



## **Module Specification**

### **BIM in Construction Operations**

Version: 2023-24, v2.0, 11 Jul 2023

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## Part 1: Information

**Module title:** BIM in Construction Operations

**Module code:** UBLMHF-15-M

**Level:** Level 7

**For implementation from:** 2023-24

**UWE credit rating:** 15

**ECTS credit rating:** 7.5

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Architecture & Built Environ

**Partner institutions:** None

**Field:** CONSTRUCTION AND PROPERTY

**Module type:** Module

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** Not applicable

**Features:** Not applicable

**Educational aims:** See Learning Outcomes

**Outline syllabus:** BIM for construction operations;

Construction schedules and logistics using BIM to communicate and evaluate project

activities;

Predicting, identifying and solving constructability issues;

BIM for scenario forecasting;

BIM for construction system design;

BIM for site utilisation planning;

BIM for phase planning;

New directions and developments in BIM enabled construction operations.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** The module is delivered by way of a blended learning approach using live time collaborate on-line lectures. Key lectures will be used to develop certain technical and conceptual aspects of the syllabus. Students will support their learning by tracking a live or recently completed project. Tutorials and workshops will be used to support the students' own research and to challenge their knowledge where it is too narrow. Students' work will also be exposed to peer critical evaluation through discussion. Use of university's virtual learning environment discussion facilities in Blackboard will be made to ensure that distance learning students are actively engaged in their learning.

- Face to face or on-line lectures will be used to enable students to support their own independent learning by exploring deeper issues pertaining to the use of BIM at the design stages, and receiving formative feedback.

- A series of face to face or on-line tutorials are designed to provide knowledge and practical skills in the use of BIM processes and technology at the design stages.

- Presentations by the students will also be used to enable students to develop the skills and capabilities to analyse problems, negotiate, make decisions and present solutions to problems. The formative work in the presentation will provide research material useful to the final report. Collaborative aspects of these presentations will be delivered online.

- Directed reading examining the key principles and relevant criteria relating to a number of topics of importance to BIM in design coordination. Their implications on design and construction professionals and other stakeholders are also examined by bringing together the BIM enabled design and collaborative aspects of the industry.

**Module Learning outcomes:** On successful completion of this module students will achieve the following learning outcomes.

**MO1** Critically evaluate current practice in the use of BIM for construction operations

**MO2** Simulate construction schedules and logistics using BIM to communicate and evaluate project activities

**MO3** Apply BIM for buildability scenario forecasting, including interference management and clash detection

**MO4** Use BIM for construction system design

**MO5** Evaluate the role of BIM for site utilisation planning

**MO6** Critically analyse BIM for phase planning

**MO7** Assess collaborative practices in a multidisciplinary team

**Hours to be allocated:** 150

**Contact hours:**

Independent study/self-guided study = 113 hours

Face-to-face learning = 30 hours

Total = 143

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ubl/mhf-15-m.html) via the following link <https://uwe.rl.talis.com/modules/ubl/mhf-15-m.html>

## **Part 4: Assessment**

**Assessment strategy:** The Assessment:

Practical Skills Assessment - Group work . This is designed to evaluate students' practical skills in planning and applying BIM processes and technology throughout the construction stage. Software is used to support students in their learning process. Students are expected to work on a case study to provide a real-life experience of using BIM in the construction workflow in a group presentation.

Report (2500 words) Students are expected to prepare a report demonstrating detailed knowledge of the application of BIM at construction stages and in practice. It is important for the student to appreciate the depth of detail required in which BIM operates at the construction stage, including prevailing and emerging collaborative practices. This report is also a reflective piece of work to examine the strengths and limitations of current and emerging BIM processes and technology at the construction stage.

Resit Practical Skills Assessment - a similar brief to that described above, which may include a summary of changes since any previously submitted work.

Resit Report - a similar brief to that described above, which may include some topic changes.

**Assessment tasks:**

### **Practical Skills Assessment (Resit)**

Description: Practical skills assessment (BIM Model)

Weighting: 50 %

Final assessment:

Group work: Yes

Learning outcomes tested: MO2, MO3, MO4, MO5

**Report (Resit)**

Description: Report (2500 words)

Weighting: 50 %

Final assessment:

Group work: No

Learning outcomes tested: MO1, MO5, MO6, MO7

**Practical Skills Assessment (Resit)**

Description: Practical skills assessment (BIM Model)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5

**Report (Resit)**

Description: Report (2500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO5, MO6, MO7

**Part 5: Contributes towards**

This module contributes towards the following programmes of study:

BIM in Design, Construction and Operation [Frenchay] MSc 2023-24

Construction Project Management [Distance] MSc 2023-24

Construction Project Management [Frenchay] MSc 2023-24

Construction Project Management [Distance] MSc 2022-23

Construction Project Management [Feb][PT][AustonSingapore][2yrs] MSc 2022-23

BIM in Design, Construction and Operation [Frenchay] MSc 2022-23

Construction Project Management [Frenchay] MSc 2022-23