

MODULE DESCRIPTOR

Module Title

Innovative Strategies: Sustainable Design and Process

Reference	SUM550	Version	1
Created	August 2023	SCQF Level	SCQF 11
Approved	January 2024	SCQF Points	30
Amended		ECTS Points	15

Aims of Module

To develop a critical understanding of current theoretical positions and concepts relating to areas of strategic importance to the contemporary built environment. To understand the correlation between theoretical areas concerning the design and enabling processes, and to develop an ability to apply thinking in an integrated manner. In particular, this module will aim to develop understanding on current and future sustainable practice and how to evidence it.

Learning Outcomes for Module

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

- 1 Integrate environmental design parameters and principles in a selected design project by using environmental design theory, and simulation tools to reduce environmental impact.
- 2 Critically reflect on the impact of environmental approaches on the industry and how these challenges may be overcome through digital simulation and assessment tools.
- 3 Make informed judgements on specified aspects of Sustainable design and processes.

Indicative Module Content

This module introduces sustainable development goals as a key thematic area in construction and appraises and discusses this area in relation to current practice, through a range of case studies. Low Energy Design Strategies content to include: Climatic opportunities and challenges; Codes and Standards for low carbon design typologies (housing; Passive and active systems and strategies for heating, cooling, ventilation, and lighting; Lightweight and heavyweight construction; Materials, thermal bridging, air tightness, construction; Life cycle analysis; Certification and post-occupancy studies

Module Delivery

The module will be delivered through face to face lectures supported by online material and additional directed readings. Ideas will be explored in an applied, cross-disciplinary setting through research and analysis of selected case studies. Lecture content will be augmented by workshops and seminars to evidence and justify the students approaches. Presentations will be used to discuss work completed to staff typically in a Poster format or digitally.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	77	N/A
Non-Contact Hours	223	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	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:	A coursework in the form of a report/portfolio based on research/analysis of a project or case studies.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The overall module grade is based on 100% weighting of (Coursework). An overall minimum grade D is required to pass the module. Non-submission will result in an NS grade.

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

Module Requirements

Prerequisites for Module	A degree in an architecturally related discipline or in an allied design-based subject.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 Stephen Read, Jurgen Rosemann, Job van Eldijk (2012), Future City, Taylor and Frances.
- 2 Berge, B., 2009, Ecology of Building Materials; 2nd ed, Architectural Press
- 3 Journals, to include 'Design Studies', 'ITCon', Automation in Construction', professional journals, including those from the RICS, RIBA and CIAT.
- 4 Lehmann, Steffen (2014) Low Carbon Cities: Transforming Urban Systems. London, Routledge.
- 5 Heisel (etal) (2022) Circular Construction and Circular Economy, Birkhauser