

Module code: MOD004971	Version: 1 Date Amended: 03/Jul/2023
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1. Module Title
Engineering Major Project

2a. Module Leader
Ahad Ramezanzpour

2b. School
School of Engineering and the Built Environment

2c. Faculty
Faculty of Science and Engineering

3a. Level
7

3b. Module Type
Project or dissertation (fine graded)

4a. Credits
60

4b. Study Hours
600

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	MSc Mechanical Engineering and MSc Manufacturing Systems		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module supports you in the preparation and submission of a Master's stage project, dissertation or artefact. The Module provides the opportunity for you to select and explore in-depth, a topic that is of interest and relevant to your course in which you can develop a significant level of expertise.

It enables you to;

- Demonstrate your ability to generate significant and meaningful questions in relation to your specialism.
- Undertake independent research using appropriate, recognised methods based on current theoretical research knowledge; critically understand method and its relationship to knowledge.
- Develop a critical understanding of current knowledge in relation to the chosen subject and to critically analyse and evaluate information and data, which may be complex or contradictory, and draw meaningful and justifiable conclusions.
- Develop the capability to expand or redefine existing knowledge; to develop new approaches to changing situations and/or develop new approaches to changing situations and contribute to the development of best practice.
- Demonstrate an awareness of and to develop solutions to ethical dilemmas likely to arise in your research or professional practice.
- Communicate these processes in a clear and elegant fashion - Evaluate your work from the perspective of an autonomous reflective learner

This module is exempt from the full ethical approval process in accordance with section 6 of the Academic Regulations (www.anglia.ac.uk/academicregs). Expires October 2027

6b. Outline Content

There will be guidance that the dissertation will be:

- Course specific to engineering postgraduate courses
- The focus of the dissertation should be technical in nature and selected from a list of technical topics provided by the module leader. The student may suggest a technical topic that will be discussed with the module leader.

Generally, the dissertation should include:

- Clear aims: clarity and reasoning behind the aims and objectives of the project.
- Literature review and theory: demonstrating depth, coherence, critical evaluation, and relevance of theory.
- Research methodology: relevance and reasoning behind research instrument and analysis method, and description of science/statistical/mathematical principles used, including designing/prototyping/modeling/laboratory testing where appropriate.
- Critical Analysis: quality and evaluation of the data, certainty of context and understanding of the topic as evidenced by interpretation, discussion, and limitations of the employed techniques.
- Conclusions and recommendations: justification and relevance of conclusions, overall presentation, clarity, and literacy.
- Degree of challenge to formulate and analyse a complex engineering problem.

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

May include laboratory use and testing, where project involves testing of materials, field study visits and case studies.

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	Demonstrate the ability to select and critically evaluate technical literature and with reference to the area for enquiry to solve complex engineering problems.
2	Knowledge and Understanding	Demonstrate the ability to formulate and analyse a complex problem to reach substantiated conclusions, discussing the limitations of the techniques employed. This will involve evaluating available data using first principles of mathematics, statistics, natural science, and engineering principles, and using engineering judgment to work with information that may be uncertain or incomplete.
3	Knowledge and Understanding	Demonstrate the ability to meet a combination of societal, user, business and customer needs as appropriate in the design of an original solution. This will involve the consideration of health and safety, diversity, inclusion, cultural, societal, environmental, and commercial matters, codes of practice and industry standards.
4	Intellectual, practical, affective and transferrable skills	Demonstrate the capacity to select and apply appropriate computational and analytical techniques to analyse and model a complex engineering problem, discussing the limitations of the techniques employed.
5	Intellectual, practical, affective and transferrable skills	Reflect critically on the process and effectiveness of the methods used, and effectively communicate outcomes to technical and non-technical audiences.

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	0	N/A	N/A
Other teacher managed learning	15	1-5	Timetabled session, three hours per week during weeks one and two. Students engage in one-to- one contact with their personal supervisor on an as needs basis throughout the period of Dissertation
Student managed learning	585	1-5	Self directed learning
TOTAL:	600		

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	80 (%)	Fine Grade	40 (%)
13500 words. Compensation does not apply, maps to the Engineering Council learning outcomes M2, M3, M4.					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Practical	4 5	20 (%)	Fine Grade	40 (%)
One oral presentation (15 minutes long and Q&A, equivalent to 1500 words), maps to the Engineering Council LO M5, M17					

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]
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