UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Sustainability in the Built Environment
Module Code	CSE6010-B
Academic Year	2020/1
Credits	20
School	Department of Civil and Structural Engineering
Subject Area	Civil and Structural Engineering
FHEQ Level	FHEQ Level 6
Pre-requisites	N/A
Co-requisites	N/A

Contact Hours	
Type	Hours
Online Lecture (Synchronous)	32
Online Tutorials (Synchronous)	8
Directed Study	160

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims

To provide students with an understanding of the concepts, principles and assessment techniques of sustainable development in the built environment with reference to sustainable practices and their use in an engineering, design, construction, maintenance and repair and demolition activities in the built environment.

Outline Syllabus

Sustainable development, the impact of sustainability on civil engineering projects and on the built environment, definition of sustainability, sustainability assessment frameworks and tools, and environmental impact assessment tools, sustainable design and construction, embedding sustainability into construction projects, main objectives: minimisation of carbon footprint, water and waste, use of environmentally and socially responsible materials, enhance biodiversity and ecology, support communities, transport, access and mobility, job creation, provide health and well-being, involve all stakeholders. Sustainability-based decision making, interdisciplinary and multidisciplinary working, multi-criteria analysis, stakeholders mapping, critical thinking. Embodied energy of buildings and infrastructure, impact of climate change. Design system thinking (buildings, materials, construction, maintenance and repair, end of life, deconstruction, demolition, disposal, energy efficiency), the circularity of the built environment. Case studies examples of sustainable buildings, water and transport infrastructure. Sustainability standards.

Learning Outcomes

Outcome Number	Description
1	Critically review the key principles of sustainable built environment and of sustainability
2	Use sustainability assessment tools and techniques. Integrate sustainability into a building's design, construction, operation, maintenance and demolition.
3	Interpret data and solve problems.

Learning, Teaching and Assessment Strategy

The module is delivered using a series of Power Point lectures supported by tutorials including video presentation and case studies. At least one guest speaker will provide further accounts of industrial experience on specific topics.

The module is assessed by group coursework to develop a sustainability assessment framework (each student will have a contribution of 1500 words to the group coursework) and by examination.

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Coursework	Group Coursework	N/A	30%
Summative	Examination - Open Book	Open Book Examination (3 Hours)	3 hour	70%

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.

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