



Module Specification

Architectural Technology and Environment 2

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Part 1: Information

Module title: Architectural Technology and Environment 2

Module code: UBLMRJ-15-2

Level: Level 5

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: Design Studio 1 2023-24

Excluded combinations: None

Co-requisites: Architecture and Design Studio 2 2023-24

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Pre-requisites: students must take Design Studio 1 UBLLYC-60-1

Features: Not applicable

Educational aims: See Learning Outcomes

Outline syllabus: Technology Syllabus:

Advanced Technology and Environment 2 introduces the principles of contemporary

'frame-structured' construction as these are employed in a non-domestic medium-to-large scale of building. This technology is discussed with reference to the thematic questions and traditional construction introduced at Level 1. These key questions and associated syllabus elements are as follows:

Structural Principles and the sizing of structural elements used in contemporary technology using framed structures.

Material Properties of contemporary building materials (concrete, plastic composites, steel, for example)

Environmental Comfort in domestic and non-domestic environments.

Building Physics and thermal performance in domestic and non-domestic buildings.

Construction Detailing using contemporary materials.

Poetics and Problem-Solving – integration of contemporary building technology with architectural ideas.

Assembly, Maintenance and Safety – current construction processes, comparative analysis of procurement routes and assessment of health and safety.

Data and Research – methods of predicting building performance; and fire escape in non-domestic buildings.

Ethics and Value – the financial measurement of building construction, development for profit and the ethical role of the construction professional.

Typically, the Technical Report of the submission will include three work-elements through which students are to demonstrate their learning of this technical syllabus:

General arrangement drawings – demonstrating the organisation of structure and construction envelope for a frame-structured building of three or more storeys;

The design of a building element – in model and detail drawing that demonstrates how construction detailing has informed an architectural idea;

A technical logbook –this is to be an edited account of the student's work that demonstrates the knowledge they have gained from their studio work and from the lecture and seminar series associated with the module.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning:

As detailed above the strategy for the module is to introduce concepts and theories of construction, to develop the ability to understand building defects and condition, to undertake detailed site analysis and surveys, to complete a small design exercise and by calculating the required structural elements build and test part of the design.

This will be achieved through the following methods:

lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; supervised time in studio/workshop.

Independent learning:

In order to fulfil the requirements of the module a certain amount of independent learning is required. This time is used to support the taught contact sessions and in preparation of the test and Technical Logbook. This will be achieved through the following methods: hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below. Scheduled sessions may vary slightly depending on the module choices you make.

This module will be delivered as follows:

40 hours contact time that includes lecture based sessions, workshop sessions exploring theories of construction, small group seminars and technical skills sessions

9 hours are dedicated to laboratory sessions led by technical support staff

41 hours are scheduled for self directed learning in developing the output from survey work, case study preparation, design project and lab testing

24 hours technical report preparation

36 hours engaged with essential reading

Total = 150 hours

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

MO1 Demonstrate an ability to investigate, critically appraise and select structural systems, construction methods and materials.

MO2 Demonstrate an ability to detail frame buildings

MO3 Demonstrate an understanding of environmental comfort and thermal performance in non-domestic buildings; also to demonstrate an understanding of the methods of predicting building performance and fire escape.

MO4 Demonstrate an understanding of the methods of estimating the cost and the ethical role of the construction professional. Apply relevant regulations to design projects and assessment of health and safety

MO5 Understand and demonstrate the principles of information and communication technologies and desktop publishing to design process

MO6 Reproduce knowledge of contemporary (frame-structured) construction technologies and demonstrate the knowledge and detail principles of this technology in relation to the design decision-making process

MO7 Apply knowledge of contemporary construction techniques and material science to convey a declared architectural intention

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 101 hours

Face-to-face learning = 40 hours

Total = 150

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

Part 4: Assessment

Assessment strategy: The module mark is awarded for the Technical report submitted at the formal assessment point for the module. This Technical report is to include the General Arrangement Drawing, Building Element and Technical Logbook.

Resit is the same as the first sit.

Assessment tasks:

Report (First Sit)

Description: Technical report (2,500 words)

Weighting: 100 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6, MO7

Report (Resit)

Description: Technical report (2, 500 words)

Weighting: 100 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6, MO7

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] - Withdraw BSc (Hons) 2021-22