UNIVERSITY COLLEGE
OF ESTATE MANAGEMENT

Sustainable Infrastructure

Module Descriptor

Module Code: SUS7INF

Version: v2.00

Status: Final

Date: 12/09/2023

Summary Module Details

Module details

Module Title: Sustainable Infrastructure

Module Leader: Dr Phil Coker

Module Mode: Supported online learning

Semester: Spring (UK)

Level: 7

Credits: 20

Learning Hours: 200

Contact & Study Hours

Scheduled learning and teaching activities: 33 hrs (16.5%)

Guided independent study: 167 hrs (83.5%)

Assessment Type

Coursework: 100%

Computer Marked Assessment: 0%

Self-directed Research Project: 0%

Portfolio: 0%

Module Summary

This module will introduce the infrastructure society uses and needs in the context of the built environment. It will cover the major constituents which make our towns and cities function and their relationship and role in the sustainability agenda. Key areas covered include energy, transport, water, waste, digital infrastructure and the natural environment. Attention is also given to the relationship the built environment has with power sources such as gas, nuclear, solar and wind, feeding through energy vectors such as electricity, hot water and hydrogen, in terms of sustainability challenges. The module will seek to present a holistic and open system view of infrastructure, drawing upon the concept of towns and cities acting with a metabolism.

Taken on which Programmes

MSc Innovation in Sustainable Built Environments (C)

Postgraduate Diploma Innovation in Sustainable Built Environments (C)

Postgraduate Certificate Sustainable Building and Property Studies (C)

Core (C) or Elective (E)

Module Aim

This module aims to offer students a critical understanding of the relationship between the infrastructure that the built environment needs and infrastructure's evolving role within the sustainability agenda.

Module Learning Outcomes

LO1. Understand built environment infrastructure at scale – existing, new and retrofitting – across contextual settings.

LO2. Analyse the functioning of towns and cities and their relationship with the sustainability agenda.

LO3. Evaluate the relationship between the built environment and power sources in relation to sustainability challenges.

Indicative Module Content

Module topics

- Energy supply options.
- Energy infrastructure, including storage.
- Transport infrastructure.
- Water infrastructure.
- Waste infrastructure.
- Digital infrastructure.
- Urban metabolism.
- Global and contextual considerations.

This content will be reviewed and updated regularly to reflect the evolving body of knowledge around sustainability associated with the built environment.

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting	Minimum assessment threshold
LO1, LO2	**Assessment 1** Presentation	2,000 words (equivalent)	40%	40%
LO2, LO3	**Assessment 2** Case study report	3,000 words max	60%	40%

Module Pass Mark (as a weighted average of all assessments): 50%

Key Module Learning Resources

Core Sources and Texts

The core reading resources within each module will be provided via the specific Virtual Learning Environment (VLE) module pages and within the e-Library. Additional reference material and supplementary resources to support your studies are available through the UCEM e-Library.

Module tools

Students will have access to study materials, dedicated academic support, student forums, and learning activities via an online learning platform (VLE).

The module page on the VLE is broken down into structured study weeks to help students plan their time. Each week will have a key theme related to the module, drawing upon an evolving set of methods, including flipped learning with interactive workshops, lectures and discussions, and online Padlet discussion activities for student unable to attend the live sessions.

Online tutorials/seminars led by specific academics can be attended in real time and provide opportunities to consolidate knowledge, ask questions, discuss topics and work through learning activities together.

These sessions are recorded to support students who cannot attend and to enable students to recap the session and work through it with a degree of flexibility. Module forums on the VLE provide further opportunities to discuss topics with other students, complete collaborative work and get extra help from the module team.

Professional online resources

The e-Library provides access to trusted, quality online resources, selected by subject specialists, to support students' study. This includes journals, industry publications, magazines, academic books and a dissertation/work-based library. For a list of the key industry specific and education resources available please visit the VLE e-Library.

Other relevant resources

Access is also provided to further information sources that include the British Library and Open University UK catalogues, as well as providing a monthly current awareness service entitled, ***Knowledge Foundations*** - a compendium of news, research and resources relating to the educational sector and the Built Environment.

The module resource list is available on the module website and is updated regularly to ensure materials are relevant and current.