Module Specification

Advanced Technology and Environment 3

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Contents

Part 1: Information

Module title: Advanced Technology and Environment 3

Module code: UBLMT3-15-3

Level: Level 6

For implementation from: 2024-25

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: Architectural Technology and Environment 2 2024-25

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module contributes to the final year of study in the BSc Hons Architecture degree and, although it is not corequisite with that programme's final studio module, should encourage close links with related architectural design being undertaken by the student.

The module requires the students to marshal the technical knowledge they have developed over the preceding years of study and exercise design judgment in the

use of this knowledge to explore advances in technology and develop a technical strategy that is integrated with their design intentions for a design project.

Features: Not applicable

Educational aims: This module encourages extended in-depth explanation of a student's technical strategies and a focused exploration of selected detail designs, thus demonstrating the student's understanding of and skill in the application of advanced contemporary construction technology.

Outcomes of the module may include the following:

A description of the 'General Arrangement' of the building – demonstrating its organization and type of structure, building envelope and its relationship with the primary and secondary structure, services, fire and life safety strategy and environmental strategies;

The design and explanation of architectural elements – in a detailed drawing that demonstrates how construction detailing has informed an architectural idea; and how it conforms to necessary regulations;

The declaration and substantiation of an environmental and sustainability strategy for a building;

A costing and specification exercise highlighting material choice, quantities and of materials and embodied energy.

Outline syllabus: The students develop a detailed integrated technology and environmental strategy for their buildings and as part of this requirement will be expected to evaluate and provide information on the following themes:

Advanced Structural Strategies, Principles and Sizing
Advanced Materials, Properties and Life Cycle
Advanced Environmental Control, Quality and Comfort
Advanced Building Physics, Energy Performance and Water Management
Advanced Construction Detailing

Construction Poetics
Advanced Manufacturing, Assembly, Maintenance and Safety
Data, Research and Innovation
Ethics and Value

Part 3: Teaching and learning methods

Teaching and learning methods: The teaching and learning of this module is delivered though critical masterclasses by experts and the analysis of case studies to develop the students' understanding of how advanced technology and environmental strategies come together in real buildings.

The module also includes a series of tutorials to support the students in developing their report and ensure deep learning.

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

MO1 Establish a set of building performance and technical criteria (including physical and regulatory items) for a specific proposed architectural project; and describe this general arrangement of services, structure, building envelope and fire and life safety features with accuracy and in detail

MO2 Evaluate a range of advanced construction technologies, then identify and research a technical strategy containing material, component and system choices that be used to compose the detailing of an integrated element with an architectural and technical intention

MO3 Devise a detailed integrated technology and environmental strategy appropriate to the form and language of architecture of the project in hand and justify the selected solutions in relation to sustainable building practice

MO4 Devise an appropriate communication approach for illustrating in detail advanced technology solutions for an architectural design through the use of a variety of drawn and modelling media

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 0

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/6F472409-322A-1048-25E0-8D46556BFB69.html?lang=en-GB&login=1

Part 4: Assessment

Assessment strategy: Submission for this module involves a drawn and annotated explanation of the strategic and detailed design of an architectural proposal in the form of a report. The report consists of drawings, sketches and diagrams and approximately 2000 words. The aim of the report at this level is to create an opportunity for students to understand the necessity for research with design practice while developing a deeper understanding of particular building precedents in detailed design and technology.

The assessment vehicle supports and develops skills in what is understood to be one of the central professional activities of an architectural designer, involving the development of design solutions and explanation of these using drawings, models and also written technical description. To this end the assessment mimics design activity that students will undertake if they choose to continue in architectural practice.

Assessment tasks:

Report (First Sit)
Description: Detailed design report (2000 words)
Weighting: 100 %
Final assessment: Yes
Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Report (Resit)
Description: Detailed design report (2000 words)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Architecture [Frenchay] BSc (Hons) 2022-23

Architecture {Foundation} [Sep][FT][Frenchay][4yrs] - Withdrawn BSc (Hons) 2021-22

Architecture [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22