MODULE SPECIFICATION

Part 1: Information			
Module Title	Low/zero Impact Buildings		
Module Code	UBLMQ4-15-M	Level	Level 7
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Architecture and the Built Environment
Department	FET Dept of Architecture & Built Environ		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
Educational Aims: See learning Outcomes **Outline Syllabus:** Highly efficient buildings; Zero-carbon and renewable technologies; Building environmental performance; Passive solutions; Renewable materials; Part L, EPC ratings, BREEAM, and WELL. BIM 6D Sustainability analysis (e.g. Thermal, Lighting, Ventilation, Life Cycle Analysis, Carbon footprint, materials…)

Teaching and Learning Methods: The module will be delivered by means of a series of lectures, seminars and tutorials.

Lectures and seminars will be used to enable students to support their own independent learning by exploring deeper issues pertaining to Low/zero carbon buildings, and receiving formative feedback. Occasional speakers will be used to provide up to date material and context to the applications of the subject area.

A series of tutorials are designed to provide knowledge and practical skills in the use of BIM processes and technology in low/zero carbon buildings.

Presentations by and to the group 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.

Directed reading examining the key principles and relevant criteria relating to a number of topics of importance to Low/zero carbon buildings.

Hours
The module is delivered by way of five study days for face to face teaching. Recorded lectures and the use of email discussion groups of virtual learning environments (VLEs) and other technology-aided means are also employed.

Part 3: Assessment

The assessment strategy adopted by this module involves a mix of practical skills assessment, and a report to reflect on BIM and BREEAM processes and technology applied at low/zero impact sustainable building.

The practical skills assessments are designed to evaluate students' practical skills in planning and applying BIM and BREEAM processes and technology to produce low/zero carbon buildings. State of the art technology, including hardware and software, is used to support students in their learning process. Students are expected to work on real-life case study to provide a real-life experience of using Low/zero carbon buildings.

Students are expected to prepare a report requiring a detailed knowledge of the application of Low/zero carbon buildings. It is important for the student to appreciate the depth of detail required in which BIM is applied to deliver the sustainability agenda. This report is also a reflective piece of work to examine the strengths and limitations of current and emerging BIM processes and technology to deliver low/zero carbon buildings. The Report is a 2500 word report suitable for dissemination to senior management.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		50 %	Report (2500 words/equivalent)
Practical Skills Assessment - Component A	✓	50 %	Building environmental performance assessment (Practical skills assessment)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		50 %	Report (2500 words/equivalent)
Practical Skills Assessment - Component A	✓	50 %	Building environmental performance (Practical skills assessment)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	Reference
Understand principles, theories, standards, regulations and tools to achieve sustainability (Component A and B)	MO1
Critically evaluate the potential benefits and issues of emerging technologies, such as BIM, and their impact to design, construct and operate more efficient, comfortable and sustainable buildings (Component A and B)	MO2
Understand the role of applying 3D BIM models in multidisciplinary decision-making to deliver the sustainability agenda (Component A and B)	MO3
Understand the principles, inputs and outputs to be able to create BIM models to perform sustainable analyses in relation to energy efficiency, lighting analysis, life cycle cost, carbon intensity and other criteria associated with sustainability (Component A)	MO4
Evaluate the implications of Part L, BREEAM and other regulations and standards in a construction project (Component A and B)	MO5
Evaluate technologies and design solutions using sustainability evaluation methods [BREEAM] and critically reflect on examples of good practice (national and international) (Component A)	MO6
Draw conclusions on the strategies used in exemplary sustainable buildings on energy use, CO2 emissions, comfort and well-being of occupants (Component A)	MO7
Plan technologies, analysis tools, evaluation tools, responsibilities and information management within a 6D BIM environment and communicate it effectively to achieve sustainability (Component B)	MO8

Contact Hours

Independent Study Hours:	
Independent study/self-guided study	114
Total Independent Study Hours:	114
Scheduled Learning and Teaching Hours:	
Face-to-face learning	36
Total Scheduled Learning and Teaching Hours:	36
Hours to be allocated	150
Allocated Hours	150

Reading List

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/index.html

Part 5: Contributes Towards
This module contributes towards the following programmes of study: