MERCURY

Cost Estimation Engineering

1 – 5 August 2027
Dubai (UAE)



Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
Amman - Jordan: +962 79 712 3347

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Ref: 15275_276318 **Date:** 1 – 5 August 2027 **Location:** Dubai (UAE) **Fees:** 4900 Euro

Introduction to Cost Estimation Engineering:

With years of work in the fields of project management, procurement, and computation, common threads in methodology and practice emerge across almost every computational scenario. Whether dealing with an industrial process, a manufactured product, a multi-million dollar construction project, or a business service evaluation, there are fundamental principles, practices, and procedures that are universally applicable.

This cost estimation engineering course unfolds these principles, practices, and procedures by offering a straightforward, economical, step-by-step method for engineering cost estimation. It highlights potential pitfalls, problems, errors, and inaccuracies that could significantly impact the precision of cost estimates, hence determining the thin line between success and failure.

Organized to present an overarching understanding as well as delve into each phase of the cost estimation process, this cost estimation engineering course is not laden with complex mathematical and statistical aspects of cost estimating. Instead, it is shaped as an accessible discourse on core concepts coupled with actionable steps to craft management, labor-time, materials-based, and parametric cost estimates.

This cost estimation engineering training targets a broad professional audience including cost estimation engineers, price estimators, cost analysts, pricing analysts, and system cost analysts across various sectors such as academia, small businesses, large corporations, or government institutions. It is an indispensable resource for any entity fervent about securing sustainable profits and maximizing value for money spent.

By adopting and implementing the insights from this coursework, a participant will grasp the intrinsic link between the nature of work activity and the resources required to accomplish it, recognizing the substantial rewards of adept estimating. Embracing a systematic approach to gauging the cost of labor activity or performance catalyzes one's capacity to evaluate the worth of labor both to themselves as a producer and to their consumers.

Targeted Audiences:

- Finance Managers.
- Budget Holders.
- Project Managers.
- Professional Engineers.
- Support Staff for the roles mentioned above.

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Course Objectives:

Participants completing this cost estimation engineering course will be adept at:

- Proactively estimating costs using engineering cost and estimation techniques.
- Applying cost reduction strategies effectively leveraging engineering cost estimating techniques.
- Formulating effective project cost estimates.
- Optimizing cost budgets, plans, and forecasts.
- Comprehending the nuances of project evaluation.

Targeted Competencies:

Participants competencies in this cost estimation engineering training will be adept at:

- Proficiency in cost estimation techniques.
- Understand cost control methodologies.
- Ability to conduct economic feasibility studies.
- Know project cost management tools.
- Expertise in cost risk analysis.
- Competence in budget forecasting and planning.
- Skills in cost reduction strategies.
- Proficiency in life cycle cost analysis.
- Understand cost estimation standards and guidelines.
- Ability to develop detailed cost breakdown structures.

Course Content:

Unit 1: The Imperative of Cost Estimating:

- Explore the necessity of estimating in a resource-constrained world.
- Increased productivity as a strategic response.
- Link productivity with the profit motive.
- The stake of the organization's reputation in cost estimation.
- Deep dive into cost-estimating procedures.
- Potentials of a standardized basic estimating process.

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Unit 2: Fundamentals of Cost Estimating:

- Delineate four types of work output.
- Define the engineering method of cost estimation.
- Differentiate cost from price.
- The constituents and tools needed for estimating.
- The human element: The cost estimator engineer.
- Dissect an estimated anatomy.
- Discuss various cost types.
- Harvest the ingredients for an accurate estimate.

Unit 3: Defining The Work Scope:

- Preliminary queries in the estimation process.
- Structure the estimate:
    - Work Breakdown Structure WBS.
    - The hierarchical relationship within WBS.
    - Functional versus in WBS
    - Physical elements in WBS.
    - Handle recurring and non-recurring activities.
    - Interrelationships within WBS components.
- Define the Estimate Ingredients.
- Identify estimated components to ensure cost-effectiveness.

Unit 4: Tools Required For Estimating:

- Four quintessential tools of estimating.
- Pre-estimation data accumulation.
- Methods employed in the cost estimation process.
- The role of technology improvement in cost estimation.
- Schedule estimates for maximum efficacy.
- Identify key skills for cost estimators.

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Unit 5: Developing the Schedule, Estimate Elements, And Guidelines:

- Recognize the importance of timing in cost-competitive outputs.
- Synchronize product delivery with requirement schedules.
- Craft a comprehensive schedule.
- Strategies employed in scheduling and planning.
- Phas skills in multi-output organizations.
- Manage long-lead-time components.
- Product development and production timelines.
- Formulate estimated elements.
- Analyze proposals.
- Establish essential guidelines.
- Rules for estimation.

Unit 6: Estimating Direct Material Costs and Labor Hours:

- Estimate Basic Engineering Material Costs.
- Estimate Engineering Activities.
- Manufacturing/Production Engineering.
- Estimating Manufacturing/Production, Assembly and Construction Activities.
- Manufacturing Activities.
- Construction Activities.
- In-Process Inspection.
- Computer Software Cost Estimating.
- Labor Allowances.
- Estimate Supervision, Direct Management, and Other Direct Charges.
- The Use of Factors in Estimating.

Unit 7: Estimating Labor Rates, Indirect Costs, and Administrative Expenses:

- Determine appropriate labor rates for cost and estimation engineer roles.
- Resources available for labor rate information.
- The spectrum of indirect cost components.
- Extract overhead costs.
- Comprehensive evaluation of general and administrative costs.
- Deal with bid and proposal costs alongside independent research and development expenses.