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COURSE BROCHURE

Advanced Derivatives Pricing and Valuation Training Course

jupiterprime.uk

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

Advanced Derivatives Pricing and Valuation Training Course

Derivatives Pricing and Valuation is a 2-week training course for traders, risk managers and treasury dealers, ending with each participant drafting a Hedge Book Design for a real exposure. As rate, currency and commodity swings widen and counterparties demand tighter collateral, a mispriced hedge can turn protection into loss and strain liquidity overnight. Jupiter Prime Training delivers this course for experienced market practitioners.

Why Derivatives Pricing and Valuation Matters Now

Three forces shape derivatives desks today. Volatile interest rates, energy prices and currencies have raised the cost of getting a hedge wrong. Clearing houses and bilateral counterparties call margin daily, so the funding side of every trade now matters as much as its price. Auditors and boards expect evidence that each hedge offsets the exposure it was bought for. Desks that price and value well keep earnings steady and collateral predictable; those that do not face surprise losses and forced unwinds. The course rests on no-arbitrage pricing, risk-neutral valuation, sensitivity analysis and counterparty exposure simulation.

Who Gains Most from Derivatives Pricing and Valuation

- Dealers who quote and execute forwards, swaps and options for clients or the balance sheet
- Risk specialists who set sensitivity limits and explain daily profit and loss
- Treasury staff who hedge borrowing, currency and commodity exposure for an organisation
- Valuation officers who verify prices independently and calculate valuation reserves
- Collateral teams who manage margin calls, disputes and eligible assets

A markets or treasury desk gains most when its dealers and its independent risk staff attend together and leave pricing every hedge with the same curves and models.

Derivatives Pricing and Valuation Capabilities

The outcomes below move from the fair price of a single contract to the risk and funding of a whole hedge book.

- Calculate fair values for forwards, futures, swaps and options from market curves — dealing and pricing decisions
- Apply the Greeks to rebalance option positions and explain profit and loss — the head of trading
- Design hedging strategies with ratios suited to the exposure and budget — the treasurer and finance committee
- Test hedge effectiveness with offset and regression methods — auditors and the board
- Assess credit derivatives and valuation adjustments for counterparty exposure — credit risk officers

- Specify collateral terms and market risk limits — the risk committee

Key Derivatives Pricing and Valuation Terms

- Forward price — the price agreed today for delivery later, set by spot price, funding cost and carry.
- Interest rate swap — a contract exchanging fixed and floating interest payments on a notional amount for an agreed term.
- Implied volatility — the volatility that, entered into a pricing model, reproduces an option's market price.
- Delta — the change in an option's value for a small move in the underlying price.
- Credit valuation adjustment — the reduction in a derivative's value that reflects the chance the counterparty defaults.
- Hedge effectiveness — the degree to which changes in a hedge's value offset changes in the hedged exposure.

Derivatives Pricing and Valuation Day by Day

Day 1: Derivatives Markets and Their Users

- Exchange-Traded Versus Over-the-Counter Contracts — Liquidity and Counterparty Choices
- Hedgers, Arbitrageurs and Speculators — Motives Behind Each Trade
- Exposure Mapping for Rates, Currencies and Commodities — What Needs Hedging
- Master Agreements and Confirmations — Legal Terms of Each Contract
- Central Clearing Versus Bilateral Trades — Margin and Default Waterfall

Day 2: Forwards and Futures Pricing

- Cost-of-Carry Model — Fair Forward Price From Spot and Rates
- Currency Forwards and Interest Parity — Points and Rollover Decisions
- Commodity Futures Curves — Contango, Backwardation and Convenience Yield
- Basis Risk Measurement — Mismatch Between Hedge and Exposure
- Futures Margining and Daily Settlement — Funding Liquidity Needs

Day 3: Interest Rate and Currency Swaps

- Discount and Projection Curve Building — Multi-Curve Swap Pricing
- Plain Vanilla Interest Rate Swap Valuation — Mark-to-Market Over Life
- Cross-Currency Swaps — Basis Spread and Principal Exchange
- Swap Sensitivities — Delta per Basis Point and Bucketed Risk
- Asset Swaps and Overnight Index Swaps — Funding and Spread Views

Day 4: Option Pricing Models

- Put-Call Parity — No-Arbitrage Bounds on Option Prices
- Binomial Trees — Early Exercise and American Options
- Black-Scholes-Merton Model — Closed-Form Pricing and Its Assumptions
- Implied Volatility Surface — Smile, Skew and Term Structure
- Monte Carlo Simulation — Path-Dependent and Exotic Payoffs

