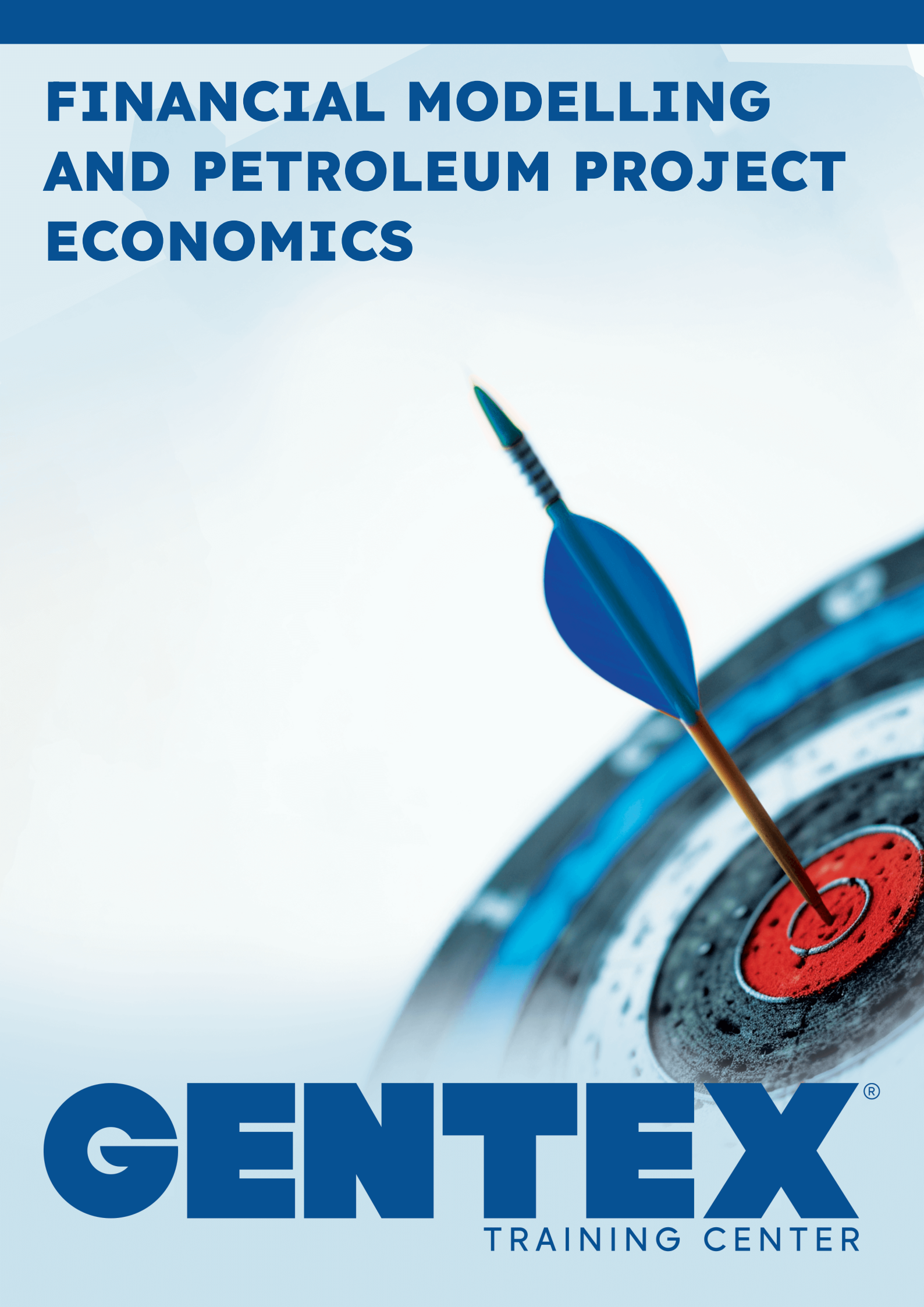
FINANCIAL MODELLING AND PETROLEUM PROJECT ECONOMICS



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TRAINING CENTER

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Introduction

Financial Modelling and Petroleum Project Economics Training Course equips professionals to evaluate oil and gas ventures with confidence and precision. The programme connects spreadsheet modelling skills with the economic logic that drives upstream, midstream and downstream investment decisions. Participants learn to build robust models, forecast cash flows, and test projects against volatile prices and uncertain reserves. Furthermore, the course links technical assumptions to commercial outcomes, so teams can defend their numbers in front of management and partners. As a result, delegates leave able to screen opportunities, rank portfolios and support sound capital allocation. The content draws on recognised industry practice and real project cases throughout the five days.

Financial Modelling and Petroleum Project Economics Course Objectives

- Build structured, auditable financial models in Microsoft Excel using consistent inputs, calculations and outputs.
- Forecast revenue, operating costs, capital expenditure and cash flow for oil and gas assets.
- Apply discounted cash flow techniques to value exploration and production projects.
- Calculate net present value, internal rate of return, payback period and profitability index.
- Construct fiscal models covering royalty, tax, production sharing and carried interest terms.
- Use Monte Carlo simulation and scenario analysis to handle price and reserve uncertainty.
- Evaluate incremental projects, workovers and field development options.
- Apply decision criteria and hurdle rates to portfolio screening and ranking.
- Interpret sensitivity and tornado charts to identify the key value drivers.
- Present model results clearly to technical, commercial and executive audiences.

