

MODULE DESCRIPTOR

Module Title

Engineering Design and Professional Development A

Reference	EN2604	Version	2
Created	November 2023	SCQF Level	SCQF 8
Approved	May 2020	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

To make students aware of the role, conduct and responsibilities of professional engineers.

Learning Outcomes for Module

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

- 1 Practice professional engineering competencies and responsibilities.
- 2 Act on the equality, diversity, inclusion, legal, social, quality management, environmental, and ethical responsibilities inherent to an engineer's role.
- 3 Show the contribution of engineers to environmental preservation and sustainable development.
- 4 Report engineering risks of liability, health & safety, and knowledge rights.
- 5 Write 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 and directed study.

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
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

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](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.