



Module Specification

Design and Engineering Studio 5

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Part 1: Information

Module title: Design and Engineering Studio 5

Module code: UBLMNQ-75-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 75

ECTS credit rating: 37.5

College: Faculty of Environment & Technology

School: FET Dept of Architecture & Built Environ

Partner institutions: None

Field: Architecture and the Built Environment

Module type: Module

Pre-requisites: Design and Engineering Studio 4 2023-24

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: The module is designed to equip students to produce credible and robust design responses with a particular specialism in environmental engineering. It can be taken by students who are already eligible for a BEng (Hons) Architecture and Environmental Engineering.

Outline syllabus: The content of the module (subjects for investigation and the design tasks) will be decided upon by staff at the start of each academic year. This content will focus on the exploration and response to ideas of environmentally responsive architectural proposals integrated with a strong set of environmental engineering outputs

The module will engage students in current problems affecting buildings and cities in order to develop a sophisticated understanding of how architecture and environmental engineering can contribute to the development of more sustainable and responsible cities.

The module will start by exploring the wide range of source material (literature, art, film, environmental systems, etc...) and will develop the student's conceptual and computational environmental tools in order to respond to climate change. The work of each student will be subject to critical review by their peers and internal and external experts. This sharing of experience is essential to the module and continues throughout the year.

Once this initial phase has been completed the students will develop their own individual environmentally responsive design proposals. Students will be expected to research the theoretical, social and cultural and historical contexts as well as environmental contexts and demonstrate a rigorous response to these in an individual design response that will take the form of a building on a real site, informed by appropriate precedents. The final proposal will be accompanied by a thoroughly investigated technical resolution and strong environmental engineering evidence as expected for a module assessed at Masters level.

Each element of the project is critically reviewed at key stages jointly by academics and peers and indicative assessment feedback is provided. Students are expected to act on feedback and revise their project as necessary for the final portfolio submission of their year's work as a portfolio. The portfolio, including an integrated technical portfolio constitutes the formal assessment point for the module. Students are expected to make this portfolio a full and comprehensive account of all their work on the module and to this end they are directed to keep sketch books, their process

of design research, technical and conceptual development for each project. Students will be expected to curate and provide a well presented portfolio.

The students will also have to produce a technical substantiation report alongside their portfolios. This will provide critical evidence of their investigations into appropriate structural, environmental, material, constructional and advance building services strategies. It will also provide evidence of their investigations into the relevant regulations that might inform their design proposals. It will evidence their ultimate choice of approach and justify the decisions that they have made. Evidence might take the form of product and material research, precedent studies, calculations and modelling.

Part 3: Teaching and learning methods

Teaching and learning methods: Teaching and learning in studio modules focuses on independent study under the supervision of the module leader, design tutors and research advisers. Studio sessions typically include a combination of studio presentations and lectures, workshop activities, site visits, group and individual tutorials and independent study.

This module acts as a framework in which each student has an opportunity to develop a design exploration that is of personal interest within a range of options offered. While the module allows for each student's exploration specific emphasis will be given to exploring ideas of how buildings and cities can be developed using responsive architecture and strong environmental engineering concepts. The studio will become the laboratory where innovative solutions are explored in order to develop architectures deeply embedded in critical environmental engineering principles.

The teaching activities respond to environmental engineering principles that produce future-proof design solutions. It is an important part of design learning that students are exposed to the ideas and critiques of their peers.

The design projects will be divided into stages with a programme of tutorials and reviews for each. Students will make verbal presentations to tutors and peers explaining their proposals. The feedback and other staff contact will provide formative feedback and help students configure their final submissions.

Students are expected to be working on the studio on up to two days per week. Outside of that time they are expected to be undertaking independent learning.

Scheduled contact hours will constitute approximately 295 hours of the 750 hours of work necessary to complete the module. This includes up to 2.5 days per week in the studio. Below an indicative breakdown of the contact hours:

Tutorials/Seminars/Formative Reviews 125 hours

Supervised studios 80 hours

Visits 30 hours

Lectures 30 hours

Summative assessment 30 hours

Self-directed learning 455 hours

Total student hours 750 hours

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

MO1 Critically investigate important theoretical and cultural (fine arts, humanities, theories of planning, historical) concepts that relate to an understanding of the built environment and rigorously integrate them into a creative design proposal, testing new hypotheses as part of the design process.

MO2 Produce comprehensive and complex design proposals for a physical intervention (in the form of a structure, building, buildings, groups of buildings or alterations to existing buildings and other structures) of which a significant part is resolved in detail and demonstrate a deep understanding of the methods, materials, processes and technologies of its potential realisation

MO3 Ensure that a design proposal responds creatively and critically to both the requirements of clients and users and the need for commercial viability.

MO4 Demonstrate an ability to respond creatively and critically to the urban context appropriate to the aims of the design project within physical, social, economic and environmental contexts and is sensitive to the balance between the needs of present and future users and the natural world.

MO5 Critically assess a variety of methods of communication of the design proposal and its contexts and apply suitable methods to the final presentation of the design proposal.

MO6 Research, critique, select and develop methods of construction assembly, integration of services and compliance with regulatory frameworks suitable for the design and demonstrate this design process.

MO7 Demonstrate a deep and systematic understanding of the knowledge and skills required for the design of more complex mechanical and electrical services through integration of these environmental technologies with an architectural strategy.

MO8 Analyse and critique the energy-use of material choices and systems design, incorporating building lifecycle analysis, to formulate a sophisticated prediction of the environmental impact of the design.

Hours to be allocated: 750

Contact hours:

Independent study/self-guided study = 455 hours

Face-to-face learning = 295 hours

Total = 750

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 is assessed in two elements: a design output and a technical report. Students must pass both elements separately in order to pass the module.

100% of the module mark is awarded for the Portfolio submitted at the formal assessment point for the module. The Design Portfolio is formally understood by the professional validating bodies as the vehicle suitable for the assessment of an architectural student and, as such is the assessment vehicle identified for this module.

The summative assessment is a holistic review of the Portfolio submission, which is reviewed with regard to a range of assessment criteria published with the Module Guide. Typically, the criteria cover themes such as: response to user needs; architectural organisation; response to context; drawing skill; and communication.

Formative review and assessment occurs at the conclusion of each of the design projects taken during the year. Each project may differently emphasise an aspect of the learning outcomes identified for the module and this particular emphasis is expressed to the student as part of the project brief.

It is usual for a small component of the module (part of one project) to be conducted as group work, which usually equates to less than 10% of the module workload. Guidance related to the portfolio submission requires that this work element is interpreted individually as part of the portfolio and that a clear distinction is made in the portfolio between the group work and any individual work that flows from this.

Assessment tasks:**Portfolio (First Sit)**

Description: Design element of Portfolio

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO4, MO5

Portfolio (First Sit)

Description: Technical element of Portfolio

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO6, MO7, MO8

Portfolio (Resit)

Description: Design element of portfolio

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO4, MO5

Portfolio (Resit)

Description: Technical element of portfolio

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO6, MO7, MO8

Part 5: Contributes towards

This module contributes towards the following programmes of study: