FINANCIAL MODELLING IN THE OIL & GAS INDUSTRY



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TRAINING CENTER

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Introduction

Financial Modelling in the Oil & Gas Industry Training Course develops the spreadsheet and analytical skills that energy professionals need to evaluate assets, budgets and investment proposals. Participants learn how to translate geological, operational and commercial assumptions into reliable financial models. The programme covers production forecasting, cost behaviour, fiscal regimes and valuation metrics, then applies them to real oil and gas cases. Furthermore, it emphasises model structure, error control and clear presentation, so results stand up to review. As a result, delegates can compare opportunities, test downside scenarios and support capital decisions with confidence. Gentex Training Center delivers the programme with practical workshops throughout the five days.

Financial Modelling in the Oil & Gas Industry Course Objectives

- Design structured, transparent Excel models with clear inputs, calculations and outputs.
- Build production forecasts using decline curves, plateau profiles and reserve assumptions.
- Model revenue, operating expenditure, capital expenditure and free cash flow for oil and gas assets.
- Apply discounted cash flow techniques to value upstream, midstream and downstream projects.
- Calculate net present value, internal rate of return, payback period and profitability index.
- Model fiscal regimes including royalty, tax, production sharing contracts and carried interest.
- Use scenario switches, data tables and Monte Carlo simulation to test uncertainty.
- Perform sensitivity analysis with tornado charts to identify key value drivers.
- Compare incremental projects such as workovers, infill wells and facility upgrades.
- Present model outputs clearly through dashboards and executive summaries.

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Course Methodology

The course blends concise lectures with hands-on spreadsheet workshops and team case studies. Participants build live Microsoft Excel models, then stress-test them using data tables, scenario switches and Monte Carlo simulation. In addition, structured peer review and group discussion sharpen each technique, and every day ends with a practical exercise based on a real oil and gas project.

Who Should Take This Course

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

Financial Modelling in the Oil & Gas Industry Course Outlines

Day 1: Model Architecture and Industry Fundamentals

- Best-practice Excel model design: inputs, calculations, outputs and navigation.
- Spreadsheet integrity: error checks, consistent formulas, colour coding and version control.
- The oil and gas value chain from exploration through to refining and sales.
- Core terminology: reserves, resources, decline rates and production profiles.
- Cost classification: capital expenditure, operating expenditure and decommissioning.

- Introduction to fiscal regimes and government take.
- Workshop: building a clean, auditable model skeleton.

Day 2: Production Forecasting and Cash Flow Build

- Forecasting production with decline curves and plateau assumptions.
- Modelling oil, gas and condensate streams with separate price assumptions.
- Building revenue schedules linked to volume, price and quality differentials.
- Operating cost behaviour, escalation and inflation treatment.
- Phasing capital expenditure against the drilling and development schedule.
- Working capital movements and decommissioning provisions.
- Workshop: constructing a ten-year unlevered cash flow forecast.

Day 3: Valuation Metrics and Discounted Cash Flow

- 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.
- Correct use of Excel functions such as NPV, IRR, XIRR and MIRR.
- Ranking mutually exclusive projects and setting hurdle rates.
- Workshop: valuing a field development and defending the result.

Day 4: Fiscal Modelling, Risk and Sensitivity Analysis

- Modelling royalty, production sharing contracts and tax ring-fencing.
- Cost oil, profit oil, carried interest and contractor take calculations.
- Building one-way and two-way data tables in Excel.

- Scenario management using CHOOSE, INDEX and drop-down controls.
- Monte Carlo simulation with RISK for price and reserve uncertainty.
- Tornado charts and spider diagrams to rank value drivers.
- Workshop: fiscal model build with break-even price analysis.

Day 5: Portfolio Review and Decision Presentation

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

Conclusion

By successfully completing Financial Modelling in the Oil & Gas Industry Training Course, participants will have acquired the practical ability to build, test and interpret financial models for energy assets. They will understand production forecasting, cost and fiscal modelling, valuation metrics and risk analysis, and they will know how to present results clearly. As a result, delegates support stronger capital decisions. Gentex Training Center designs the programme around current industry practice.

FAQs for the Financial Modelling in the Oil & Gas Industry course

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Q1 What is the "Financial Modelling in the Oil & Gas Industry" course about?

It teaches how to build Excel models that evaluate oil and gas assets and investments. You learn production forecasting, cost and fiscal modelling, valuation metrics and risk analysis, applied to real energy projects.

Q2 What are the key benefits of the "Financial Modelling in the Oil & Gas Industry" course?

You gain faster, more reliable asset evaluation and fewer spreadsheet errors. You can test downside scenarios, compare competing projects consistently, and give management clear, evidence-based recommendations for capital allocation.

Q3 What skills will I gain from the "Financial Modelling in the Oil & Gas Industry" course?

You will gain financial modelling in Excel, oil and gas production and cash flow forecasting, discounted cash flow valuation, and risk and sensitivity analysis for investment appraisal.

Q4 What tools, methods, or standards are covered in the "Financial Modelling in the Oil & Gas Industry" course?

The course covers Microsoft Excel modelling with NPV, IRR, XIRR and MIRR, decline curve production forecasting, royalty and production sharing contract fiscal models, one-way and two-way data tables, Monte Carlo simulation with RISK, and tornado chart sensitivity analysis.

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Q5 How is the "Financial Modelling in the Oil & Gas Industry" 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 energy portfolios.