

Module Code:	ENGM66
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Module Title:	Dissertation
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Level:	7	Credit Value:	60
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Cost Centre(s):	GSAC	<u>JACS3</u> code:	J500
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School:	Applied Science, Computing & Engineering	Module Leader:	Dr Shafiul Monir
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Scheduled learning and teaching hours	20 hrs
Guided independent study	580 hrs
Placement	0 hrs
Module duration (total hours)	600 hrs

Programme(s) in which to be offered (not including exit awards)	Core	Option
MSc Engineering (Aeronautical)	✓	<input type="checkbox"/>
MSc Engineering (Mechanical Manufacture)		
MSc Engineering (Automotive)		
MSc Engineering (Composite Materials)		
MSc Engineering (Renewable & Sustainable Energy)		
MSc Engineering (Electrical & Electronic)		
MSc Engineering (Mechatronics)		
MSc Unmanned Aircraft System Technology		

Pre-requisites
N/A

Office use only

Initial approval: 19/06/2018
With effect from: 01/09/2018
Date and details of revision:

Version no:3
Version no:

Module Aims

- To enable the students to demonstrate their competence by planning, conducting research and completing and submitting a substantial dissertation independently under appropriate supervision and guidance.
- To develop the students with the skills on critical evaluation of current research work in the areas of study.
- To conduct the development and intensive exploration of an area of personal interest and enthusiasm related to the programmes of study using the in depth knowledge acquired in the other modules of the programme.
- To prepare students for employment and undertaking research in the areas of Aeronautical Engineering, Mechanical Manufacturing, Automotive, Composite Materials, Renewable Engineering and Sustainable Energy, Electrical & Electronic Engineering, Mechatronics, and Unmanned Aircraft System Technology.

Intended Learning Outcomes

Key skills for employability

KS1	Written, oral and media communication skills
KS2	Leadership, team working and networking skills
KS3	Opportunity, creativity and problem solving skills
KS4	Information technology skills and digital literacy
KS5	Information management skills
KS6	Research skills
KS7	Intercultural and sustainability skills
KS8	Career management skills
KS9	Learning to learn (managing personal and professional development, self-management)
KS10	Numeracy

At the end of this module, students will be able to

Key Skills

At the end of this module, students will be able to		Key Skills	
1	Define and justify the viability of a precise research project in the light of present state of the art technological advances and current research in the subject area.	KS1	KS2
		KS3	KS6
		KS7	KS10
2	Demonstrate the ability in applying deep knowledge and research principles to theoretical and practical problems in the project related to the programme of study.	KS1	KS3
		KS4	KS5
		KS6	KS10
3	Demonstrate awareness of the technological advances in the area of study and innovative use of new methods and techniques in solving critical problems in the research project.	KS1	KS3
		KS4	KS5
		KS7	KS10
4	Self-manage time and other resources in the preparation and completion of an extensive research project, including the adaptation of original research plans.	KS1	KS2
		KS5	KS7
		KS8	KS9
5	Analyse research results and to feed back the modification and/or further development process of the research plans.	KS1	KS2
		KS4	KS6
		KS8	KS10
6	Express ideas and conclusions in a manner and format which is congruent with accepted academic and scholarly standards within Engineering.	KS1	KS3
		KS4	KS6
		KS9	KS10

Transferable skills and other attributes

1. Communication
2. ICT Technologies
3. Time management and organisation
4. Interpersonal skills
5. Problem solving
6. Information handling including numeracy

Derogations

Credits shall be awarded by an assessment board for those Level 7 modules in which an overall mark of at least 50% has been achieved with a minimum mark of 40% in each assessment element.

Assessment:

Indicative Assessment Tasks:

Assessment will be by means of a progress presentation and the submission of the final dissertation together with a final presentation and a viva. The presentation, two months into the project for full time students and four months after the start of the project for part time students, constitutes an important milestone to check progress, provide feedback and allow students to alter the project plan accordingly if needed.

Assessment One: An oral examination in the form of a presentation and a viva.

Assessment Two: A written dissertation which assesses all learning outcomes of the module.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	All	Presentation	20	N/A	20 min
2	All	Dissertation	80	N/A	15,000

Learning and Teaching Strategies:

Students will be guided towards an appropriate research topic aligned to the enrolled programme during the delivery of the Engineering Research Methods and Postgraduate Studies module. This may be a current research topic of a member of staff, a topic suggested by industry or a topic of particular interest to a student or his or her employer or sponsor.

Prior to the start of the project students have to write a project proposal of a maximum of 3000 words containing an introduction, background to the proposal, outline of the proposal, time schedule and a bibliography. The proposal will be assessed by the Engineering Research Degree Group and feedback provided by the dissertation coordinator.

A 20 minutes presentation, covering the progress and plans for completion of project work and dissertation, takes place two months after the start of the project. The presentations are organised by the dissertation coordinator, who provides feedback on progress and advice in conjunction with the supervisor on the future course of action for the timely successful completion of the project.

Regular timetabled meetings will be held between students and supervisors to discuss the development and progress of the research project and dissertation. The completed Dissertation

will normally be submitted at the end of the 12 month study period from the start of the MSc course for full time mode or at the end of the study period for the part time students. In conjunction with the submission of the dissertation, a final presentation will be organised which focuses on how the students work on the programme, and particularly the dissertation project, would benefit the industry.

Syllabus outline:

Supervised independent work leading to the submission of a dissertation of 15,000 based on innovative research and development work conducted with an awareness of current scholarship.

Indicative Bibliography:

Essential reading

Fisher, E. and Holtom, D. (1999) Enjoy writing your science thesis or dissertation! a step by step guide to planning and writing dissertations and theses for undergraduate and graduate science students. London: Imperial College Press.

Other indicative reading

Salkind, N.J. (2008) Exploring Research. 7th ed. New York: Prentice Hall.

Silyn-Roberts, H. (2002) Writing for science and engineering: papers, presentations and reports. Oxford: Butterworth-Heinemann Elsevier Ltd.

Blaxter, L., Hughes, C. and Tight, M. (2001) How to Research. 2nd ed. Birmingham and Philadelphia: Open University Press.

Cryer, P. (2000) The research student's guide to success. 2nd ed. Birmingham and Philadelphia: Open University Press.