Prifysgol Wrecsam
Wrexham University

Module specification

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Module Code	AUR5B1
Module Title	Architectural Design Technology 2
Level	5
Credit value	20
Faculty	Faculty of Art, Computing and Engineering
HECoS Code	100121
Cost Code	GABE

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc(Hons) Architectural Design Technology	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	15 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	15 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	**30** hrs
Placement / work based learning	0 hrs
Guided independent study	170 hrs
Module duration (total hours)	**200 hrs**

For office use only	
Initial approval date	3rd July 2024
With effect from date	September 2024
Date and details of revision	
Version number	1

Module aims

The principal aim of 'Architectural Design Technology 2' is to provide opportunities for students to develop appropriate skills, knowledge, experience and behaviours in respect of

outputs required throughout those stages that define the development of an architectural project, from Strategic Definition to the Handover and Use of the building.

The module also aims to provide students with opportunities to respond in design terms to both the repurposing and refurbishment of existing buildings as well as to new-build scenarios, so that detailed proposals can be developed that accommodate existing spatial and material constraints, as well as a 'blank canvas' in terms of the conceptual starting point.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Extrapolate 'strategic definition' and develop a detailed project brief from a given set of client requirements and circumstances.
2	Create conceptual drawings, models and artefacts in response to the strategic definition of a detailed project brief.
3	Develop architectural concepts into a spatially coordinated response to a detailed project brief, using manual and digital technologies to articulate building proposals in 'general arrangement' both horizontally and vertically.
4	Specify and visually represent appropriate technical solutions to ensure that pre-determined performance requirements in respect of building elements, materials, components and systems are satisfied.
5	Define and justify spatial arrangements and the selection of technical solutions through scientific and mathematical analysis of the use of space, and the specification of building elements, materials, components and systems.
6	Prepare and deliver a visual presentation that recounts the design process from extrapolating 'strategic definition' to the scientific and mathematical justification of technical solutions in respect of a given project brief.

Assessment

Indicative Assessment Tasks:

'Architectural Design Technology 2' will be assessed through the preparation and submission of a design portfolio and an associated visual presentation that combine to communicate informed understanding and authoritative technical depth in the development of architectural responses from the Strategic Definition of a project, through Concept Design and Spatial Coordination, to the completion of its Technical Design.

It is essential that students are provided with opportunities to develop proposals in the context of an existing structure that requires refurbishment and re-use, as well as in a new-build context, and the module tutor may facilitate this requirement by establishing separate assessment briefs for this purpose, or by combining an existing building and a new structure with the same site scenario. The Module tutor should be confident that sufficient technical depth can be achieved in terms of student outputs, and so no more than two design projects should be accommodated within the assessment regime.

Design projects should be prescriptive in that students work to the same assessment brief and therefore within the same defined parameters, so that at Level 5 direct comparisons can be drawn by individual students within the same peer group, which exploits the established practice of gaining feedback indirectly through the presentation of work in an architectural studio environment.

Whilst the comprehensiveness of the final designs and the technical competencies demonstrated on the part of the student are important, it is essential that every stage of the design process is captured in visual form, and so students must retain developmental work,

calculations, models, sketches and formative material in all its forms, and include it in a structured way as part of both the portfolio submission and the visual presentation; in this respect, communicating the design 'journey' is just as important as the architectural and technical qualities of the final design itself in assessing those Learning Outcomes associated with this module.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1,2,3,4 & 5	Portfolio	75
2	6	Presentation	25

Derogations

The pass mark for this module is 40%, and a minimum of 40% must be achieved in each assessment element.

Learning and Teaching Strategies

Learning and teaching strategies in the context of 'Architectural Design Technology 2' will accommodate both didactic and supervised practical opportunities to ensure that students gain knowledge and understanding through traditional teaching delivery, and are able to apply it through the development of design projects undertaken during supervised design studio sessions. Delivery will incorporate the principles of the University's Active Learning Framework (ALF), so that learning opportunities are both synchronous and asynchronous, and are supported by an accessible range of material resources.

Peer review makes a particularly important contribution to the evolution of design projects, and students will be expected to regularly engage in the critique of the work of their fellow students under the supervision of the module tutor. The architectural technology community is familiar with such a 'crit'-based methodology of learning, the principal benefit being that constructive feedback is shared with all of those who attend supervised studio sessions rather than on a one-to-one basis; this methodology accelerates design development because students learn from the experiences of others.

It should be emphasised that to maintain sufficient progress in the development of design projects, students will be required to dedicate a significant proportion of guided independent study time to the manufacture of drawings and models, and that the design studio will be made available for this purpose during non-timetabled sessions.

The nature of architectural design is such that initial progress through the early stages of the design process can be relatively slow for fear of making mistakes; students should be encouraged to overcome this fear by accepting that significant unknowns are always present at the outset of a project, and that errors of judgement are 'likely' throughout these early developmental stages. It is also important that students understand that learning from mistakes or errors of judgement in the early stages of a design project is a critical part of the process, and is essential to arriving at a successful, functional and fit for purpose building design solution.

It is suggested that 'Architectural Design Technology 2' lends itself well to the creation of an 'end of year' exhibition of student work.

Indicative Syllabus Outline

Strategic definition and developing project briefs:

- history and context
- political and economic context
- environmental impact
- current topics, new and emerging technologies

Architectural concepts:
- digitisation in the design, construction and management of buildings and infrastructure
- communicating digital information and data to clients, colleagues and stakeholders
- digital drawing standards, conventions and good practice
- drawing and modelling software
- physical media and developmental modelling
- hand sketching
- informal annotation and illustration

Spatial co-ordination:
- schedules of accommodation
- functional requirements in the shapes and proportions of spaces
- the interrelationships of spaces and circulation
- capacities and means of escape

Performance requirements and the specification of building elements, materials, components and systems:
- technological theories
- problem solve and to identify appropriate methodologies to deal with complex problems and realise design into built form
- substantial sustainable and inclusive design and research projects
- building elements, components, systems
- project and design management, project procurement and process, construction and contract management
- hazards and risks and develop and maintain safe systems of work
- identify relevant legislation and legal and regulatory frameworks

Portfolio preparation:
- the visual capture of the design process
- the Selection and inclusion of material
- organisation and structure

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

Iano, J. & Allen, E. (2022), *The Architect's Studio Companion: Rules of Thumb for Preliminary Design.* 7th ed. New York: John Wiley & Sons Inc.

RIBA (2024), *RIBA PLan of Work.* [Online]
Available at: https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work

Other indicative reading

Jenkins, E. (2022), *Drawn to Design: Analyzing Architecture Through Freehand Drawing -- Expanded and Updated Edition.* Basel: Birkhauser.

Emmitt, S. (2023), *Barry's Advanced Construction of Buildings.* 5th ed. New York: John Wiley And Sons Ltd.

Buxton, P. (2021), *Metric Handbook: Planning and Design Data.* 7th, new ed. Abingdon: Taylor & Francis Ltd.

Neufert, E. (2023), *Architects' Data.* 6th ed. New York: John Wiley And Sons Ltd.

Other sources:

Chartered Institute of Architectural Technologists: www.ciat.org.uk

Royal Institute of British Architects www.architecture.com

Chartered Institute of Building www.ciob.org.uk

Ordnance Survey www.ordnancesurvey.co.uk/

Royal Institution of Chartered Surveyors www.rics.org

Institution of Civil Engineers www.ice.org.uk

Designing Buildings Wiki www.designingbuildings.co.uk

Institution of Structural Engineers www.istructe.org.uk

IHS Database www.ihsti.com