MERCURY

Cost Engineering: Principles and Practice withinside the Petroleum Industry

20 – 24 December 2026
Cairo (Egypt)



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Ref: 15274_303565 **Date:** 20 – 24 December 2026 **Location:** Cairo (Egypt) **Fees:** 4000 Euro

Introduction to Cost Engineering in Oil and Gas:

Cost Engineering has grown to become an essential aspect of effective cost management, particularly in the petroleum industry where project capital expenditure CAPEX is substantial. This area of expertise, which often interlinks with engineering design and construction, is a unique business side of engineering where it's understood that expenditures must be engineered.

Given the sizable investments involved in engineering projects, there is a heightened need to adhere to cost engineering principles and practices to manage these projects successfully delivering them within budget and on time. The aim of this cost engineering in oil and gas course is to equip participants with the necessary skills to generate accurate cost estimates through an in-depth understanding of cost analysis, cost evaluation, project planning, project risk assessment, and design-to-cost strategies.

Participants in this cost engineering in oil and gas training will explore Total Cost Management TCM principles, which are invaluable to managing a portfolio of assets and projects in the petroleum industry. There will also be a focus on topics such as Cost Analysis, Cost Estimation, and Control methods, ensuring participants learn to use effective monitoring techniques to manage expenses.

This cost engineering in oil and gas program targets engineers, economists, planners, and accountants tasked with cost verification, cost benchmarking, as well as project or asset cost management and budget monitoring. Spanning one week, the course features classroom instruction, case studies, group exercises, and exposure to various frameworks, guidelines, and industry standards endorsed by AACE International and ACostE of the UK.

Who Should Attend?

- Cost Engineers.
- Project Control Engineers and Project Managers.
- Planning Dept Engineers.
- Cost Accountants.
- Quantity Surveyors.
- Construction Engineers and Supervisors.
- Contract Management Staff.

Course Objectives:

After this cost engineering in oil and gas course, participants will:

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- Proactively manage costs in oil and gas projects.
- Discover avenues for cost reduction.
- Exercise effective cost controls.
- Utilize cost budgets, plans, and forecasts strategically.
- Comprehend project appraisal intricacies.
- Apply cost management techniques within projects.

Targeted Competencies:

Target competencies in this cost engineering in oil and gas training, will:

- Cost Estimation Accuracy.
- Budgeting and Forecasting.
- Risk Analysis and Mitigation.
- Project Cost Control.
- Economic Evaluation.
- Contract Management.
- Cost Optimization Techniques.
- Understanding of Cost Engineering Software.
- Life Cycle Cost Analysis.
- Financial Reporting and Compliance.
- Cost Management in Project Phases.
- Capital Expenditure Planning.
- Operational Cost Efficiency.
- Cost-Benefit Analysis.
- Strategic Cost Management.
- Resource Allocation and Management.

Course Content:

Unit 1: Cost Engineering Principles & Fundamentals:

- Explore into the foundational cost engineering solutions and concepts necessary for the oil and gas sector.
- The role of a cost engineering professional.

Unit 2: Engineering Materials:

- Process Technological Requirements.
- Facilities Design.
- Cost considerations are specific to the petroleum industry, covering the cost of oil and gas materials.

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Unit 3: Cost Estimation:

- Various Cost Estimating Methods and Processes for Capital Projects and Services Basis of Estimate - BOE.
- The significant role Cost Estimation plays in Project Feasibility, Financing, and Risk Management Decisions for Facilities Acquisition.
- Explanation of Cost Estimation Methods: Stochastic or Deterministic.
- Differentiation between Definitive and Order of Magnitude Estimates.
- Classification of Cost Estimates.
- Best Practices in Cost Estimation, including Cost Modelling and the management of various influence factors like labor, project duration, inflation, technology, and uncertainties.

Unit 4: Engineering Economics:

- Examine Economic Rates and Ratios.
- Comprehension of the Time Value of Money.
- Understand Discounted Cash Flow DCF and Internal Rate of Return IRR.
- The Implications of Opportunity Cost in Engineering Projects and Project Ranking.
- Considering Non-Economic Project Attributes Corporate & Public Image, Aesthetics/Style & Color.
- Overview of Financing Options.

Unit 5: Strategic Asset Management/Portfolio & Management:

- Effective Project Monitoring Techniques.
- Assess Project Performance Measurement.
- Compare Budgeted Costs vs. Work Performed.

Unit 6: Project Cost Management:

- Detailed Cost Monitoring Strategies.
- Ensure Cost Control and Cost Containment.
- Investigate the Role of Project Planning and Scheduling in Cost Management.
- Delve into Planning and Scheduling essentials like:
    - Work Breakdown Structure.
    - Critical Path Analysis pertinent to Cost Engineering and Cost Management.

Conclusion:

By integrating these elements into the cost engineering in oil and gas course content, participants will receive comprehensive cost engineering training paired with sector-specific insights to advance their proficiency in this critical discipline