Day 5: The Greeks and Dynamic Hedging

- Delta and Gamma — Rebalancing Frequency and Hedge Cost
- Vega and Volatility Exposure — Positioning Across Expiries
- Theta and Time Decay — Carry of an Option Book
- Delta-Gamma Neutral Portfolios — Combining Options and Underlyings
- Scenario Grids and Profit-Loss Explain — Attributing Daily Results

Day 6: Hedging Strategies in Practice

- Collars, Caps and Floors — Bounding Borrowing and Commodity Costs
- Participating Forwards and Seagulls — Cost Reduction Trade-Offs
- Rolling Hedge Ladders — Layering Cover Over Forecast Exposure
- Hedge Ratio Selection — Minimum Variance Versus Policy Ratio
- Hedge Effectiveness Testing — Ratio Offset and Regression Methods

Day 7: Credit Derivatives

- Credit Default Swaps — Premium Leg, Protection Leg and Triggers
- Hazard Rate Calibration — Default Probability From Spreads
- Index and Tranche Products — Correlation and Concentration Exposure
- Total Return Swaps — Synthetic Funding and Exposure Transfer
- Wrong-Way Risk Cases — When Exposure Rises With Default Odds

Day 8: Valuation Adjustments

- Credit Valuation Adjustment — Pricing Counterparty Default Into Trades
- Debit Valuation Adjustment — Own Credit in Fair Value
- Funding Valuation Adjustment — Cost of Uncollateralised Positions
- Expected Exposure Profiles — Simulation of Future Mark-to-Market
- Valuation Desk Sign-Off — Independent Price Verification and Reserves

Day 9: Collateral and Limits

- Credit Support Annex Terms — Thresholds, Minimum Transfer and Eligible Assets
- Initial and Variation Margin — Liquidity Buffers for Calls
- Collateral Disputes and Reconciliation — Resolving Valuation Differences
- Market Risk Limits — Sensitivity, Stop-Loss and Tenor Caps
- Counterparty Limits and Netting — Exposure Allocation by Name

Day 10: Practising the Hedge Book Design

- Airline Fuel Hedge Rehearsal — Applying Futures and Collars to Fuel Costs
- Corporate Borrowing Hedge Drill — Applying Swap Valuation to Floating Debt
- Option Book Stress Run — Applying the Greeks to Volatility Shocks
- Counterparty Charge Exercise — Applying Valuation Adjustments to Both Hedges
- Hedge Book Design — Instruments, Pricing, Limits and Effectiveness Tests

Applying Derivatives Pricing and Valuation After the Course

- Revalue the desk's five largest swap and option positions with a rebuilt curve and volatility surface, and reconcile any gap with the front-office price.
- Run a ratio offset and regression test on one live hedge relationship and present the result to the finance committee.

Derivatives Pricing and Valuation Questions FAQ

What is derivatives pricing and valuation and why does it matter now?

Derivatives pricing and valuation is the discipline of setting fair values for forwards, futures, swaps and options and measuring their risk. It matters now because volatile markets and daily margin calls make every pricing error visible in earnings and liquidity.

Which roles gain most from derivatives pricing and valuation training?

Traders, risk managers and treasury dealers gain most. Dealers sharpen pricing and hedging, risk staff strengthen limits and profit-loss explain, and treasury teams learn to choose and test hedges for borrowing, currency and commodity exposure.

How does a derivatives pricing and valuation course differ from a treasury risk or investment course?

A derivatives pricing and valuation course works at the level of the contract and the hedge book. A treasury risk course centres on funding and liquidity policy, and an investment course on portfolio allocation; this course goes deep into models, Greeks, adjustments and collateral.

What do you bring back from derivatives pricing and valuation training?

You bring back a designed hedge book with chosen instruments, pricing, limits and effectiveness tests. You also return with curve building, option pricing and valuation adjustment methods your desk can apply to its next trade.

Derivatives Pricing and Valuation: The Way Forward

The Hedge Book Design records which instruments hedge which exposure, how each is priced, the limits that apply and how effectiveness is tested. Its first use is the next hedging decision, where the treasurer and head of risk agree ratios and tenors. Revisit its collateral assumptions and valuation adjustments after the first margin cycle, when real calls show whether funding was sized correctly.