- Artificial intelligence (AI), machine learning, and “big data”
- Climate change and financial risk
- Reference Rates