

Booking form

Principles of Cost Engineering

Course fee: £1250

Discounted rates are available for members of professional bodies/trade associations, and group bookings. Details available on request.

Surname _____

First name _____

Prof Dr Mr Mrs Miss

Position _____

Company _____

Address _____

Telephone no _____

Fax no _____

E-mail address _____

Payment

Please find enclosed a cheque for

£ _____
payable to Cranfield University

Please invoice my company for the full amount £ _____

Please debit my credit card Visa / Mastercard*

Card no ^{1st FOUR DIGITS} ^{2nd FOUR DIGITS} ^{3rd FOUR DIGITS} ^{4th FOUR DIGITS}

Start date

Expiry date

Issue no

Three digit security code (on reverse of card)

Amount £ _____

Name of cardholder _____

Signature _____

Date _____

*Please note there is a 3% charge for credit card payments

Cancellations and substitutions

It is regretted that cancellations and refunds cannot be made. However, the organisers will accept substitutions provided that written notification is received.

Data protection Please tick this box if you do not wish your details to be held by Cranfield University for the purpose of marketing courses, conferences, research programmes and other associated activities.

For further information contact the Academic Operations Unit:

T: +44 (0) 1234 754176

F: +44 (0) 1234 751206

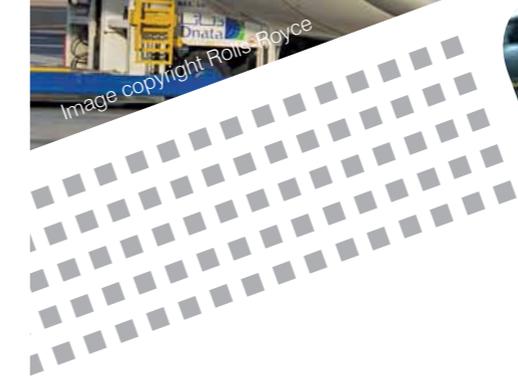
E: shortcourse@cranfield.ac.uk

Please detach and return this form to:

Academic Operations Unit, Cranfield University,
FREEPOST BF463, Bedfordshire, MK43 0AL
UK.

Cost engineering at Cranfield

Cranfield University leads industrial research and development, training, and commercial contracts in cost engineering for the aerospace, automotive, defence equipment manufacturing, construction and processing industries through the Decision Engineering Centre. Cranfield also has significant capabilities in the area of affordability engineering, a process that enables companies to reduce costs and improve value throughout the whole life cycle of a product by the use of cost estimating and risk information, especially at the conceptual design stage.



Contact

For further details including registration information please contact:

Academic Operations Unit
Cranfield University
Cranfield
Bedfordshire MK43 0AL, UK
T: +44 (0) 1234 754176
F: +44 (0) 1234 751206
E: shortcourse@cranfield.ac.uk

www.cranfield.ac.uk/sas/short

Principles of Cost Engineering

Online professional short course

Introduction

Cranfield University is one of the leading universities working with industry in the area of cost engineering. Cost awareness is essential for businesses to remain competitive. Enhanced knowledge of cost can improve communications and negotiating skills and ultimately overall cost reduction and business effectiveness.

Combining academic strength and industry knowledge with emergent e-learning technology means we are able to offer this unique certified web-based short course 'Principles of Cost Engineering', which has been developed in conjunction with industry. The course engages up-to-date online learning technologies in its delivery and employs the latest web-based software to deliver the material to the delegates' place of work.

The course aims to promote cost awareness, improve competitiveness and enable a positive influence on cost. Delegates will gain an understanding of cost in the context of the whole business, knowledge of the tools, techniques and methods to effectively manage and estimate cost, and an understanding of the impact of design, systems engineering and whole life cycle cost.

Who should attend?

- Professionals from all industry sectors including manufacturing, construction, process industries, oil and gas and nuclear decommissioning
- Those who work with, or are responsible for, engineers who need to know about cost engineering
- Delegates located globally, as the course can be accessed via the internet.

Course overview – key features

- Successful completion is certificated by Cranfield University and can be used as a contribution towards 'further learning requirements' for Professional Registration such as IMechE and CEng
- Delivery is purely online which means that no travel or subsistence costs are incurred
- Organisations can train their cost engineers on-site without losing valuable time away from work
- The course is interactive with a tutor available throughout the learning experience
- There is a significant level of networking and interaction with other delegates through the examined discussion board and the group project module
- Practical knowledge is gained and exchanged through several case studies and the group project.

Duration and start dates

The course is 12 weeks long. There are various start dates throughout the year. Please contact us for forthcoming dates.

Assessment

The course is evaluated by assessing assignments at the end of each section, the group project and through contributions to the on-line discussion board.

Course outline

There are six sections to the course outlined below:

Section 1 - Cost as a Business Driver

Examines how cost affects the business at all levels.

Learning outcomes

- What is cost and its business context
- Understand the differences between NRC (Non-Recurring Cost) and UPC (Unit Production Costs)
- Understand the cost impact of engineering decisions
- Understand that cost is everybody's responsibility.

Key Learning points

1. Different types of cost
2. Why think about cost
3. Cost as a design driver
4. Terminologies used in cost estimating
5. Parametric estimating
6. Understanding in trade-off decisions
7. Importance of decision making at early stages
8. Product complexity and cost.

Section 2 - Understanding Cost Drivers

Explains what drives costs in an organisation at all levels.

Learning outcomes

- To build a detailed cost estimate step by step
- Identify NRC and UPC cost drivers
- Undertake parametric cost estimates and describe their differences with a detailed cost estimate
- Use of commercial cost estimating tools.

Key learning points

1. To understand steps in detailed and parametric cost estimating
2. Cost information collection
3. NRC costs and UPC at the bid phase and during the full life cycle
4. Identification and visualisation of cost drivers
5. Trade-off and 'what-if' analysis
6. Impact of engineering decisions on cost
7. Awareness of different estimating tools on the market
8. Estimating tools and the full life cycle.

Section 3 - Target Costing

Cost is market driven. Explains how target costs are cascaded into a Bill of Materials.

Learning outcomes

- Understand Target Costing principles
- Understand the challenges in Target Costing including a worked example
- Understand and use cost reduction techniques.

Key learning points

1. Target costs, product costs and target costing culture
2. Understanding the customer and their costs
3. Impact of cost engineering on cost reduction
4. Life cycle and cost reduction
5. Cost engineering approaches.

Section 4 - Costs of Supply

This module examines how a significant percentage of cost is driven by the supply chain.

Learning outcome

- To understand the cost of supply.

Key learning points

1. Make or buy decisions
2. Look at supply chain relationships and their costs
3. Cost of outsourcing
4. Impact of logistics on systems design and costs
5. Impact of procurement decisions on cost.

Section 5 - Whole Life Cost

Cost should be considered for the full life of a product or service.

Learning outcomes

- Understand the systems engineering perspective to life cycle cost
- Understand whole life cost prediction
- Understand the cost of Commercial Off The Shelf (COTS).

Key learning points

1. Impact of systems design decisions on costs
2. Management of life cycle costs through systems engineering
3. Systems engineering and management of COTS
4. Uncertainty at the bidding stage
5. Whole life cycle costs - prediction and management

Section 6 - Group project

In the final section the group works together on a realistic project to address key issues of cost estimating and reduction and examine the cost impact of decisions. This provides the opportunity for networking and the interchange of ideas.