

This Module Version is not active until 01/Sep/2024

## MODULE DESCRIPTOR

### Module Title

Formal and Technical Design Methods

Reference	AC5100	Version	2
Created	February 2024	SCQF Level	SCQF 10
Approved	November 2022	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

### Aims of Module

To equip the student with skills in the selection and use of advanced digital tools in the development and evaluation of formal and technical integrated design solutions.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Devise appropriate formal and / or technological strategies and methods for creating advanced technical and/or architectural designs
- 2 Critically interpret and evaluate existing technological precedent, results of simulations, and appropriate theoretical matter, as a means of achieving enhanced technical understanding and performance of design solutions.
- 3 Select and structure appropriate graphical, physical, digital or numerical methods, models, and tools, and apply them to the development of a technical solution.

### Indicative Module Content

Architectural design methods with a focus on systematic methods such as formal, performance based methods, including physical and/or digital modelling, structural testing, energy and lighting simulation, and their appraisal in simulated performance. This should also include contemporary methods in developing design variants through optimisation and selecting the best fit. The brief includes technologically-informed methods and processes involving numerical, computational or analogue appraisal of the designs using appropriate technical methods.

### Module Delivery

2 hours seminar and 2 hour studio tutorial per week, students develop their own coursework via digital or analogue modeling and simulation as a vehicle for developing the LOs.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	36	N/A
Non-Contact Hours	114	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3
Description:	Technical design report.				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

The overall module grade is based on 100% weighting of component 1 (coursework). An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	A
<b>B</b>	B
<b>C</b>	C
<b>D</b>	D
<b>E</b>	E
<b>F</b>	F
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 BIM Teaching and Learning Handbook: Implementation for Students and Educators, Routledge Hosseini, M. Reza
- 2 Understanding BIM: The Past, Present and Future, Ingram, Routledge Jonathan (VergeVT Pty Ltd, UK)
- 3 Designing for the Climate Emergency: A Guide for Architecture Students, RIBA Pelsmakers, Sofie
- 4 Integrated Strategies in Architecture (Technologies of Architecture) Paperback, Joan Zunde. 2006
- 5 Computing the Environment, Digital Design Tools for Simulation and Visualisation of Sustainable Architecture By Brady Peters, Terri Peters ? 2018