Measurement and Quantification of Construction Work

Module Descriptor

Module Code: QSP5MQC

Version: 8.00

Status: Final

Date: 30/03/2021

Summary Module Details

Module details

Module Title: Measurement and Quantification of Construction Work

Module Leader: Michelle Eze

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: 100%

Computer Marked Assessment: 0%

Self-directed Research Project: 0%

Portfolio: 0%

Module Summary

This module develops an understanding of the measurement and estimating during the pre-tender process. It particularly focuses on the preparation of pricing and tendering documentation using specialist software, and how this can be costed by a contractor to create the tender price. It will develop key practical skills in quantifying and costing different elements of construction work for commercial, industrial, and infrastructure projects and in using various standard methods of measurement. This module will develop key practical skills in quantifying various elements of construction work from drawings using accepted conventions and appropriate standard methods of measurement.

Taken on which Programmes

BSc (Hons) Quantity Surveying (C)

BSc (Hons) Construction Management (C)

Core (C) or Elective (E)

Module Aims

This module aims to:

- provide an understanding of the role of the quantity surveyor in the construction industry;
- develop competence in measurement and quantification techniques for both basic and complex construction works;
- develop the ability to utilise and apply appropriate standard methods of measurement in the preparation of contract pricing and tendering documentation.

Module Learning Outcomes

LO1.   Discuss the production of pricing and tendering documents and determine how measurement is carried out in accordance with a standard method of measurement and apply industry principles and conventions to building measurement.

LO2.   Apply industry standard principles, measurement methods, rules and conventions to various scenarios, demonstrating accuracy, critical thinking and the ability to integrate theory and practice.

LO3.   Demonstrate the ability to locate and assemble information, read/interpret drawings, draw upon research and vocational experience and current best practice.

Indicative Module Content

Module topics

- **The QS role within the construction industry**

   The development of the role of the quantity surveyor in the UK and other countries; the pre-tender process; the briefing process; the influence of sustainability in the process and production of pricing and tendering documents; standard methods of measurement.

- **Introduction to measurement**

   The use of generally accepted conventions in the production of contract pricing documentation for tendering purposes. The use of standard methods of measurement including the RICS New Rules of Measurement (NRM). Applied mensuration.

- **Practical exercises in measurement**

   Including basis substructures, external walls, finishes, roofs, upper floors, reinforced concrete structures, structural steelwork, demolitions and alterations. Calculation of unit rates.

- **Contract documentation bill preparation**

  Production, purpose and format of bills of quantities.

- **Information and communication technology (ICT) and bills of quantities**

  The use of computers for creating bills of quantities. The use of electronic measurement in the forms of digitising and CAD. 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, LO3	**Assessment 1** Coursework	1,600	40%
LO1, LO2, LO3	**Assessment 2** Coursework	2,400	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.