Module Specification

Make and Build

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

Contents

Module Specification **1**

Part 1: Information **2**

Part 2: Description **2**

Part 3: Teaching and learning methods **4**

Part 4: Assessment **6**

Part 5: Contributes towards **8**

Part 1: Information

Module title: Make and Build

Module code: UBLM11-15-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: 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 requires all students to work as a group, take a previously established design proposal, and develop its construction detail through element fabrication and on to final assembly. The module's outcome is the group's completion of a full-size freestanding architectural structure, the construction and completion of which is the subject of a group assessment for the module. The size for this structure will be the order of a single storey in height. It is for a shelter that can act as a pavilion - providing flexible space for assembly and exhibition. The

project encourages creative problem solving and reconsideration of the nature of architectural structures. It promotes experimentation with materials and fabrication techniques.

This module will include a theoretical seminar to encourage a more in-depth understanding of cognitive theories as part of the programme's continued theoretical strand. The students are invited to read and distil seminal texts to be discussed in the seminar sessions and reflect and articulate their spatial experience while assembling the structure within computational methods.

Post-completion of the construction project students carry out a retrospective analysis of the fabrication and building processes to establish 'lessons learnt' and recommendations that can be made of improvements in technique and management of construction projects that use computational architecture. The reflective report will include a collaboratively distilled theory comparing the original design and the final structure.

This module connects with the module 'Digital Charrette' that precedes it in the MSc Computational Architecture programme. The design proposal that is developed and built for this module is the winning competition design established by the Digital Charrette.

Features: The module requires teamwork and is assessed by submitting the group' live build' project assessed in Component A1 as a single output. For that component, one mark is determined for the project, and all group-members involved in that project receive that mark.

This module connects with the module 'Digital Charrette' that precedes it in the MSc Computational Architecture programme. However, these two modules are not co-requisite and can be taken separately.

Educational aims: Explore theories of the mind and understand the fundamentals of cognitive theories, by reflectively experiencing the concepts in space.

Develop and practice innovative design and fabrication skill in computational

architecture.

Implement a live build project in computational architecture, identifying and managing its procurement strategy, fabrication, assembly and completion.

Collaboratively problem-solve that which is unforeseen in the process of construction.

Practice team-working skills in the design and build of a project in computational architecture.

Outline syllabus: The module runs as a short, intense architecture studio of between 3 to 4 weeks. Students taking the module will collaborate as a team to complete the detailed design and implement a live build project. Students are encouraged to use the expertise developed in other related modules to generate and refine proposals for an architectural structure and then complete its fabrication and assembly. This construction problem poses practical questions of structural integrity, design and use of false and temporary work for safe assembly, component fabrication, joint design, fixings and assembly sequencing, site management and health & safety risk review.

The theoretical and critical understanding of fundamental cognitive theories will be delivered as lectures and seminars over two weeks, supported by seminal readings. The students are invited to read and distil seminal texts to be discussed in the seminar sessions. Collaboratively distil and reflect the concepts to critically compare the original design (schematically proposed in the 'Digital Charrette' module) and the final structure.

The construction team submit two related module outputs: the completed construction project, and a Critical Project Review that provides a retrospective analysis and further development of the design project and its physical execution.

Part 3: Teaching and learning methods

Teaching and learning methods: 1.As it is an advanced architectural studio:
The module is conducted predominantly by self-directed teamwork. Teaching is provided as expert tutorial advice providing insight on appropriate computational methods, fabrication technique, modelling, structural design and construction management. This advice may also include coaching on team dynamics and project management. These advisory tutorials are programmed to support the student-teams' process of design development. This teaching is to be understood as a form of expert consultancy provided in support of the team's own development of the project.
2.Lecture-based, seminar discourse, and self-directed study:
This track enables students to support their creative investigation and independent learning to consider more profound design issues and receiving feedback. Students are exposed to master level architectural design education concepts. The introduction of analogue logic exercises and the invitation to abstract the process into visual representation allows students with non-design and design background to understand and communicate critical thinking.

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

MO1 Use spatial concepts at a high level of abstraction and develop critical responses to spatial cognitive theoretical discourses, and suggest new concepts or approaches within the context of computational design.

MO2 Explore computational processes for fabrication of structural and architectural forms and use these to refine, make and build an architectural structure.

MO3 Implement experimental fabrication processes in the construction of a well-crafted structure.

MO4 Identify, manage and effectively implement processes of health & safety, procurement, regulatory compliance, project programming, risk assessment and costing for the design and assembly and completion of an architectural structure.

MO5 Formulate and present a critical reflection and further development hypothesis of the fabrication and construction of an architectural structure, which

evaluates the processes undertaken and the 'lessons learned' from the decisions made during the design and construction of that structure.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 30 hours

Workshops = 120 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/7D8E8B12-61F1-7D3E-B331-AD415A284B36.html

Part 4: Assessment

Assessment strategy: The assessment output for this module is in two parts – the completed Architecture Structure, and a Critical Project Review.

The completion of the construction of the architecture structure includes the resolution of unforeseen construction resourcing problems and inclusion and adaption of newer technologies to the construction process where these were not anticipated in the feasibility study. As an advanced architectural studio, this assessment mode is appropriate because students are required to demonstrate agility with in-situ problem-solving of change due to change of circumstances, resolution of detail not anticipated by design documentation, site, weather and other unpredictable restrictions.

The Critical Project Review is assessed through the group's identification, recording and reflection of in-situ learning opportunities, retrospective analysis of the design-to-build process, and forward-looking development of the experimentation process. As it is placed in a research-based Masters programme, this module aims to experiment and apply innovative techniques. Therefore, this assessment point ensures the students critically consider their own work, find the limitations, and propose further

development.

Resit Strategy: whereas the First Attempt at this module requires two group work submissions and the participatory endeavour of a live build; the Resit Attempt is identified as an individual assessment, and an individual cannot be expected to execute a further build project alone. The scope of the outputs identified for this Resit will be reduced to an appropriate level for an individual to complete this work. To this end the resitting student will be asked to review the process of building the original project, with reference to key technical, implementation and health and safety issues and will be asked to prototype an aspect of the project offering an alternative proposal.

Assessment tasks:

Report (First Sit)
Description: Critical Project Review
(Digital film with supporting commentary, diagrams and text)
Weighting: 50 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO5

Final Project (First Sit)
Description: An Architectural Structure (Group Work)
Weighting: 50 %
Final assessment: No
Group work: Yes
Learning outcomes tested: MO2, MO3, MO4

Report (Resit)
Description: Critical Project Review (1200 words) includes report retrospective and learned lessons.
Weighting: 50 %
Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO5

Final Project (Resit)

Description: An alternative prototype of part of the structure.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computational Architecture [Frenchay] MSc 2023-24

Computational Architecture [Frenchay] MSc 2023-24