

MODULE DESCRIPTOR

Module Title

Measurement and Estimating of Building Services and Structural Work

Reference	SU3058	Version	1
Created	February 2024	SCQF Level	SCQF 9
Approved	July 2024	SCQF Points	30
Amended		ECTS Points	15

Aims of Module

To provide the student with the ability to undertake digital quantification and presentation of construction work for pricing, including structural frames and services, and to competently perform contractors estimating in a built environment context.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Demonstrate the principles and methods of digitally recording measurements from construction drawings/models in accordance with the current RICS New Rules of Measurement.
- 2 Assemble bills of quantities by accurately quantifying construction work from drawings/models using digital tools to industry standards.
- 3 Explain the processes, procedures and methods routinely adopted in the estimating and tendering process from initial enquiry to tender submission.
- 4 Estimate the cost and carbon implications of construction operations through the application of techniques used by contractors.

Indicative Module Content

This module will provide an understanding of the use of Bills of Quantities (BQs) and their formats and include the application of the current method of measurement. Students will be exposed to digital measurement tools (such as CostX) for building works including structural and service installations. Methods, processes, and procedures routinely adopted in the construction industry for financial forecasting and control will be provided to give the student an insight into the techniques used by contractors for estimating and ensuring financial control of a construction project. Spreadsheet based exercises will be used to demonstrate and encourage the discovery of links in the data chain.

Module Delivery

This module is delivered by lectures, workshops, practical exercises and directed reading.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	60	N/A
Non-Contact Hours	240	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	An individual coursework incorporating the preparation of a partially priced Bill of Quantities and an embodied carbon estimate				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The overall module grade is based on 100% weighting of a single Component 1 (Coursework). An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 RICS. 2021, New Rules of Measurement 2 Detailed Measurement for Building Works, 2nd Ed, RICS Publication, London.
- 2 PACKER, A.D 2016 Building Measurement. Harlow: Longman
- 3 BROOK, M; 2017. Estimating and tendering for Construction Work, 3rd ed. Elsevier - Butterworth Heinemann
- 4 CIOB, 2012. Code of Estimating Practice. Blackwell Publishing; 7 Rev Ed edition (Nov 2008).
- 5 RAHMAN, A AND MONCASTER, A. 2024. The Routledge Handbook of Embodied Carbon in the Built Environment.
- 6 HOLM,L. AND SCHAUFELBERGER, J.E. 2021, Construction Cost Estimating. 1st ed. Routledge.