

Module Details	
Module Title	Sustainable Design Studio 1
Module Code	CSE4008-D
Academic Year	2022/3
Credits	40
School	Department of Civil and Structural Engineering
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Directed Study	280
Lectures	36
Tutorials	48
Practical Classes or Workshops	36

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

Module Aims

"Sustainable design seeks to reduce negative impacts on the environment, and the health and comfort of building occupants, thereby improving building performance. The basic objectives of sustainability are to reduce consumption of non-renewable resources, minimize waste, and create healthy, productive environments."

The module aims to:

- * Develop the student's confidence and ability to apply a range of communication methods and media to present simple design proposals clearly and effectively as well as an ability to evaluate and rework ideas in response to review and feedback.
- * Introduce students to the skills, processes and practices involved in a spatial design project and create an awareness of the issues influencing the environmental and technical considerations of building design.
- * Enable students to acquire knowledge of surveying, construction and maintenance and understand the significance of material attributes and their influence on the design process.
- * Orient and critically engage the student in understanding the constructional and structural systems, the environmental strategies and the regulatory requirements that apply to the design and construction of a simple design project.
- * Enable students to engage through field work to consolidate the theoretical studies in surveying & construction methods so that students gain an understanding of the nature of construction and surveying and develop skills in problem solving and group work.

Outline Syllabus

- * The range of communication methods and media to present simple drawings and ultimately, simple design proposals.
- * Skills, processes and practices involved in a spatial design project.
- * Issues influencing the environmental and technical considerations of building design.
- * Basic principles and role of daylight and solar movement in space design and visual comfort.
- * Surveying, construction and maintenance techniques.
- * Material attributes and their influence on the design process.
- * Constructional and structural systems, environmental strategies and regulatory requirements that apply to the design and construction of a design project.
- * Communicating ideas and arguments coherently and effectively in spoken and written words as well as other media.
- * Applications of digital tools to gather, and present information and to evaluate and communicate the outcomes of their learning.
- * Skills for preparing and editing a design portfolio.

Learning Outcomes	
Outcome Number	Description
01	Define the relationship between people and buildings, and between buildings and their environment, and be able to relate design to human needs and scale.
02	Investigate and select alternative structural, constructional and material systems relevant to the architectural design.
03	Explore the structural design, constructional and engineering problems associated with building design.
04	Identify thermal environment control strategies, solar radiation, sun path diagrams and design of shading devices.
05	Develop design strategies in which daylight and solar movement can inform space design, in terms of perception, composition of spaces and energy-related issues, with a focus on design development and process.
06	Work effectively and appropriately to make coherent design presentations in public reviews and in the portfolio using a range of appropriate and effective media and techniques, combining competent scale drawings and models.
07	Prepare a portfolio which is edited, organised and clearly labelled so that it can be evaluated in terms of range, depth, creativity and originality as well as standards of accuracy and skills of execution.

Learning, Teaching and Assessment Strategy
<p>The teaching and learning methods have been selected to engage students in developing their knowledge and understanding of Sustainable Design through formal learning opportunities such as lectures and tutorials.</p> <p>Throughout the module, lots of opportunities are provided for students to design their own solutions and to express their own ideas, choosing from a variety of tools and methodologies.</p> <p>Throughout the module, students will be given formative feedback which will help develop confidence in sustainable design problems and in the use of the skills, tools and techniques. The timely constructive feedback will support students develop the skills and knowledge required for the summative assessment.</p> <p>This module focuses on two important aspects of learning, on the one hand the integration of environmental design in architecture and relevant principles and tools, on the other, experiencing how these principles are enacted in building design. The learning and teaching is organised around a series of lectures introducing the basic principles of environmental design, designing with daylight and solar shading. The lectures are supplemented by practical classes, workshops and design tutorials that engage the students through active learning and problem solving.</p> <p>The module will be summatively assessed through a design portfolio and presentations. Design work is developed in the studio environment according to the programme briefs, through workshops, group and individual tutorials, to continually appraise, evaluate and develop the work. All design work is regularly presented to academics and peers for critical feedback.</p> <p>Portfolio Mid-Year Review:</p> <p>Midway through the year, an individual portfolio review is held with the Level 4 tutors and formative written feedback is provided on the progress towards the final, comprehensive design portfolio.</p> <p>Supplementary assessment for re-assessment will be the same as original.</p>

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework - Portfolio/e-portfolio	Mid-Year Review: Design portfolio including presentation (1500 words equivalent)	40%
Summative	Coursework - Portfolio/e-portfolio	Final Submission: Design portfolio including presentation (2500 words equivalent)	60%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

© University of Bradford 2022

<https://bradford.ac.uk>