



MARKET RISK

LEARN

CONQUER

DISRUPT



ABOUT US

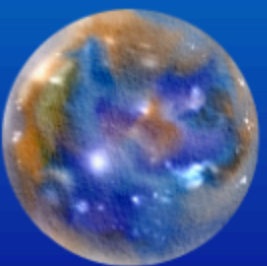
At SKKEWTOSIS, our purpose goes beyond merely challenging the existing norms; we are here to completely dismantle them.



Led by a team of trailblazers boasting formidable credentials from top academies and battle-tested experience in Market Risk, we are not just entering the industry - we are demolishing barriers and reshaping the entire landscape. We are dispelling the misconception that success in this field is exclusive to academics.

What we require from you is the hunger and attitude to learn, conquer, and thrive.

We firmly believe that mastery in this domain is not a privilege limited to a select few; it can be yours if you are daring enough to SEIZE IT!



OUR FACULTY

Our faculty consists of graduates from esteemed Tier-1 technical and management colleges, as well as professionals who have held significant roles in major multinational corporations, banks and consulting firms.



These faculty members also lead teams focusing on market risk development and validation, with a strong emphasis on the most intricate derivative products.

Their diverse experiences with various client bases have led to a deep understanding of compliance and regulatory frameworks in financial markets, especially within the US and UK economies.

Additionally, they possess current insights into market dynamics and expertise in trading derivative products among major banks and hedge funds.



WHO WE ARE

OUR VISION

To lead the global charge in Market Risk education, setting the gold standard in Financial Risk Management expertise



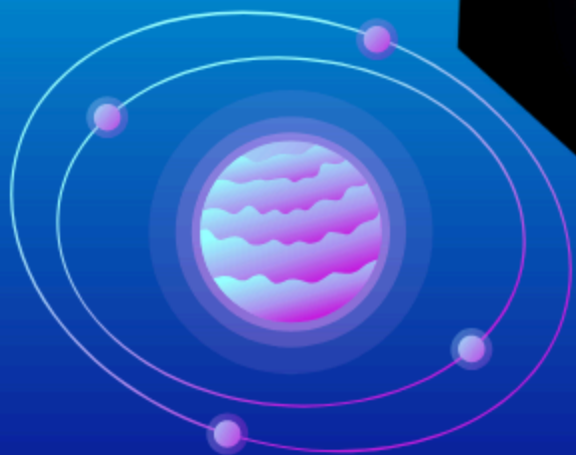
OUR MISSION

At SKKEWTOSIS, our commitment is to deliver inclusive and easily accessible education in various facets of Market Risk by harnessing the power of Microsoft Excel as an effective learning tool. We strive to cultivate a culture of excellence, providing individuals with the knowledge and skills essential to thrive in the ever-evolving financial landscape of today



OUR VALUE

Excellence is our baseline. We're committed to democratizing expertise, breaking down barriers and empowering individuals worldwide to master Market Risk, regardless of academic pedigree.



OUR CORE FOCUS

Pricing basic and exotic derivatives across asset classes like Equity, FX, Interest Rates, Volatility, Inflation, and Commodities

1

Introducing advanced quantitative concepts which are used across industry

2

Comprehending the S.A.B.R volatility models and Interest Rate (IR) models including their practical applications

Possessing knowledge of counterparty risk and the application of Credit Valuation Adjustment (CVA) and Debt Valuation Adjustment (DVA)

3

Demonstrating a comprehensive understanding of Value-at-Risk (VaR) and the intricate quantitative principles inherent in VaR models

4

Exploring additional facets pertaining to the validation and development of models for Market Risk

6

5



PROGRAM HIGHLIGHTS

1

Execution of option pricing using the Black 76 Model and the Binomial Tree Model based on the practical market approach

2

Execution of Geometric Brownian Motion (GBM) process using Monte Carlo Simulations to derive stock price and FX rates

3

SABR and Hull-White One Factor/Two Factor (HW1F/HW2F) calibration and simulations

