ADVANCED PROGRAMME IN DERIVATIVES, HEDGING STRATEGIES AND FINANCIAL ENGINEERING

Introduction

The Advanced Programme in Derivatives, Hedging Strategies and Financial Engineering is an intensive executive development programme designed for finance professionals seeking to master the sophisticated financial instruments and quantitative techniques used to manage risk, optimize investment performance, and create innovative financial solutions in today's increasingly complex global financial markets. Financial markets have become more interconnected, volatile, and technology-driven than ever before. Interest rate fluctuations, foreign exchange volatility, commodity price uncertainty, inflationary pressures, geopolitical developments, and changing regulatory requirements expose financial institutions and corporations to significant market risks. To remain competitive and resilient, organizations require professionals who can effectively identify, measure, hedge, and manage these risks using advanced derivative instruments and financial engineering techniques. This programme provides participants with a comprehensive understanding of the global derivatives markets, including futures, forwards, options, swaps, structured products, exchange-traded derivatives, and over-the-counter (OTC) instruments. Participants will learn how these instruments are designed, priced, traded, and utilized to hedge exposures, improve portfolio performance, manage liquidity, and support strategic financial decision-making.

Course Objectives

- Understand derivative markets and instruments.
- Price and value derivative securities.
- Design effective hedging strategies.
- Manage foreign exchange, interest rate and commodity risks.
- Apply financial engineering techniques.

- Evaluate derivative investment strategies.
- Structure innovative financial products.
- Conduct derivative risk analysis and stress testing.
- Understand global regulatory requirements.
- Apply derivatives within corporate finance.
- Integrate derivatives into enterprise risk management.
- Develop institutional derivative governance frameworks.

Course Modules

> Module 1: Fundamentals of Derivatives Markets

- Introduction to derivatives
- Evolution of derivative markets
- Types of derivatives
- Functions of derivatives
- Global exchanges
- OTC markets

> Module 2: Futures and Forward Contracts

- Contract specifications
- Pricing models
- Margin systems
- Hedging using futures
- Currency forwards
- Commodity forwards

> Module 3: Options and Option Strategies

- Call and put options
- Black-Scholes Model
- Binomial pricing
- Greeks
- Trading strategies
- Corporate applications

> Module 4: Swaps and Structured Products

- Interest rate swaps
- Currency swaps

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- Credit default swaps
- Equity swaps
- Structured notes
- Hybrid instruments

> Module 5: Derivative Valuation and Financial Modelling
- Pricing principles
- Time value of money
- Discounting
- Volatility modelling
- Value at Risk (VaR)
- Stress testing

> Module 6: Practical Hedging Strategies
- Foreign exchange hedging
- Commodity price hedging
- Interest rate hedging
- Credit risk hedging
- Dynamic hedging
- Corporate treasury applications

> Module 7: Corporate Risk Management
- Enterprise Risk Management
- Treasury Risk
- Balance sheet management
- Liquidity risk
- Capital structure management
- Financial resilience

> Module 8: Portfolio Management Using Derivatives
- Portfolio protection
- Tactical asset allocation
- Yield enhancement
- Pension fund applications
- Insurance applications
- Institutional investing

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> Module 9: Financial Engineering

- Structured finance
- Synthetic securities
- Securitization
- Mortgage-backed securities
- Asset-backed securities
- Product innovation

> Module 10: Emerging Trends and Future of Financial Engineering

- ESG-linked derivatives
- Green finance
- AI in trading
- Blockchain applications
- Cryptocurrency derivatives
- Future financial innovations

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