Quantitative Finance

- Financial Engineering / Computational Finance / Mathematical Finance / Financial Risk Management
- Typically, at least masters is required

Quantitative Finance

- Finance with a greater emphasis on quantitative aspects. Combines aspects of Mathematics, Finance and Computing.
- Focuses greatly on using mathematical skills (such as calculus, regression analysis), with the aid of programming to work on financial instruments, especially **derivatives**.

Quantitative Finance

- Calculus (Differential equations, Numerical Analysis)
  - Analyze financial returns and equations
  - Analyze financial risks and sensitivities
- Stochastic processes (and Stoc. Calculus)
  - Aspects of Probability
  - Studies random value with respect to time
  - Some FIs can be modelled as Stochastic models
  - Black-Scholes Model

Quantitative Finance

- Regression Analysis and Econometrics
  - Analysis of credit spread etc.
  - Regression based hedge ratios
- Other numerical analysis
  - Optimization
  - Monte Carlo Simulation
- Portfolio Theory
  - Asset Pricing
  - Sharpe Ratio, CAPM, Omega/Sortino Ratios

Quantitative Finance

- Potential jobs: Trader, Structurer, Modeller, Risk Manager/Analyst, Financial Manager/Analyst.
- Other related jobs in the finance industry.
- CFA is one of the many certifications available for finance professionals