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MODULE DESCRIPTOR

Module Title

Engineering Design and Professional Development A

Reference	EN2604	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	Apply creative, analytical and design skills to achieve a specified requirement.
2	Understand the equality, diversity, inclusion, legal, social, quality management, environmental and ethical responsibilities of an engineer as a member of team.
3	Produce a group report showing development towards the key engineering competences.
4	Understand the legal, social, and ethical responsibilities of an engineer as a member of an engineering team.
5	Contribute to the production of technical documentation and participate in a product demonstration.

Indicative Module Content

When working as a member of one of several student teams, a competitive element may be introduced. When working individually, an industrial or research work-based element may be appropriate with tutors or work colleagues fulfilling the role of team members. 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.

Module Delivery

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

Module Ref:	EN2604 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:	Group report and practical demonstration of a case study of an engineering project				

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.