Training Course on Advanced Project Economics, Risk and Decision Analysis

Professional Development Training Course Outline

Category	Project Management	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s dynamic and uncertain business environment, mastering Advanced Project Economics, Risk Management, and Decision Analysis is essential for professionals aiming to lead successful, high-value projects. Training Course on Advanced Project Economics, Risk & Decision Analysis is designed to provide participants with cutting-edge analytical tools, robust financial modeling skills, and real-world applications to evaluate the economic feasibility of complex projects and manage associated risks. Participants will explore best practices in project evaluation, Monte Carlo simulations, probabilistic forecasting, and investment appraisal under uncertainty.

Whether you're a project manager, financial analyst, or decision-maker, this course empowers you to navigate risk with confidence and make data-driven decisions using modern risk-adjusted project evaluation methods. The curriculum integrates the latest methodologies in stochastic analysis, sensitivity testing, real options valuation, and strategic risk mapping, ensuring participants are equipped with globally relevant skills that align with contemporary industry needs.

Programme Curriculum

Training Course on Advanced Project Economics, Risk & Decision Analysis

Introduction

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Course Objectives

1. Understand the fundamentals of project economic evaluation using real-world financial tools.
2. Apply risk modeling and simulation techniques such as Monte Carlo analysis.
3. Learn investment appraisal under uncertainty with decision tree analysis.
4. Master real options analysis to enhance capital investment decisions.
5. Conduct comprehensive sensitivity and scenario analyses.
6. Utilize probabilistic cash flow forecasting and expected value analysis.
7. Analyze project feasibility using Net Present Value (NPV), IRR, and other indicators.
8. Improve risk-adjusted decision making in capital-intensive projects.
9. Build dynamic financial models to support robust project analysis.
10. Integrate sustainability and ESG metrics into project economics.
11. Use data-driven decision-making techniques to optimize project portfolios.
12. Explore strategic risk management frameworks for complex projects.
13. Translate insights into actionable project strategies with real-life case studies.

Target Audience

1. Project Managers
2. Financial Analysts
3. Investment Advisors
4. Risk Managers
5. Engineers in Project Roles
6. Business Consultants
7. Senior Executives
8. Strategy and Planning Professionals

Course Duration: 10 days

Course Modules

Module 1: Fundamentals of Project Economics

- Principles of cost-benefit analysis
- Time value of money and discounting techniques
- NPV, IRR, Payback Period – definitions and applications
- Fixed vs variable cost modeling
- Depreciation and tax considerations in projects
- **Case Study**: Evaluating a renewable energy project's economic viability

Module 2: Risk Management Foundations

- Definition and types of project risks
- Risk identification techniques
- Risk registers and classification
- Quantitative vs qualitative risk analysis
- Risk prioritization matrix
- **Case Study**: Risk analysis of an oil & gas infrastructure project

Module 3: Decision Analysis Techniques

- Decision trees and payoff tables
- Expected monetary value (EMV)
- Decision criteria under uncertainty
- Risk-neutral vs risk-averse approaches
- Using decision analysis in real-time decision-making
- **Case Study**: Decision modeling for pharmaceutical R&D investment

Module 4: Monte Carlo Simulation

- Basics of Monte Carlo simulation
- Building input probability distributions
- Simulating cash flows
- Interpreting simulation results
- Tools: @Risk, Crystal Ball, Python
- **Case Study**: Monte Carlo simulation for a large-scale construction project

Module 5: Sensitivity & Scenario Analysis

- Understanding key variables
- Tornado and spider diagrams
- Scenario planning vs sensitivity analysis
- Modeling best-case/worst-case outcomes
- Communicating uncertainties to stakeholders
- **Case Study**: Sensitivity analysis for a mining operation

Module 6: Financial Modeling for Projects

- Structuring financial models
- Cash flow forecasting techniques
- Capital structure and cost of capital
- Linking financials to operational drivers
- Excel best practices for model building
- **Case Study**: Financial modeling for an airport expansion project

Module 7: Investment Appraisal Tools

- ROI, PI, Modified IRR
- Appraising mutually exclusive projects
- Ranking vs screening methods
- Discounted payback vs regular payback
- Life-cycle costing
- **Case Study**: Comparative appraisal of telecom infrastructure projects

Module 8: Real Options Valuation

- Option types in project context
- Valuation techniques (Binomial, Black-Scholes)
- Strategic decision-making with options
- Timing, scaling, abandonment options
- Limitations of traditional NPV
- **Case Study**: Real options analysis of a tech start-up expansion

Module 9: ESG Integration in Project Economics

- ESG metrics in project planning
- Social return on investment (SROI)

- Environmental impact costing
- Triple bottom line analysis
- Green project finance trends
- **Case Study**: ESG analysis of a sustainable housing project

Module 10: Advanced Capital Budgeting

- Capital rationing
- Optimal project selection
- Funding strategies
- Multistage investment planning
- Post-project evaluation metrics
- **Case Study**: Capital budgeting for a public transport infrastructure plan

Module 11: Strategic Risk Mapping

- Risk appetite and tolerance
- Risk heat maps and bubble charts
- Developing risk response strategies
- Integrating risk maps into board reporting
- Using software for risk visualization
- **Case Study**: Strategic risk assessment for a defense project

Module 12: Portfolio and Program Analysis

- Project portfolio alignment
- Resource allocation across programs
- Inter-project dependency mapping
- Balanced scorecard integration
- Risk-adjusted portfolio valuation
- **Case Study**: Managing risk in an international aid project portfolio

Module 13: Behavioral Economics in Decision Making

- Cognitive biases in project decisions
- Prospect theory and framing effects
- Heuristics in risk assessment
- Improving decision quality through awareness
- Group dynamics and consensus building
- **Case Study**: Behavioral risk factors in megaproject delays

Module 14: Artificial Intelligence in Risk Analysis

- AI tools for predictive risk analytics
- Machine learning for project forecasting
- Automating risk identification
- Data sourcing and preprocessing
- Integrating AI with traditional methods
- **Case Study**: AI-driven risk forecasting for a manufacturing company

Module 15: Final Simulation & Integrated Project

- Integrative application of all modules
- Group simulation exercise
- Real-world project modeling
- Presentation and critique of solutions

- Certification assessment
- **Case Study**: Comprehensive risk and economic analysis of a cross-border infrastructure project

Training Methodology

- Interactive lectures and workshops
- Real-world case studies and simulations
- Hands-on use of industry tools (Excel, @Risk, Python)
- Group exercises and peer review
- Pre- and post-training assessments for impact evaluation

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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