4

Application of VaR using full revaluation and sensitivity-based approaches

5

Implementation of CVA/DVA and collateralized CVA/DVA along with the Simulation of Collateral Values using the concept of Brownian Bridge

6

Implementation of Cholesky Decomposition / Eigen Vector and Eigenvalues decomposition to correlate random numbers for pricing exotic options

7

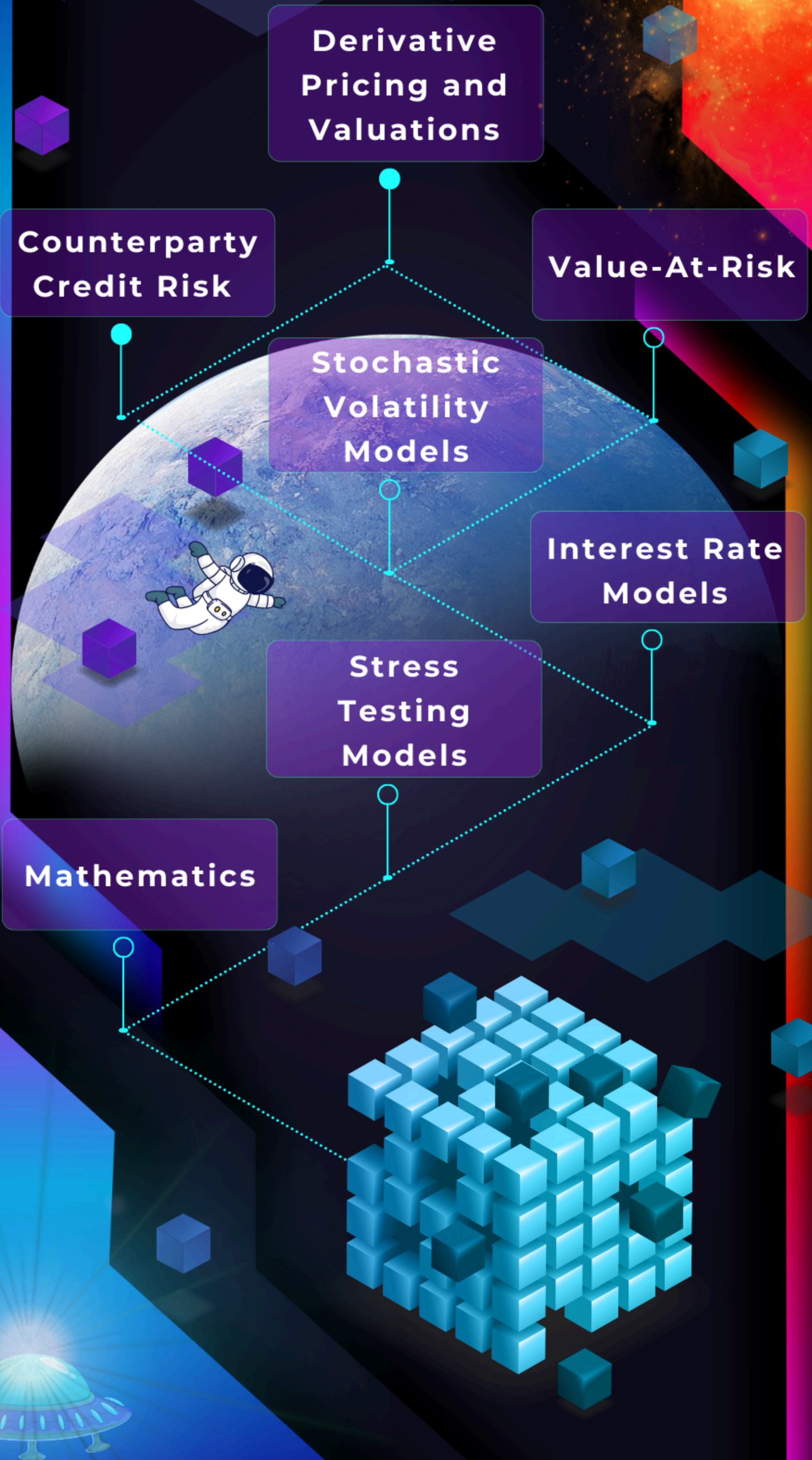
Application of the Delta Conversion strategy and Vanna Volga method to value FX options

