

Estimating and Tendering

Module Descriptor

Module Code: QSP5ETC

Version: 10.00

Status: Final

Date: 29/01/2024

Summary Module Details

Module details

Module Title: Estimating and Tendering

Module Leader: Amanda Milambo

Module Mode: Supported online learning

Semester: Autumn (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: 60%

Computer Marked Assessment: 40%

Self-directed Research Project: 0%

Portfolio: 0%

Module Summary

This module covers the key aspects of estimating and tendering of construction projects. It sets out the principles of estimating and tendering, with particular reference to the contractor's perspective. It is primarily focused on the costing of construction projects and factors affecting costs of labour, plant and materials. The module also examines the use of information and communication technologies (ICT) in estimating and tendering and how this is developing in the construction industry.

The module diet is structured to ensure that the delivery of modules supports your learning. However individual student circumstances may mean the sequence of the planned module diet changes. It is therefore strongly advised that you study QSP5MQC Measurement and Quantification of Construction Work before attempting QSP5ETC Estimating and Tendering.

Taken on which Programmes

BSc (Hons) Quantity Surveying (C)

Core (C) or Elective (E)

Module Aims

This module aims to:

- provide the student with an understanding of the principles of costing of construction projects through accurate estimating;
- develop competence in building up rates for various elements and trade packages;
- provide the student with an understanding of the process of tendering and the importance of tender documentation;
- develop the ability of students to both quantify and value construction work as part of the process of estimating.

Module Learning Outcomes

- LO1. Demonstrate knowledge and critical understanding of the current and emerging principles of cost estimating and tendering of construction projects.
- LO2. Quantify and value construction works by building up rates, analysing the costs of labour, materials, plant, profits and overheads; and pursuing sustainable solutions.
- LO3. Demonstrate logical and critical thinking, the ability to draw upon research and vocational experience and to integrate theory and good practice in estimating.
- LO4. Describe the competitive tender process, the process of preparing tender documentation in the construction industry and articulate good industry practice.

Indicative Module Content

Module topics

- **Estimating and tendering**
Contextualisation within the construction industry, the construction client, economics of the construction market, sources of construction work, microeconomic considerations, and implications of sustainability. Cost estimates, factors to be considered when pricing overheads and profits, adjudication of the estimate into a tender.
- **The tendering process**
Contract documentation, traditional tendering using bills of quantities, alternative tendering using plan and specification, contract agreement, sustainability credentials, standard forms of contracts. Use of specifications, writing specifications and standard specifications.
- **The estimating process**
Tendering policy, procedure, bidding strategy, overheads, profits, building up rates, labour, materials, plant, subcontracting and impacts of sustainability. How to prepare an estimate based on drawings and specification tender documents, adjusting estimates, incorporating subcontractors' estimates into the main contractor's tender submission.

Estimating and Tendering

- **Pricing unit rates**

Pricing construction works, unit rate calculations including worked examples use of unit rates for valuing works. Consideration of items in the preliminaries section of a bill of quantities and estimating of such items. Examples of fixed costs and time related costs items.

- **Operational estimating**

Preparation of an operational estimate, advantages of operational estimating, converting the operational estimate to bill rates, method related charges.

- **Introduction to builder's quantities**

Introduction to the use of builder's quantities for use on plan and specification tenders.

- **Builder's quantities – substructure works**

Measurement and costing of substructure and a range of superstructure elements works using builder's quantities including worked examples.

- **Project time and cost optimisation**

Project time, optimising time and project cost, least cost optimisation, activity compression. Development of cost and value engineering including an international perspective.

- **The use of ICT technology in bill production estimating and e-tendering**

Use of ICT in the measurement and estimating of construction works. Limitations of ICT and investing in specialist hardware and software. Building Information Modelling (BIM).

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

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting
LO1, LO2 and LO3	Assessment 1 Computer-Based Assessment (CBA)	1,600-word count equivalent	40%
LO1, LO2, LO3 and LO4	Assessment 2 Coursework	2,400-word coursework	60%

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. 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 website and is updated regularly to ensure materials are relevant and current.