

Design Economics and Cost Planning

Module Descriptor

Module Code:	QSP5DEC
Version:	6.00
Status:	Final
Date:	07/01/2025

Summary Module Details

Module details

Module Title: Design Economics and Cost Planning

Module Leader: Lesley Callander

Module Mode: Supported online learning

Semester: Spring (UK)

Level: 5

Credits: 20

Learning Hours: 200

Contact and Study Hours:

Directed Study Time: 90 hrs (45%)

Self-Directed Study Time: 50 hrs (25%)

Assessment Study Time: 60 hrs (30%)

Assessment Type:

Coursework: 0%

Computer Based Assessment: 0%

Portfolio: 100%

Presentation: 0%

Project: 0%

Practical: 0%

Self-directed Research: 0%

Module Summary

This module aims to provide students with an appreciation of construction costs and the methods used to manage and control costs from inception of a project. It considers what affects the cost of a building, and how the costs of the development can be controlled at the pre-contract stage of the project.

The application of the Royal Institution of Chartered Surveyors (RICS) New Rules of Measurement (NRM) is considered when undertaking pre-contract cost control activities. The methods of producing an order of cost estimate and cost plan are explained alongside their role in the financial reporting and control of a project. The importance of lifecycle costs and the maintenance management of a building are also considered.

Taken on which Programmes

BSc (Hons) Quantity Surveying (C)

Core (C) or Elective (E)

Module Aims

This module aims to:

- Provide an understanding of factors that can affect the cost of a building.
- Establish a theoretical and practical understanding of how the costs of construction can be controlled at the pre-contract stage.
- Provide an understanding of how alternative design solutions impact on lifecycle costs and the methods used to establish such costs.
- Provide insight into maintenance management and its relevance to lifecycle costs.

Module Learning Outcomes

- LO1. Examine key features of design economics, cost planning and the principles of pre-contract cost control.
- LO2. Analyse alternative construction design solutions using established methods and techniques and assess their impact on initial and lifecycle costs.
- LO3. Demonstrate knowledge and understanding of the processes and methods involved in preparing cost advice associated with the construction and lifecycle of new building.
- LO4. Demonstrate critical appreciation of the processes involved at the pre-contract stage of a project in delivering value to the client.

Indicative Module Content

Module topics

- **Project inception and the development process**

Pre-contract roles of the project team, briefing process, value for money and the need for value management; Processes that add value to the operational lifecycle of a building. Identifies the processes involved in property development and the role of the cost consultant in providing early cost advice.

- **Factors that affect the cost of construction**

The factors that affect the cost of construction. Identifies factors which affect the cost of buildings by considering three main areas:

1. Design factors such as shape of building, circulation space, height etc.
2. Site factors such as location, topography etc.
3. Economic factors such as the amount of construction work available, availability of resources etc.

The impact of sustainability factors is considered within each of the above as applicable.

- **Pre-contract cost control: Preparing pre-contract cost advice, practical application, and analysis**

Provides an insight into the need for pre-contract cost control and an overview of the methods used at the various stages of the design process; practical application of the

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various techniques used during pre-contract cost control. Provides an appreciation of how rates are built up and what influences costs.

Identifies various sources of cost information, explains suitability for individual building projects and methods of adjustments and updating that will be required to ensure appropriateness for use.

Critical analysis of the pre-contract cost control methods, exploring the benefits and limitations in their use.

- **Life Cycle Costing, building maintenance management**

Introduces the importance of considering not only initial costs of construction but also the future costs associated with owning and running a property after construction, identifying issues relating to sustainability as appropriate. Explains the calculation used to compare life cycle costs of alternative design options allowing recommendations to be made to a client.

Explains the importance and implications of maintenance management. Considers the relationship between building maintenance management and processes such as life cycle costing (LCC), value management and value engineering (VM/VE).

This content will be reviewed and updated regularly to reflect the legal, ethical, and financial changes in professional standards and practice.

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting
LO1, LO2, LO3, LO4	Assessment 1 Portfolio	4,000	100%

Module Pass Mark (as a weighted average of all assessments): 40%

Key Module Learning Resources

Core Sources and Texts

The core reading resources within each module will be provided via the specific Virtual Learning Environment (VLE) module pages and within the e-Library. Additional reference material and supplementary resources to support your studies are available through the UCEM e-Library.

Module tools

Students will have access to study materials, dedicated academic support, student forums, and learning activities via an online learning platform (VLE).

The module page on the VLE is broken down into structured study weeks to help students plan their time, with each week containing a mixture of reading, case studies, videos/recordings, and interactive activities to go through. Online webinars/seminars led by the Module Leader can be attended in real time and provide opportunities to consolidate knowledge, ask questions, discuss topics and work through learning activities together.

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These sessions are recorded to support students who cannot attend and to enable students to recap the session and work through it at their own pace. Module forums on the VLE provide further opportunities to discuss topics with other students, complete collaborative work and get extra help from the module team.

Professional online resources

The e-Library provides access to trusted, quality online resources, selected by subject specialists, to support students' study. This includes journals, industry publications, magazines, academic books, and a dissertation/work-based library. For a list of the key industry specific and education resources available please visit [the VLE e-Library](#).

Other relevant resources

Access is also provided to further information sources that include the British Library and Open University UK catalogues, as well as providing a monthly current awareness service entitled, **Knowledge Foundations** - a compendium of news, research and resources relating to the educational sector and the Built Environment.

The module resource list is available on the module VLE page and is updated regularly to ensure materials are relevant and current.