



## **Module Specification**

### **BIM in Construction Operations**

Version: 2025-26, v2.0, Approved

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## Part 1: Information

**Module title:** BIM in Construction Operations

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

**Level:** Level 7

**For implementation from:** 2025-26

**UWE credit rating:** 15

**ECTS credit rating:** 7.5

**College:** College of Arts, Technology and Environment

**School:** CATE School of Architecture and Environment

**Partner institutions:** None

**Field:** Architecture and the Built Environment

**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:** This module is about Building Information Modelling (BIM) in the context of construction operations. It examines how BIM integrates people, processes, and technologies to enhance collaboration, automate workflows, and improve project performance. Students will engage with key themes including cultural and collaborative aspects, the transition from design to manufacturing, buildability and clash detection, and planning with BIM. The module also highlights how BIM supports real-time monitoring, cost and time management, and as-built

documentation, preparing students to leverage BIM tools in real-world construction scenarios.

**Features:** Not applicable

**Educational aims:** This module aims to develop students' knowledge and critical understanding of how Building Information Modelling (BIM) supports and transforms construction-phase activities.

**Outline syllabus:** Topics covered are likely to include, but not limited to:

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 BIM-enabled project

**Hours to be allocated:** 150

**Contact hours:**

Independent study/self-guided study = 110 hours

Face-to-face learning = 40 hours

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

## **Part 4: Assessment**

**Assessment strategy:** The Assessment:

**Presentation** - This is designed to evaluate students' understanding of 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 Presentation** - For the resit, a similar brief to that described above will apply. Students who fail the presentation must revisit the group work and prepare an individual presentation, acknowledging their contribution and the work of others.

Resit deliverable(s) will be scaled appropriately for the individual presentation addressing the group task complexity.

Resit Report - a similar brief to that described above.

**Assessment tasks:****Report (First Sit)**

Description: Report (2500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO5, MO6

**Presentation (First Sit)**

Description: Group Presentation (maximum 25 mins)

Weighting: 50 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO2, MO3, MO4, MO5, MO7

**Report (Resit)**

Description: Report (2500 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO5, MO6

**Presentation (Resit)**

Description: Individual presentation (maximum 10 minutes)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO7

## **Part 5: Contributes towards**

This module contributes towards the following programmes of study:

BIM in Design, Construction and Operation [Frenchay] MSc 2024-25

Construction Project Management [Frenchay] MSc 2024-25

BIM in Design, Construction and Operation [Frenchay] MSc 2025-26

Construction Project Management [Frenchay] MSc 2025-26