

Introduction to Construction Estimating

E-Learning Course Outline

Lesson 1 - Introduction

Course Introduction
Course Lessons
Remainder of Lesson
What is Construction Estimating?
Factors that Influence Cost
Industry Sectors
Roles, Responsibilities and Qualifications
Owner
Construction Estimator
Consultants and Subconsultants
Prime Contractor or General Contractor
Project Manager or Construction Manager
Subcontractors
Site Foreman
Site Superintendent
Site Supervisor
Safety Authorities and Inspectors
Buyer/Purchaser
Accountant
Administrators
Who's Responsible?
Types of Contracts
Lesson Summary
Lesson Test

Lesson 2 - Building Practices

Building Practices Overview
The Rationale for Cost Estimating
Bid Decisions
The Construction Estimating Process: Information Gathering
The Construction Estimating Process: Construction Estimating
The Construction Estimating Process: Cost Estimate
Types of Estimates
Types of Estimates: Classifications
Codes and Legislation
Construction Project Stages
Types of Bids
Types of Risk
Liabilities and Risk - Accountability
Avoiding Liabilities and Risk: General Contractor
Avoiding Liabilities and Risk: Subcontractor
Quality Assurance and Quality Control (QA/QC) Provisions
Review Game
Lesson Summary
Lesson Test

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Lesson 3 - Labour and Operations

- Lesson Overview
- Factors that Affect Labour and Operational Costs
- Labour Rates - Man Hours
- Labour Rates - Production Rate
- The Importance of Labour Costs
- Labour Costs
- Labour Costs: Example
- Crew Rates
- Crew Rates Example
- Direct Costs
- Indirect Costs
- Other Indirect Costs
- Impacts on Productivity
- Calculation of Operational and Payroll Expenses
- Operational Costs Associated with Labour
- Other Operational Costs
- Examples of Operational Costs
- Equipment Costs
- Lesson Summary
- Lesson Test

Lesson 4 - Handling Materials on the Job

- Lesson Overview
- What are Materials?
- Types of Materials: Indirect
- Types of Materials: Direct
- Examples of Direct Materials
- Identifying Required Materials
- Pricing Materials
- Factors Affecting Material Costs
- Additional Handling Costs
- Allowances
- Lesson Summary
- Lesson Test

Lesson 5 - Keeping Records

- Lesson Overview
- Systems for Managing Records
- Construction Estimate File
- Historical Database
- Bid Bucket
- Tips on Keeping Good Records
- Trivia Review
- Lesson Summary
- Lesson Test

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Lesson 6 - Producing Accurate Estimates

- Lesson Overview
- Estimating Tips
- Design Elements
- The Importance of Communication
- Quantity Takeoffs
- Quantity Takeoffs Sample
- Completing a Quantity Takeoff
- Quantity Takeoff Time Saving Tips
- Creating Estimates
- Project Schedule
- Preparing the Initial Schedule
- Preparing the Initial Schedule: Example
- Importance of Project Schedule
- Common Errors in the Estimating Process
- Tips for Avoiding Estimating Errors
- Lesson Summary
- Lesson Test

Lesson 7 - Working on Tenders

- Lesson Overview
- About Tenders
- Sections of Bidding Documents
- Read Tender Documents
- Pitfalls to Avoid
- Reviewing Contracts Tips
- Online Tender Process
- Markup
- Markup Factors
- Types of Bid Bonds
- Bid Bond Terminology
- Subcontractor and Supplier Bids
- Tender Document Inclusions
- Evaluating Subcontractor and Supplier Bids
- Assembling Final Bid Documents
- Withdrawing Bids
- Consequences of Withdrawing Bids
- Lesson Summary
- Lesson Test

Lesson 8 - Managing Change

- Lesson Overview
- Change Orders
- Types of Change Orders
- Processing Change Orders
- Dispute in a Change Order
- Markup on Change Orders

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Changes in Site Conditions
Site Conditions Steps to Reduce Risk
Types of Delays
Claims
Importance of Documentation
Documentation Best Practices
Trivia Review
Resources
Lesson Summary
Lesson Test