MODULE DESCRIPTOR

Module Title

Energy Data Management

Reference	CB2010	Version	2
Created	February 2024	SCQF Level	SCQF 8
Approved	March 2021	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

This module covers energy data management, power generation industry practices, and the impact of digitalisation and Industry 4.0 on the energy sector.

Learning Outcomes for Module

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

1	Demonstrate knowledge of developments and challenges in energy data management.
2	Effectively report on the business value of energy data management to a range of audiences.
3	Compare critical data challenges across different elements of the bulk power generation industry.
4	Apply energy data management knowledge and skills to a business scenario

Indicative Module Content

Wind, Nuclear, Oil and Gas Exploration and Production, Refining, Equipment data, Lifecycle data, Asset data, Fourth industrial revolution, Digitalisation. The module is aligned with the United Nations' Sustainable Development Goals 7, 9, and 13 - Affordable and Clean Energy; Industry, Innovation, and Infrastructure; and Climate Action. It engages students with UNESCO's Education for Sustainable Development Normative, Strategic, Collaborative, and Critical Thinking competencies to understand the energy mix and develop integrated problem-solving competence for addressing sustainable energy and environmental needs through energy data management and governance strategies.

Module Delivery

This module is delivered via lectures, tutorials, online exercises, and case studies.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	36	N/A
Non-Contact Hours	114	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

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, 4
Description:	Individual portfolio assessment				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1.
B	The student needs to achieve an B in C1.
C	The student needs to achieve an C in C1.
D	The student needs to achieve an D in C1.
E	The student needs to achieve an E in C1.
F	The student needs to achieve an F in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	KLETZ, T. and AMOYETTE, P., 2019. What went wrong? Case histories of process plant disasters and how they could have been avoided. 6th ed. Oxford: Butterworth-Heinemann.
2	MORAN, S., 2019. An applied guide to process and plant design. 2nd ed. Amsterdam: Elsevier.
3	MOREIRA DA SILVA, M., 2020. Power and gas asset management. Cham: Springer.
4	PEARSON, S. 1996. Economical management of engineering information. ISA Transactions. 35, pp.3-8.