TRAINING DVD CONTENTS

MODULE 1: Introduction to Risk Analysis (56 min)

Chapter 1: Introduction to the Training DVD **3:10**
- Welcome to the Training DVD and what to expect
- How to use the DVD
- Checklist of materials

Chapter 2: How Are Business Decisions Made? **12:09**

- Single-point estimates
- Scenario analysis
- Sensitivity analysis
- Flaw of averages

Chapter 3: What is Risk and Why Should Risk be Considered? **4:19**
- What risk analysis does
- Integrated risk analysis process

Chapter 4: Overview of Risk Analysis Software Applications **35:48**
- Monte Carlo simulation
- Forecasting
- Analytical Tools
- Real Options Analysis
- Optimization

MODULE 2: Monte Carlo Simulation with Risk Simulator (1 hour)

Chapter 1: Overview of the Risk Simulator Software **7:24**
- Overview of Risk Simulator's 4 different modules
- Overview of the Risk Simulator menu and icon bars

Chapter 2: Profiling, Assumptions, Forecasts and Running Simulations **17:00**

- Creating and editing Simulation Profiles and their uses
- Setting Assumptions
- Setting Forecasts
- Running Simulations

Chapter 3: Interpreting the Forecast Statistics **18:26**
- Forecast chart
- Basic forecast statistics: the four moments

Chapter 4: Simulation Run Preferences and Seed Values **6:26**
- Run preferences
- Setting seed value: what it does and does not do

Chapter 5: Running Reports, Saving and Extracting Simulation Data **11:43**
- Generating a simulation report
- Saving and extracting simulation results

MODULE 3: Advanced Simulation Techniques (1 hour 20 min)

Chapter 1: Correlating Truncating Distributions **26:18**
- ❖ Correlated simulations
- ❖ Truncated distributions

Chapter 2: Alternate Parameters **5:22**
- ❖ Performing due diligence with alternate parameters
- ❖ Care in performing alternate parameters

Chapter 3: Multidimensional Simulations **13:09**
- ❖ Cell linking and dynamic simulations

Chapter 4: Distributional Fitting and Choosing Distributions **27:01**
- ❖ Single-fit
- ❖ Multiple-fit
- ❖ Choosing the right probability distributions

Chapter 5: Due Diligence and Pitfalls in Simulation **7:41**
- ❖ Questions to ask
- ❖ Pitfalls to avoid

MODULE 4: Simulation and Analytical Tools (1 hour 10 min)

Chapter 1: Static Tornado and Spider Charts **21:15**
- ❖ Tornado analysis
- ❖ Spider analysis

Chapter 2: Dynamic Sensitivity Analysis **15:13**
- ❖ Dynamic sensitivity analysis
- ❖ Sensitivity charts interpretation

Chapter 3: Hypothesis Test on Different Distributions **13:35**
- ❖ Basics of hypothesis testing
- ❖ Two distribution hypothesis test

Chapter 4: Nonparametric Bootstrap Simulation **10:16**
- ❖ Hypothesis test on statistics
- ❖ Comparing empirical bootstrap with theoretical hypothesis test

Chapter 5: Precision Control **9:47**
- ❖ Applying precision and error control on simulation
- ❖ Determining the number of trials to run in a simulation

MODULE 5: Forecasting (1 hour 33 min)

Chapter 1: Overview of Forecasting Techniques and Data Types **15:28**
- Qualitative versus quantitative forecasting
- Different techniques in forecasting

Chapter 2: Forecasting Without Data **9:36**
- Using custom distributions
- Using executive assumptions and the Delphi method

Chapter 3: Time-Series Analysis Forecasting **20:33**
- Data preparation and running time-series forecasts
- Interpreting the forecast report

Chapter 4: Nonlinear Extrapolation **8:46**
- Data preparation and running nonlinear extrapolation
- Interpreting and comparing results with time-series forecasting

Chapter 5: Multivariate Regression Analysis **18:32**
- Data preparation and running a regression
- Interpreting the regression report

Chapter 6: Stochastic Processes **16:04**
- What is a stochastic process?
- Random Walk Brownian Motion
- Mean-Reversion
- Jump-Diffusion
- Mixed Processes

Chapter 7: Box-Jenkins ARIMA **3:53**
- Data preparation and running an ARIMA
- Interpreting the ARIMA report

MODULE 6: Real Options Analysis: Theory and Background (2 hour 40 min)

Chapter 1: Introduction to Real Options: What, Where, Who, When, How, and Why **7:50**
- Definition of real options
- Why is real options analysis important in making decisions?

Chapter 2: Sample Applied Business Cases **14:02**
- High-level business case examples of real options analysis
- Requirements for running real options

Chapter 3: Overview of Different Options Valuation Techniques **12:32**

- Comparison between financial and real options
- Closed-form approach
- Simulation approach
- Binomial lattice approach

Chapter 4: Risk-Neutral Probability Technique **25:42**
- Intuition behind the binomial lattice
- Applying risk-neutral probability in solving options

Chapter 5: Solving a Basic European and American Call Option **19:57**
- 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 Basic European and American Options **46:01**

Chapter 7: Solving Basic Abandonment, Expansion, Contraction, and Chooser Options **30:54**
- Basic Option to Abandon
- Basic Option to Expand
- Basic Option to Contract
- Basic Option to Choose

MODULE 7: Real Options Analysis: Application with SLS Software (1 hour 30 min)

Chapter 1: Overview of the Different SLS Modules and Estimating Volatility **15:47**
- Single Asset SLS (SLS)
- Multiple Asset SLS (MSLS)
- Multinomial SLS (MNLS)
- Excel functions and solutions

Chapter 2: Estimating Volatility (Log PV Asset Returns, Log Cash Flow Returns, management assumptions, GARCH, and probability to volatility methods) **31:25**

Chapter 3: Solving Options with Changing Inputs and Customized Exotic Options **20:25**
- Solving American, European, and Bermudan options
- Adding exotic and changing inputs to solve customized options

Chapter 4: MSLS: Multiple Sequential Compound Options **26:32**
- 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 **13:07**
- Trinomial lattices
- Quadranomial lattices
- Pentanomial lattices

Chapter 6: Framing Real Options—Structuring the Problem **32:23**
- 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… **11:00**
- Business model dynamics
- So what now?

MODULE 8: Optimization with Risk Simulator (45 min)

Chapter 1: Introduction to Optimization Problems **16:13**
- What is optimization and how is it used?
- Example combinatorial optimization problem
- Heuristics and algorithms to speed up optimization
- Types of optimizations

Chapter 2: Continuous Optimization **17:48**
- Examples of continuous optimization

Chapter 3: Integer Optimization **10:17**
- Examples of integer optimization