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MODULE DESCRIPTOR

Module Title

Engineering Design and Professional Development B

Reference	EN2605	Version	1
Created	July 2023	SCQF Level	SCQF 8
Approved	May 2020	SCQF Points	15
Amended	September 2022	ECTS Points	7.5

Aims of Module

To make students aware of the role, conduct and responsibilities of professional engineers and give them experience in developing solutions to technical problems as part of an engineering team.

Learning Outcomes for Module

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

1	In the context of engineering, understand the professional competences expected of an engineer and their professional responsibilities
2	Understand the equality, diversity, inclusion, legal, social, quality management, environmental and ethical responsibilities of an engineer.
3	Explain the role of engineers in environmental and Sustainable development.
4	Discuss engineering risks of liability, health & safety, and knowledge rights.
5	Incorporate a reflective statement showing development towards the key engineering competences to a report.

Indicative Module Content

The need for profession conduct, maintenance of standards and ethical values in engineering and the importance of quality management. The commercial, economic, social and EDI in the context of engineering. The role of engineers in sustainable development activities. Legal issues around technical contracts and engineering activities. Engineering issues around health and safety, liability, personnel, knowledge rights and risks. Importance of quality, use of emerging technologies and innovation to deliver engineering enhancement. Environmental concerns in engineering. Research and development project: Information searching, feasibility study and costings. Working as a team - team roles and accountability. Personal development as an engineer through reflective portfolio and understanding of engineering competencies.

Module Delivery

This is a lecture based module supplemented with tutorial sessions, laboratory sessions and directed study.

Module Ref:	EN2605 v1

Indicative Student Workload	Full Time	Part Time
Contact Hours	50	N/A
Non-Contact Hours	100	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, 5
Description:	A report on a case study of a major engineering project/company, incorporating a progressive reflective statement towards the engineering competences.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

Component 1 comprises 100% of the module grade. To pass the module, a grade D is required.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
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. Engineering Council (2013) UK Standard for Professional Engineering Competence (UK-SPEC), http://www.engab.org.uk/engcdocuments/internet/Website/UK-SPEC%20third%20edition%20(1).pdf
2. GAYTON, L., 2017, Legal Aspects of Engineering, 10th ed, Kendall/Hunt.
3. BAKSHI, B.R. 2019, Sustainable Engineering, CUP.
4. Walesh, S.G., 2012, Engineering Your Future: The Professional Practice of Engineering, 3rd ed, Wiley.
5. Chelsom, J.V. et al, 2005, Management for Engineering Scientists and Technologists, 2nd ed, Wiley.