8

Mastery of the Local Volatility Model to capture skew



COURSE STRUCTURE



LEVEL ONE

USING MS EXCEL ONLY

I. DERIVATIVE PRICING & VALUATIONS

Equity

- Option Pricing using Black 76, BSM 73, Binomial Tree & Bachelier Models
- Vanilla Option Pricing using Geometric Brownian Motion
- Pricing equity based exotic options such as Barrier Options, Digital Options, Double Knock-In, Double Knock-Out Options, One Touch, No Touch, Double One-Touch, Double No-Touch Options and Look Back Options

Credit

- Credit Default Swap (CDS)
- Credit Default Swap Index (CDX)

Interest Rate

- Bootstrapping of the Interest Rate Curves such as LIBOR, OIS, and SOFR
- Pricing of Vanilla IR products such as Interest Rate Swap (IRS), SOFR Swaps, Total Returns Swap (TRS), Caps and Floor, and Zero-Coupon Swaps
- Pricing of Exotic IR products such as SOFR Swaptions, SOFR Cancellable Swaps, IR Digital Options and Brazilian Swap

FX

- FX options pricing using Delta Conversion and Vanna-Volga methods
- Pricing of FX Vanilla products and Exotic products such as FX digital, Barrier and Quanto options

Volatility

- Computation of option sensitivities (Delta, Gamma, Vega, Rho, Nu)
- Volatility SWAP and Variance SWAP

Inflation & Commodities

- Computation of option sensitivities (Delta, Gamma, Vega, Rho, Nu)
- Volatility SWAP and Variance SWAP



LEVEL ONE

USING MS EXCEL ONLY

II. Counterparty Credit Risk

Counterparty Credit Risk (CCR) Quantifications

- Introduction to CVA/DVA and CVA/DVA Computation
- Introduction to collateralized CVA/DVA & Collateralized CVA/DVA Computation

III. Value-At-Risk

Value-At-Risk Concepts

- Introduction to Value-at-Risk using different approaches such as VAR-COVAR, Historical Simulations, Monte Carlo Simulations approach
- Expected Shortfall

IV. Stochastic Volatility Models

Introduction to Volatility Models

- Introduction to SABR
- Introduction to Local Vol Models
- Introduction to Heston

V. Interest Rate Models

Introduction to IR Models

- Introduction to Hull-White 1F Model and Hull-White 2F Model
- Introduction to Vasicek Model

VI. Mathematics

Introduction to Quant

- Fixed Income Products and Analysis: Yield, Duration, and Convexity
- Introduction to Probabilities theory and Probability Distributions
- Introduction to Matrix Algebra
- Calculus, Taylor Series, Differential Equations
- Partial Differential Equations (PDE)
- The Binomial Model
- Elementary Stochastic Calculus
- Black Scholes Formulae and the "Greeks"

LEVEL TWO

USING MS EXCEL ONLY

I. Derivative Pricing & Valuations

Equity

- Pricing of exotic and complex equity based derivatives such as Shark Fin Option, Best of Call, Worst of Call, Best of Put, Worst of Put, Accumulators, Standard Phoenix Options, Phoenix Option Bond, Forward Starting Options, Asian Basket Options etc.
- Model Validation Aspects - A detailed Quant Based Testing Approach

Credit

- Pricing of Credit Default Swaptions (CDOs), and Credit Default Swap Index Option (CDXOs)
- Model Validation Aspects - A detailed Quant Based Testing Approach

