CONCEPT

Options Trading and Pricing: Greeks, Volatility Skew and Equity Strategies

4 – 8 April 2027
Jeddah - Corniche four-star



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Introduction:

Options trading and pricing decisions often go wrong because a desk or portfolio buys protection, sells premium or writes calls without knowing what the position gains or loses when the index gaps, volatility jumps or expiry approaches. This Core Concept course gives traders, portfolio managers, risk managers and treasury investment staff a working method for listed equity and index options: payoffs and parity, binomial and Black-Scholes valuation, the Greeks, implied volatility skew, multi-leg strategies, delta hedging and margin limits. Participants build an Options Strategy and Risk Report for a case equity portfolio. The material is educational and gives no investment advice.

Course Objectives:

- Draw expiry payoff and profit diagrams for long and short calls and puts and split any premium into intrinsic and time value
- Use put-call parity to build synthetic stock, synthetic calls and puts and flag conversion and reversal mispricing
- Value European and American equity options with a multi-step binomial tree and explain each Black-Scholes input and its effect on premium
- Read delta, gamma, vega, theta and rho for single options and multi-leg books and set position limits in Greek terms
- Interpret implied volatility skew, smile and term structure and select spreads, straddles, strangles, collars, covered calls or protective puts to match a market view
- Size a delta hedge, estimate gamma scalping profit and loss and design index put protection for an equity portfolio within margin and risk limits

Target Audience:

- Traders who make markets in or take positions in listed single-stock and index options
- Portfolio managers who overlay options on equity holdings to protect value or add premium income
- Market risk staff who monitor option books against Greek, stress and margin limits
- Treasury investment staff who hold listed shares or exchange-traded funds and weigh option protection for them
- Middle office staff who value option positions, reconcile premiums and explain daily profit and loss

Course Outline:

Day 1: Option Contracts, Payoffs and No-Arbitrage Relationships

- Listed Call and Put Contract Specifications: Strike Grid, Expiry Cycle, Multiplier and Exercise Style
- Expiry Payoff and Profit Diagrams for Long and Short Calls and Puts
- Moneyness Ladder: Intrinsic Value, Time Value and Premium Decomposition
- Put-Call Parity with Dividends: Synthetic Stock, Conversions and Reversals
- Early Exercise Logic for American Calls and Puts on Dividend-Paying Shares

Day 2: Valuation Models: Binomial Tree and Black-Scholes Intuition

- One-Step Replicating Portfolio and Risk-Neutral Probability
- Multi-Step Binomial Tree with Backward Induction for American Puts
- Black-Scholes Inputs: Spot, Strike, Time, Carry, Dividend Yield and Volatility
- Lognormal Price Assumption, Nd1 and Nd2 Read as Hedge Ratio and Exercise Probability
- Historical Versus Implied Volatility Estimation from Daily Closing Prices

Day 3: Option Greeks and Multi-Leg Strategy Construction

- Delta and Gamma Profiles Across Strikes and Days to Expiry
- Vega, Theta and Rho Trade-Offs in a Long Premium Versus Short Premium Book
- Vertical Bull and Bear Spreads with Debit and Credit Legs
- Long and Short Straddles, Strangles, Butterflies and Iron Condors
- Covered Call Overwriting, Protective Puts and Zero-Premium Equity Collars

Day 4: Volatility Surface, Dynamic Hedging, Exotics and Risk Limits

- Equity Index Skew, Smile and Implied Volatility Term Structure Around Earnings Dates
- Discrete Delta Hedging, Rebalancing Bands and Gamma Scalping Profit and Loss
- Index and Exchange-Traded Fund Options: Cash Settlement, European Exercise and Basket Hedging
- Barrier, Digital and Asian Options at Overview with Pin Risk and Gap Risk Cases
- Exchange Margin Methods, Greek Limit Sheets and Scenario Stress Grids for Option Books

Day 5: Portfolio Case: Options Strategy and Risk Report

- Case Portfolio Data Set: Equity Holdings, Index Beta and Option Chain Snapshot
- Index Put Protection Sizing and Collar Cost Comparison Spreadsheet Build
- Portfolio Greek Aggregation and Spot-Volatility Scenario Matrix
- Premium Income Overlay Test with Covered Calls Across Volatility Regimes
- Options Strategy and Risk Report Presentation and Risk Committee Challenge

Skills You Will Gain:

- Option Payoff Mapping
- Parity Arbitrage Detection
- Binomial Tree Valuation
- Greek Sensitivity Reading
- Volatility Skew Interpretation
- Multi-Leg Strategy Design
- Dynamic Delta Hedging
- Option Margin Estimation

Why Attend This Course:

- Leave with an Options Strategy and Risk Report for a case equity portfolio, tested across spot and volatility scenarios
- Check whether a quoted option premium is rich or cheap against the volatility surface before trading it
- Explain to a risk committee what an options overlay costs, what it protects and how its Greeks change near expiry
- Compare option practice with traders, portfolio managers and risk staff from banks, asset managers, insurers and corporate treasuries

Conclusion:

Options add value to an equity book only when their payoff, price, sensitivities and margin needs are understood before the order is placed. The one week move from contract terms, payoffs and put-call parity, through binomial and Black-Scholes valuation, to the Greeks and multi-leg strategies, then to the volatility surface, delta hedging, index options, exotic features and risk limits. The final day produces an Options Strategy and Risk Report for a case portfolio, ready for review by a risk committee.