D11CA Climate Change, Sustainability and Adaptation

COURSE DETAILS
Course Code: D11CA
Full Course Title: Climate Change, Sustainability and Adaptation
SCQF Level: 11
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL
Undergraduate: No  Postgraduate Taught: Yes  Postgraduate Research: No

COURSE AIMS
The aim of this course is to introduce the student to the concepts of sustainability in their widest definition – that of environmental, economic and social sustainability. The course will introduce issues relating to climate science and future predictions, in addition to legislative requirements and government initiatives to combat climate change. The concepts of carbon, energy and water footprints, environmental impact analyses will be explored, and interests surrounding energy and carbon mitigation, and current thinking in adaptation strategies will also be covered. The use of case studies and/or site visits will be used throughout the course to demonstrate principles and current practice.

LEARNING OUTCOMES – SUBJECT MASTERY
• An awareness of sustainability in its widest definition, including aspects of environment, economy and social impact.
• An understanding of low carbon and climate change legislation, and an appreciation of possible future initiatives.
• An understanding of Environmental Impact and Life Cycle Assessments in current design and construction practice.

• An ability to understand a number of conflicting design issues and communicate amongst a diverse group of construction professionals.
• An ability to appraise current designs and assess a number of case studies; critically analysing their strengths and weaknesses.

LEARNING OUTCOMES – PERSONAL ABILITIES
A greater ability to communicate across a diverse design community including architects, quantity surveyors, construction managers, building services professionals, facilities managers etc.

Critical appraisal of a number of current case

The ability to understand the conflicting issues prevalent throughout the construction team is critical. Emphasis of this is expressed throughout case studies and site visits

- Advanced skills in verbal, written and graphic communication.
- Report writing skills, including critical appraisal, discussion and argument.

Information finding and appropriate referencing of cited materials.

**SYLLABUS**

- Introduction to sustainability: environmental, economic and social
- Sustainability and the built environment
- History of climate science and future predictions
- Carbon, energy and water footprints
- Environmental Impact Assessments (EIA), including Life Cycle Assessment (LCA)
- Energy reduction and carbon emissions mitigation
- Adaptation/probability for future climate scenarios
- Building case study I – domestic buildings

**LOCATION AND ASSESSMENT METHODS**

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