Module Definition Form (MDF)

Module code: MOD011137	**Version:** 1 **Date Amended:** 10/Jul/2025

1. Module Title
Project Management, Ethics, and Quality Engineering

2a. Module Leader
Dominic Martyn

2b. School
School of Engineering and the Built Environment

2c. Faculty
Faculty of Science and Engineering

3a. Level
5

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

In today's fast-moving engineering and business world, quality management methods are more important than ever. In this module, you gain a critical awareness and an in-depth understanding of the principles of modern quality assurance and their applications in engineering. The history and nature of quality management; views of the gurus and ISO 9000; problem solving tools; benchmarking; quality function deployment; statistical process control; failure modes and effects analysis; significance testing; design of experiments and Taguchi methods are among the topics covered in this module. By the end of this module, you'll have a professional working knowledge of the reliability engineering techniques that can be applied to monitor risk assessment and improve the safety of an industrial plant. You will learn valuable Project Management skills throughout the module, such as how to create and use Gantt charts, SWOT, WBS, PERT, Risk Management, Critical Path Model, and Change Management.

6b. Outline Content

- Understanding the importance of the teamwork and collaboration
- Definition of individual projects (for each team)
- Feasibility study and evaluation of individual projects
- History and nature of quality management in engineering.
- Quality standards and ISO9000.
- Statistical process control and significance tests.
- Design of experiments and Taguchi method.
- Failure modes and effects analysis.
- Total quality management.
- Critical review and recommendation of quality management systems.
- Systematic application of statistics in quality systems and quality improvement in engineering.
- Project planning and stages of project management
- Engineering standards, ethics, and code of conduct

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

None

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	Evaluate and apply advanced engineering management principles within a commercial context, incorporating strategic project management, change management methodologies, and an in-depth understanding of relevant legal frameworks, including intellectual property rights and their implications for engineering practice
2	Intellectual, practical, affective and transferrable skills	Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters.
3	Intellectual, practical, affective and transferrable skills	Critically analyse and implement risk management and quality management frameworks to systematically identify, assess and mitigate risks, while driving continuous improvement in engineering processes and practices.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2025/6	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	12	1-3	1 hr per week lecture
Other teacher managed learning	24	1-3	2hrs per week seminar, activities and workshops
Student managed learning	114	1-3	Self-Directed Activity and Learning
TOTAL:	150		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Coursework	1-3	50 (%)	Fine Grade	30 (%)
Individual Report (1500 words equivalent)					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Examination Chelmsford	1-3	50 (%)	Fine Grade	30 (%)
Exam 1.5 hours (1500 words equivalent)					

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]