Module Definition Form (MDF)

Module code: MOD009366	**Version:** 1 **Date Amended:** 30/Jun/2023

1. Module Title
Introduction to Engineering

2a. Module Leader
Peter Marshall

2b. School
School of Engineering and the Built Environment

2c. Faculty
Faculty of Science and Engineering

3a. Level
4

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions

Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	None		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

Start your journey to becoming a professional engineer and discover the wide range of applications and disciplines related to engineering.
By gaining insight into career opportunities at this early stage in the course you can follow your interests throughout your study.
You will learn about the role of engineering in society, including environmental issues, and sustainability, looking at ethical issues in engineering and the importance of marketing, commercial understanding, engineering standards, and legal aspects of pursuing a career in engineering.
You will cover the history of engineering, motivating you with inspiring successes that have changed human life forever, as well as critically learning lessons from failures.
Through this module you may get the opportunity to visit manufacturing and engineering companies and to start to think and critically analyse as an engineer, discovering how to break down complex systems into parts and subparts in engineering terms so that you can simplify complex systems.
Visits by guest lecturers from industry and/or appropriate professional bodies will also be encouraged, as will a visit to an engineering company.
You will be encouraged to join your appropriate professional bodies and use the advantages from this throughout your course.

6b. Outline Content

• What are some of the main Engineering disciplines and how do they relate to each other?
• Explore the History of relevant Engineering disciplines.
• Overview of career opportunities
• The Role of Engineers in the society
• Overview of professional ethics, commercial considerations, engineering standards, & legal aspects of pursuing a career in Engineering
• Professional bodies and professional status
• Resilience, critical learning from past successes and failures
• Developing critical thinking, & identifying the sub-elements in complex engineering problems
• Industrial visit and guest industrial lecture(s), and where practical hands-on experience

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources

Industrial Visits, appropriate laboratories and software as needed

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Recognise and analyse ethical considerations in engineering, with a focus on the engineering principles; and make reasoned, ethical choices informed by professional codes of conduct.
2	Knowledge and Understanding	Recognise and embrace an inclusive approach to engineering techniques while acknowledging the advantages of sustaining equality, diversity, and inclusion.
3	Intellectual, practical, affective and transferrable skills	Design solutions for engineering problems that meet business and customer needs as appropriate, considering health and safety, environmental and commercial matters, and industry standards.
4	Intellectual, practical, affective and transferrable skills	Plan and document self-learning and development as the foundation for lifelong learning and CPD.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2026/7	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	18	1-4	3 hours per week for six weeks
Other teacher managed learning	18	1,4	3 hours per week, for six weeks workshops and site visits flexibly with lectures
Student managed learning	114	1-4	Including 4 hours per week using online resources
TOTAL:	150		

9. Assessment for the above Module Occurrence

The assessment for some modules includes a presentation (see below for details on how this particular module is assessed). We recognise that presenting, especially to a large group, can cause significant anxiety or distress for some students. If this may affect you, please contact your Module Leader or the Disability and Neurodiversity Service as early as possible. We will work with you to consider appropriate reasonable adjustments. Depending on your individual needs, these might include, for example, presenting to a smaller group or presenting only to a member of academic staff.

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1-4	80 (%)	Fine Grade	30 (%)

Group Report (2000 Word); maps to Engineering Council Learning Outcomes C5, C8, C18 Also create a professional profile and development plan (Equivalent of 400 words) With Individual Reflective Report (Max 1600 words)

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Practical	1-4	20 (%)	Fine Grade	30 (%)

20-minute equivalent to 1000 words, 'Oral Group Presentation' followed by Q&A; maps to Engineering Council Learning Outcomes C5, C11

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]