Interest Rate

- Bootstrapping of IR curves such as Cross-Currency Curves, and Cheapest to Deliver Curves.
- Pricing of exotic IR products such as Mark-to-Market Cross Currency Swap, Snowball, Snowbear, Thunderball, Constant Maturity Swap based products.
- Model validation aspects - A detailed quant based testing approach

FX

- Pricing of Exotic FX products such as Target Redemption Forward, and Power Reversal Dual Currency (PRDC) Swaps

Volatility

- Pricing of Exotic and Complex Volatility Products such as Corridor Variance SWAP, Cross Corridor Variance SWAP, Knock Out Corridor Variance SWAP, and Gamma SWAP

Inflation & Commodities

- Pricing of Exotic Inflation Products such as Zero-Coupon Inflation Caps and Floor, Year-on-Year Inflation Swap, Year-on-Year-Inflation Caps and Floor, and Limited Pricing Index (LPI) Swap
- Pricing of Vanilla Commodity derivatives, such as Commodity Forwards, Swaps, and Options

LEVEL TWO

USING MS EXCEL ONLY

II. Counterparty Credit Risk

Counterparty Credit Risk (CCR)

Model Validation

Model validation aspects – A detailed quant based testing approach

- Assumptions and Limitations of PFE models
- PFE based Validation testing such as PFE benchmarking, PV benchmarking, Monte-Carlo Convergence Test, Martingale Test etc.
- PFE backtesting analysis based on Overlapping and Non-Overlapping periods
- Risk Factor based backtesting
- Risk Factor based validation testing
- Risk Not in PFE (RNIP)

III. Value-At-Risk

VaR Model Validation

- VaR implementation using Historical Simulation and Full Revaluation approach
- VaR implementation using Sensitivity Approach
- VaR backtesting analysis using Traffic Light Approach
- Time Series Stationary Testing
- P-Value Distribution Test
- Risk Not In VaR (RNIV)

IV. Stochastic Volatility Models

Volatility Model Validation

- Construction of Local Vol Surface from Implied Market Vols
- Estimation of SABR parameter for Caps and Swaption Vols
- Round Trip Test, Test of Arbitrage etc.
- Implementation of Cap Stripping Mechanism

LEVEL TWO

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V. Interest Rate Models

IR Model Validation

- HW1F and HW2F Calibration and Simulations
- Construction to HW2F Calibration
- Benchmarking of IR models, Boundary Condition test, Parameter Stability and Sensitivity test, Put Call Parity test etc.

VI. Stress Testing Models

Stress Testing & Capital Change

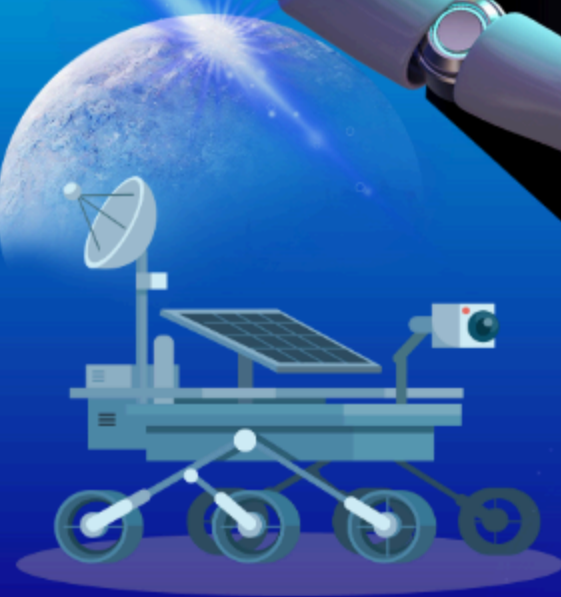
- Market Risk Stress Testing
- MRWA – General Market Risk Capital Charge Computation for all Asset Classes.

VII. Mathematics

Quants

- Overview of Numerical Methods
- Finite-differences Methods for One Factor models
- Monte Carlo Simulations
- Numerical Integration

CAREER PROSPECTS





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STEP UP YOUR GAME