



Module Specification

Modern Methods of Construction

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Part 1: Information

Module title: Modern Methods of Construction

Module code: UBLM51-15-M

Level: Level 7

For implementation from: 2021-22

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Architecture & Built Environ

Partner institutions: None

Delivery locations: Frenchay Campus

Field:

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: Yes

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Sustainability and net zero carbon futures have become very important to the built environment. Efficiencies and smart project delivery are also vital to long term success. These topics are examined within the context of construction materials and the supply chain. This includes an appreciation of the basics of construction technology as a foundation on which to build the impact of modern methods.

Features: Not applicable

Educational aims: The module extends a basic appreciation of construction technology and environmental science principles from traditional construction to modern methods of construction. It highlights links between related aspects of the design, site practice, and operation of buildings and services installations including building performance at the point of occupation. Throughout the module, emphasis will be placed on means employed by building designers, developers and managers to accommodate the needs of clients, building users and to assess the building's impact on the public and the environment. The procurement and legal arrangements required to achieve this delivery is also a key outcome.

Outline syllabus:

1. Domestic and Commercial Construction
2. Building Services
3. Zero & Low Carbon Construction
4. Introduction to Modular Methods of Construction (MMCs)
5. DfMA (Design to Manufacture); Strategic Decisions and Government Policies
6. Sustainability Performance Criteria and MMCs
7. Inputs Structural and Service Strategies for MMCs
8. Structural implications for MMC projects
9. Time Scheduling for MMCs
10. Service implications for MMC projects
11. Environmental Assessment of MMCs
12. Procurement of MMC projects - the Government Agenda
13. Legal implications of MMC adoption
14. Smart contracts and MMC
15. Operational Management of MMCs
16. Site Operations of MMCs

Part 3: Teaching and learning methods

Teaching and learning methods: The core of the taught element of this module will be centred on lectures and practical tutorials where the construction methods for the

main building elements and building services installations will be introduced and analysed in both performance and production terms.

The lecturers will introduce and develop performance and production issues and problem solving necessary for the analysis of method. Tutorials will provide formative support addressing the outlined syllabus of this module, whilst quizzes will provide summative assessment of the students' progress throughout the year. An investigative approach based on sound scientific method will be fostered to support the writing up of a professional report, and communication skills and team work will be engaged during a group presentation.

Independent learning includes hours engaged with essential reading, tutorial tasks' preparation, assignment preparation and completion.

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

MO1 Examine the impact of MMC on industry practices.

MO2 Analyse modern construction technologies and material choices, and explain their relationship with design, manufacture techniques, risks, time, environmental and cost implications.

MO3 Investigate structural and service strategies and material choices, and explain their relationship with production methods (DfMA), risks, time, environmental and cost implications.

MO4 Apply building environmental assessment methods to evaluate thermal, aural and visual parameters defining human comfort levels, as well as health, well-being and accessibility concerns within a building.

MO5 Critically appraise the ramifications and forward planning necessary for the adoption of modern methods of construction on legal and procurement aspects.

MO6 Interrogate the claims of modern methods of construction to foster best practice adoption within the construction industry and the potential to be a catalyst for further change.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 128 hours

Face-to-face learning = 22 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://rl.talis.com/3/uwe/lists/54F1769D-508C-E988-825E-70827BD8A101.html?lang=en-GB&login=1) via the following link <https://rl.talis.com/3/uwe/lists/54F1769D-508C-E988-825E-70827BD8A101.html?lang=en-GB&login=1>

Part 4: Assessment

Assessment strategy: In practice the assessment are highly interlinked. The presentation and report provide a blueprint for effective synthesis of the learning material. The report and presentation are integrated with the latter effectively a summary of the first. It is to the advantage of the student's learning that these elements are integrated from their perspective.

The presentation represents the type of forum in which the student will advocate the adoption of Modern Methods in industry. The detailed follow up report is also true-to-life inasmuch as the report is studied by the audience following the presentation. This meshing of components is complimentary in allowing the student to instinctively seize the key concepts and show their synthesis of the ideas whilst also allowing them to delve further into the academic and theoretical underpinnings in the follow up report.

Assessment components:**Presentation - Component A (First Sit)**

Description: Group Presentation (10 minutes plus 5 minutes Q and A).

Individual marks given.

Weighting: 40 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report - Component B (First Sit)

Description: Report (1,500 words)

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Presentation - Component A (Resit)

Description: Individual Presentation (10 minutes plus 5 minutes Q and A)

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report - Component B (Resit)

Description: Report (1,500 words)

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Construction Project Management [Sep][DL][Frenchay][1yr] MSc 2021-22

Construction Project Management [Sep][DL][Frenchay][2yrs] MSc 2021-22

Construction Project Management [Sep][FT][Frenchay][1yr] MSc 2021-22

Quantity Surveying [Sep][PT][Frenchay][2yrs] MSc 2021-22

Quantity Surveying [Sep][FT][Frenchay][1yr] MSc 2021-22

Construction Project Management [Feb][FT][AustonSingapore][1yr] MSc 2021-22

Construction Project Management [Feb][PT][AustonSingapore][2yrs] MSc 2021-22

Construction Project Management [Jan][DL][Frenchay][1yr] MSc 2021-22

Construction Project Management [Jan][DL][Frenchay][2yrs] MSc 2021-22

Construction Project Management [Jan][FT][Frenchay][1yr] MSc 2021-22

Construction Project Management [Jan][PT][Frenchay][2yrs] MSc 2021-22

Construction Project Management [May][FT][AustonSingapore][1yr] MSc 2021-22

Construction Project Management [May][PT][AustonSingapore][2yrs] MSc 2021-22

Construction Project Management [Sep][PT][Frenchay][2yrs] MSc 2021-22

Construction Project Management [Sep][PT][AustonSingapore][2yrs] MSc 2021-22

Construction Project Management [Sep][FT][AustonSingapore][1yr] MSc 2021-22

Quantity Surveying [Sep][FT][Frenchay][2yrs] GradDip 2020-21

Quantity Surveying [Sep][PT][Frenchay][3yrs] GradDip 2019-20