

Measurement and Quantification of Construction Work

Module Descriptor

Module Code:	QSP5MQC
Version:	10.00
Status:	Final
Date:	28/02/2024

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: 0%

Computer Based Assessment: 40%

Portfolio: 0%

Presentation: 0%

Project: 0%

Practical: 60%

Self-directed Research: 0%

Module Summary

This module develops an understanding of the process of measurement and quantification during the pre-tender process. It particularly focuses on the traditional measurement process and the production of an unpriced BOQ as part of the tendering process. This module will develop key practical skills in quantifying common elements of construction work from simple drawings and specifications using a Standard Method of Measurement (SMM) following industry accepted conventions. It will analyse the various measurement software packages and how they influence the role of the Quantity Surveyor during the measurement and quantification works.

Taken on which Programmes

BSc (Hons) Quantity Surveying (C)

Core (C) or Elective (E)

Module Aims

This module aims to:

- Provide an understanding of the role of the quantity surveyor within the RIBA plan of work (2020), in the construction industry.
- Develop competence in measurement and quantification techniques for basic construction works.
- Develop the ability to utilise and apply appropriate Standard Methods of Measurement (SMM) in the preparation of contract and tendering documentation.

Module Learning Outcomes

- LO1. Discuss the production of pricing and tendering documents and critically determine how measurement is carried out in accordance with a standard method of measurement.
- LO2. Apply industry standard principles, accurate measurement methods, rules, and conventions to the measurement of various building elements items of works by locating and assembling information from drawings and specifications, based on research, vocational experience, and current best practice.
- LO3. Apply and examine theoretical principles that inform the use of computer software for measurement and quantification including the production of bills of quantities.

Indicative Module Content

Module topics

• The QS role within the construction industry

The development of the role of the quantity surveyor globally with emphasis on the UK RIBA framework (2020); the pre-tender process; the briefing process; the influence of sustainability in the process and production of pricing and tendering documents.

• 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 basic substructures and superstructure items such as: external walls, finishes, roofs, upper floors, reinforced concrete structures, structural steelwork, demolitions, and alterations.

Contract documentation- bill preparation

Production, purpose, and format of bill of quantities.

• Information and communication technology (ICT) and bills of quantities

The theoretical principles that inform the use of computer software for creating bills of quantities. The processes involved in 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, ethical, and financial changes in professional standards and practice.

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting
LO1, LO2	Assessment 1 Computer Based Assessment (CBA)	1,600 word equivalent	40%
LO2, LO3	Assessment 2 Practical	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 <u>the VLE e-Library</u>.

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.