



Module Specification

Design Representation

Version: 2023-24, v3.0, 19 May 2023

Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	4
Part 4: Assessment.....	5
Part 5: Contributes towards	7

Part 1: Information

Module title: Design Representation

Module code: UBLMTV-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: None

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: In addition to the Learning Outcomes, the educational experience may explore, develop, and practise but not formally discretely assess the following:

Professional habits of work, time-keeping and punctuality.

Outline syllabus: CONTEXT AND RECENT HISTORY

Students will gain an understanding of the history of architectural IT, its origins in the 1970s and its rapid development through the 1990s into a set of tools which threatened to eclipse a wide range of long-established analogue tools (such as hand-drawing and physical modelling). Students will understand the changes and challenges triggered by the widespread introduction of IT and CAD into the architectural profession – for example, challenges to design process, client relationships, form making, representation and “mass-customisation”.

PROGRAMME SKILL

Students will develop a working knowledge of a range of design programs (AutoCAD, SketchUp and Revit, for example – and rendering and image manipulation programs such as Twinmotion and Photoshop). By working through digital drawing exercises students learn how to apply these programs to their own projects in the Design Studios. The use of this suite of programmes for the visualisation of design will develop in the following order:

2D CAD approaches for architectural and construction drawings.

3D ‘Building Information Management’ approaches for architectural and construction drawings.

Students will be able to consider CAD programs as tools with which they can progress their own design projects (rather than design projects being led by the capabilities and limits of the programs). Students will be encouraged to develop a critical awareness of the capabilities and concomitant restrictions these tools offer their design process and to develop their understand related to:

When each application is most appropriate for use during various stages of project development.

Appropriate strategies and methodologies for organising digital files and project information.

2D and 3D MODELLING

Students will be able to construct a digital model, from which can be extracted plans, sections, elevations and perspective views.

BUILDING INFORMATION MANAGEMENT

Students will gain a broad grasp of Building Information Modelling (BIM) and the way in which this emerging practice is encouraging collaboration and how that model can be used to increase efficiencies and avoid potential problems. Students will understand the principle of inputting parameters in order to influence the outcomes of automation. This will involve an understanding of how to produce information out of the 3D model (schedules, legends etc.)

Part 3: Teaching and learning methods

Teaching and learning methods: The module will deliver key information in lecture-based sessions that are supported by software demonstrations and drop-in sessions. These taught sessions will prepare students for two extended elements of coursework.

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

MO1 Explain the place of digital drawing within the history of architectural representation and identify the changes in architectural production that information technology has engendered

MO2 Discuss and describe a variety of digital visualisation tools commonly used by architectural designers in industry and explain the primary advantages and limitations of each approach, including the situations that are most appropriate for their individual use

MO3 Demonstrate a basic understanding of the application of digital conceptual design and photographic imaging tools commonly used by architectural designers

MO4 Demonstrate a basic understanding of the application of conceptual 3D imaging/modelling techniques commonly used for initial concept design

MO5 Demonstrate knowledge of and ability to apply the basic 2-dimensional CAD-based drawing tools required for the production of industry standard construction drawing documents, including: drawing of primitive elements individually and in combination in order to create comprehensive construction images; editing, modification, dimensioning and layout tools; organisational, grouping and filtering strategies for elements within 2D digital CAD files and broader sets of project documents

MO6 Understand the logic and protocols necessary for efficient file management, including the saving of information as layout, location, assembly and component, and layering within the drawing files in order to produce industry standard design, presentation and construction drawing documents

MO7 Comprehend, albeit in simple terms, the collaborative process that is supported by 3-dimensional Building Information Modelling software; such that the student can follow the principles by which a 3-dimensional workspace is created for simulation of a building design

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ublmtv-15-2.html) via the following link <https://uwe.rl.talis.com/modules/ublmtv-15-2.html>

Part 4: Assessment

Assessment strategy: Digital Portfolio 1 - The digital portfolio consists of two components, the lecture logs and software tasks. The lecture logs are a reflective

record of the semester one lecture series. The software tasks are a series of exercises, worked examples and demonstrations of programs undertaken by the student throughout the teaching block 1 including small problems testing key digital skillset out as individual software tasks.

Digital Portfolio 2 – Students need to produce a Revit model to test their skills on how they can communicate an architectural design and produce several outputs from a 3-D model (e.g., plans, sections, elevations, schedules, rendered images, etc.). That project acts as an introduction to Building Information Modelling and is accompanied by an account of lectures logs for students to reflect on the content delivered in the lectures.

Resit Digital Portfolio 1 - a similar brief to that described above, which may include some topic changes.

Resit Digital Portfolio 2 - a similar brief to that described above, which may include some topic changes.

Assessment tasks:

Report (First Sit)

Description: Report on digital project (8 A3 pages maximum)

Weighting: 50 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO3, MO4, MO5

Portfolio (First Sit)

Description: Digital portfolio

Weighting: 50 %

Final assessment: Yes

Group work: No

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

Report (Resit)

Description: Report on digital project (8 A3 pages maximum)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Portfolio (Resit)

Description: Digital portfolio

Weighting: 50 %

Final assessment: Yes

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

Architectural Technology and Design [Frenchay] BSc (Hons) 2022-23

Interior Architecture [Frenchay] BA (Hons) 2022-23

Architecture and Planning [Frenchay] BA (Hons) 2022-23

Architecture and Environmental Engineering [Frenchay] BEng (Hons) 2022-23

Interior Architecture (International) {Foundation} [Sep][SW][Frenchay][6yrs] -
Withdrawn BA (Hons) 2021-22

Interior Architecture (International) {Foundation} [Sep][FT][Frenchay][5yrs] -
Withdrawn BA (Hons) 2021-22

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

Architectural Technology and Design {Foundation} [Oct][FT][GCET][4yrs] BSc
(Hons) 2021-22

Architectural Technology and Design {Foundation} [Feb][FT][GCET][4yrs] BSc
(Hons) 2021-22

Architectural Technology and Design [Sep][PT][Frenchay][5yrs] BSc (Hons) 2021-22

Architectural Technology and Design {Foundation} [Sep][FT][Frenchay][4yrs] BSc
(Hons) 2021-22

Architectural Technology and Design {Foundation} [Sep][SW][Frenchay][5yrs] BSc
(Hons) 2021-22

Interior Architecture {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2021-22

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

Architecture and Environmental Engineering {Foundation} [Sep][FT][Frenchay][5yrs]
BEng (Hons) 2021-22

Architecture and Environmental Engineering {Foundation} [Sep][SW][Frenchay][6yrs]
BEng (Hons) 2021-22

Architecture and Planning {Foundation} [Sep][FT][Frenchay][5yrs] BA (Hons) 2021-
22