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Course Methodology

The course combines short lectures, guided spreadsheet workshops and team-based case work. Participants build live models using Microsoft Excel, then stress-test them with sensitivity tables, scenario switches and Monte Carlo simulation. In addition, group discussion and peer review reinforce each technique, and each day closes with a practical exercise drawn from real petroleum projects.

Who Should Take This Course

- Financial analysts and modelling specialists in energy companies.
- Petroleum, reservoir and development engineers involved in project evaluation.
- Business development, planning and commercial staff in oil and gas firms.
- Accountants, auditors and controllers working with upstream or downstream assets.
- Investment analysts, bankers and advisers covering the energy sector.
- Project managers and economists responsible for capital budgeting decisions.

Financial Modelling and Petroleum Project Economics Course Outlines

Day 1: Model Design and Petroleum Industry Fundamentals

- Structure of a best-practice Excel financial model: inputs, calculations, outputs.
- Spreadsheet hygiene: error checks, consistent formulas, colour coding and version control.
- Overview of the petroleum value chain: upstream, midstream and downstream.
- Key terminology: reserves, resources, production profiles and decline curves.

- Cost categories: capital expenditure, operating expenditure and abandonment costs.
- Introduction to fiscal regimes and government take.
- Workshop: building a clean model skeleton with a working navigation page.

Day 2: Cash Flow Forecasting and Production Profiles

- Forecasting production using decline curves and plateau profiles.
- Modelling oil, gas and condensate streams with separate price assumptions.
- Building revenue schedules linked to price, volume and quality differentials.
- Operating cost escalation, fixed versus variable cost behaviour and inflation.
- Capital expenditure phasing and drilling schedule timing.
- Working capital, decommissioning provisions and cash flow timing.
- Workshop: constructing a ten-year unlevered cash flow forecast.

Day 3: Discounted Cash Flow and Investment Metrics

- Time value of money and the weighted average cost of capital.
- Net present value, internal rate of return, payback and profitability index.
- Discounted versus undiscounted cash flow comparisons.
- Mid-year convention, escalation and nominal versus real terms.
- Using Excel functions such as NPV, IRR, XIRR and MIRR correctly.
- Ranking mutually exclusive projects and defining hurdle rates.
- Workshop: valuing a field development project and defending the result.

Day 4: Fiscal Modelling, Risk and Sensitivity Analysis

- Modelling royalty, production sharing contracts and tax ring-fencing.
- Carried interest, cost oil, profit oil and contractor take calculations.

- Building one-way and two-way data tables in Excel.
- Scenario management with CHOOSE, INDEX and drop-down controls.
- Monte Carlo simulation using RISK or Excel add-ins for price and reserve uncertainty.
- Tornado charts and spider diagrams to rank key value drivers.
- Workshop: fiscal model build with break-even price calculation.

Day 5: Portfolio Evaluation and Decision Presentation

- Screening and ranking a portfolio of opportunities under capital constraints.
- Incremental economics: workovers, infill wells and facility upgrades.
- Real options thinking for staged development and deferral decisions.
- Building a one-page executive summary dashboard from model outputs.
- Linking the model to budget, forecast and long-range planning cycles.
- Common modelling pitfalls and how to audit another analyst's model.
- Workshop: presenting a full project recommendation to a review panel.

Conclusion

By successfully completing Financial Modelling and Petroleum Project Economics Training Course, participants will have acquired the practical ability to build, test and interpret economic models for oil and gas projects. They will understand cash flow forecasting, fiscal terms, risk analysis and investment metrics, and they will know how to turn model output into clear recommendations. As a result, delegates contribute directly to better capital decisions. Gentex Training Center designs the programme to reflect current industry practice and real project conditions.

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FAQs for the Financial Modelling and Petroleum Project Economics course

Q1 What is the "Financial Modelling and Petroleum Project Economics" course about?

It teaches how to build Excel models that value oil and gas projects. You learn cash flow forecasting, fiscal terms and investment metrics, then apply them to real upstream and downstream decisions.

Q2 What are the key benefits of the "Financial Modelling and Petroleum Project Economics" course?

You gain faster, more reliable project evaluation and fewer spreadsheet errors. You can defend valuations with evidence, compare competing opportunities fairly, and give management clear, risk-aware recommendations instead of rough estimates.

Q3 What skills will I gain from the "Financial Modelling and Petroleum Project Economics" course?

You will gain financial modelling in Excel, petroleum project cash flow forecasting, discounted cash flow valuation and risk analysis, and investment appraisal and capital budgeting decision-making.

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Q4 What tools, methods, or standards are covered in the "Financial Modelling and Petroleum Project Economics" course?

The course covers Microsoft Excel modelling with NPV, IRR, XIRR and MIRR functions, data tables, production sharing contract and royalty fiscal models, Monte Carlo simulation with RISK, and sensitivity, scenario and tornado chart analysis.

Q5 How is the "Financial Modelling and Petroleum Project Economics" course applied in real-world practice?

Graduates apply it to screen exploration prospects, approve field development spending, evaluate workovers and infill wells, negotiate fiscal terms with partners, and build annual budgets and long-range plans for oil and gas portfolios.