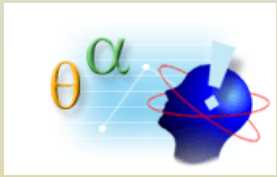
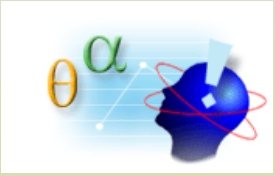
# Table of Contents



# Module Contents



**MODULE 4: Simulation and Analytical Tools**

Chapter 1: Static Tornado and Spider Charts
- Tornado analysis
- Spider analysis

Chapter 2: Dynamic Sensitivity Analysis
- Dynamic sensitivity analysis
- Sensitivity charts interpretation

Chapter 3: Hypothesis Test on Different Distributions
- Basics of hypothesis testing
- Two distribution hypothesis test

Chapter 4: Nonparametric Bootstrap Simulation
- Hypothesis test on statistics
- Comparing empirical bootstrap with theoretical hypothesis test

**MODULE 5: Forecasting**

Chapter 1: Overview of Forecasting Techniques and Data Types
- Qualitative versus quantitative forecasting
- Different techniques in forecasting

Chapter 2: Forecasting Without Data
- Using custom distributions
- Using executive assumptions and the Delphi method

Chapter 3: Time-Series Analysis Forecasting
- Data preparation and running time-series forecasts
- Interpreting the forecast report

Chapter 4: Nonlinear Extrapolation
- Data preparation and running nonlinear extrapolation
- Interpreting and comparing results with time-series forecasting

Chapter 5: Multivariate Regression Analysis
- Data preparation and running a regression
- Interpreting the regression report

Chapter 6: Stochastic Processes
- What is a stochastic process?
- Random Walk Brownian Motion
- Mean-Reversion Process
- Jump-Diffusion Process
- Mixed Processes

Chapter 7: Box-Jenkins ARIMA
- Data preparation and running an ARIMA
- Interpreting the ARIMA report

**MODULE 6: Real Options Analysis: Theory and Background**

Chapter 1: Introduction to Real Options: What, Where, Who, When, How, and Why?
- Definition of real options
- Why is real options analysis important in making decisions?

Chapter 2: Sample Applied Business Cases
- High-level business case examples of real options analysis
- Requirements for running real options

Chapter 3: Overview of Different Options Valuation Techniques: Comparison between financial and real options
- Closed-form approach
- Simulation approach
- Binomial lattice approach

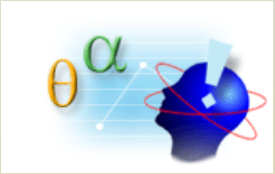
Chapter 4: Risk-Neutral Probability Technique
- Intuition behind the binomial lattice
- Applying risk-neutral probability in solving options

Chapter 5: Solving a Basic European and American Call Option
- Solving a simple option using closed-form models
- Solving a simple option using binomial lattices
- Granularity and precision in binomial lattices

Chapter 6: Using Microsoft Excel to Solve a Basic European and American Call Option

Chapter 7: Solving Basic Abandonment, Expansion, Contraction, and Chooser Options
- Basic Option to Abandon
- Basic Option to Contract
- Basic Option to Expand
- Basic Option to Choose

# Module Contents



**MODULE 7: Real Options Analysis: Application with SLS Software**

Chapter 1: Overview of the Different SLS Modules and Volatility Estimates
- Single Asset SLS (SLS)
- Multiple Asset SLS (MSLS)
- Multinomial SLS (MNLS)
- Excel functions and solutions

Chapter 2: Volatility Estimates
- Volatility Estimates: Log Cash Flow Returns Approach
- Volatility Estimates: Log PV Asset Returns Approach
- Volatility Estimates: Management assumptions/probability approach
- Volatility Estimates: GARCH model

Chapter 3: Solving Options with Changing Inputs and Customized Exotic Options
- Solving American, European, and Bermudan options
- Adding exotic and changing inputs to solve customized options
- Changing volatility options

Chapter 4: MSLS: Multiple Sequential Compound Options
- Solving a multiphased sequential compound option
- Complex and customized sequential compound options
- Multiple asset simultaneous compound options
- Options to switch

Chapter 5: MNLS: Solving Mean-Reverting, Jump-Diffusion, and Dual-Asset Rainbow Options using Trinomial, Quadranomial, and Pentanomial Lattices
- Trinomial lattices
- Quadranomial lattices
- Pentanomial lattices

Chapter 6: Framing Real Options—Structuring the Problem
- High-tech manufacturing: build or buy decision
- Pharmaceutical R&D: stage gate investments
- Oil and gas: farm outs versus test wells and seismic tests
- Facility expansion: option to expand
- Utility industry: switching inputs
- R&D: phased sequential compound options

Chapter 7: The Next Steps…
- Business model dynamics
- So what now?

**MODULE 8: Optimization with Risk Simulator**

Chapter 1: Introduction to Optimization Problems
- What is optimization and how is it used?
- Example combinatorial optimization problem
- Heuristics and algorithms to speed up optimization
- Types of optimizations

Chapter 2: Decision Tables
- Creating a decision analysis scenario table

Chapter 3: Continuous Optimization
- Examples of continuous optimization

Chapter 4: Integer Optimization
- Examples of integer optimization