

Options Trading Strategies in Python: Intermediate



quantra

Course Outline

Section 1: Welcome

- Introduction
- Primer for Options Basics

Section 2: Option Pricing Models

- Analogy to pricing a call option: dice game
- Quiz 1& 2
- Intuitive explanation of BSM model
- Quiz 3 & 4
- Python packages for options trading
- IPython Notebook: Computing theoretical price of option in Python
- Interactive Exercise 1
- Recap

Section 3: Evolved Options Pricing Models

- Derman Kani Model and Heston Model
- Quiz 5 & 6
- Other Option Pricing Models

Section 4: Greeks

- Greeks Primer
- IPython Notebook: Greeks Calculator
- Interactive Exercise 2
- Delta
- Quiz 7, 8 & 9
- Delta Sensitivity to underlying price
- Quiz 10
- Delta Sensitivity to time to expiry
- Quiz 11
- Delta Sensitivity to volatility
- Quiz 12
- Gamma and Gamma Sensitivity to underlying price
- Quiz 13
- Gamma sensitivity to time to expiry
- Quiz 14
- Gamma sensitivity to volatility
- Quiz 15
- IPython Notebook: Options price using delta and gamma
- Interactive Exercise 3
- Vega and sensitivity to underlying price
- Quiz 16
- Vega sensitivity to time to expiry and volatility

- Quiz 17 & 18
- IPython Notebook: Options price using Vega
- Interactive Exercise 4
- Theta
- Quiz 19
- Rho
- Quiz 20
- Advanced Greeks (Vanna, Charm, Veta, Speed, Ultima and Zomma)
- Recap

Section 5: Strategies

- Earnings Strategy
- Quiz 21 & 22
- Options Arbitrage Strategy: PC Parity
- Quiz 23 & 24
- Box Strategy
- Quiz 25 & 26
- Recap

Section 6: Volatility Trading Strategies

- Forward Volatility Strategy
- IPython Notebook: Backtesting Forward Volatility Strategy Code
- Interactive Exercise 5 & 6
- Volatility Smile Strategy
- IPython Notebook: Backtesting smile Strategy Code
- Interactive Exercise 7
- Interactive Exercise 8
- Predicting the market next move: Volatility skew
- Quiz: 27 & 28
- Recap

Section 7: Case Studies

- Case Studies
- Summary