



Cost Engineering: Principles and
Practice withinside the Petroleum
Industry



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Introduction

Cost Engineering has grown to end up a crucial issue of challenging price management. In the petroleum enterprise, challenge capital expenditure CAPEX is huge; and frequently related to engineering layout and construction. Cost engineering is an obvious 'business side' of any engineering subject and vitally so, such that price funding spending ought to be 'engineered'. To powerful control engineering tasks through turning in them inside finances & on time, it has ended up vital that price engineering principles & exercise be emphasized; that is the motive for the layout of this path. This path is designed to permit contributors to arrive at correct and modern-day price estimates thru their know-how of price analysis, price assessment, challenge making plans challenge chance assessment, and layout-to-price. The Total Cost Management TCM ideas are relevant to the portfolio of assets & tasks withinside the petroleum enterprise thru challenge Management ideas may be a part of this path delivery. Emphasis may also be on Cost Analysis, Cost Estimation & Control thru relevant & powerful tracking techniques. This application is geared toward engineers, economists, planners & accountants who might be in the rate of price verification, price benchmarking, and challenge or asset price management and finances tracking. The application may be introduced in the study room putting over 5 days and could appoint applicable case research and class/institution physical activities similarly to exposing attendees to numerous frameworks, guidelines, and ideal worldwide Standards as prescribed through each AACE International and ACostE of UK.

Who Should Attend?

- Cost Engineers
- Project Control Engineers & Project Managers
- Planning Dept Engineers
- Cost Accountants
- Quantity Surveyors
- Construction Engineers & Supervisors
- Contact Management Staff

Course Objectives:

At the end of this course the participants will be able to:

- Proactively manage costs
- Seek opportunities for cost reduction
- Effectively control costs
- Make better use of cost budgets, plans and forecasts
- Understand project appraisal
- Control costs with projects

Course Content

Unit 1: Cost Engineering Principles & Fundamentals

Unit 2: Engineering Materials

- Process Technological Requirements
- Facilities Design
- Cost Considerations for the Petroleum Industry

Unit 3: Cost Estimation:

- Cost Estimating Methods & Process for Capital Projects & Services Basis of Estimate - BOE
- Importance of Cost Estimation to Project Feasibility, Financing Risk Management Decision for Facilities Acquisition
- Cost Estimation Methods: Stochastic or Deterministic.
- Definitive vs. Order of Magnitude Estimates.
- Classification of Cost Estimate.
- Cost Estimation Best Practice: Cost Modelling, Validity of applicable data, Labor Project Time, Inflation, and Estimations: Technology & Uncertainties.

Unit 4: Engineering Economics

- Economic Rates & Ratios
- Time Value of Money
- The Notion of Discounted Cash flow DCF & IRR
- Opportunity Cost of Engineering Projects & Project Ranking
- Non-Economic Project Attributes Corporate & Public Image, Aesthetics/Style & Colour
- Financing Options

Unit 5: Strategic Asset Management/Portfolio & Management:

- Project Monitoring
- Project Performance Measurement
- Budgeted Cost vs. Work Performed

Unit 6: Project Cost Management

- Cost Monitoring
- Cost Control & Cost Containment
- The Role of Project Planning & Scheduling in Cost Management
- Planning & Scheduling including:
- Work Breakdown Structure
- Critical Path Analysis for Cost Engineering & Cost Management.