



## MODULE SPECIFICATION

### Faculty of Engineering

Last Updated (1<sup>st</sup> March 2017)

**1. Module Title**  
Research Project

**2. Module Code**  
EM5107

**3. Number of credits**  
60

**4. Level**  
5

**5. Semester**  
1, 2a and 2b

**6. Pre-requisites for admission to the module**  
Normal progression rules apply.

**7. Module Coordinator**  
Prof Dr Ardeshir Bahreininejad

**8. Aims**  
This module comprises a substantial and individual research project, either allocated to them or chosen through consultation with programme team staff, which addresses a specific engineering problem relevant to the programme of study, and which may deal with design, experiment, modelling, analytical, or in-depth survey.

**9. Summary of Contents**  
The objectives of the module are to support the student in:

- pursuing a programme of independent research on a topic of his/her choosing
- setting aims, objectives and scope of the selected research project
- undertaking a focused review of literature in the chosen research area
- carrying out tests/ experiments/ surveys appropriate to the research undertaken
- performing in-depth quantitative / qualitative analysis of data collected from tests/ experiments/ surveys carried out and to draw reasonable conclusions
- writing and submitting the thesis report and presentation

## 10. Module Intended Learning Outcomes (MILOs)

Upon successful completion of this module, students will be able to:

No.	MILOs	Weightage (%)
1	Review findings based on relevant literature reviews	15
2	Develop appropriate experiment(s), modelling(s), test(s) or survey(s) relevant to the research topic	30
3	Analyse data gathered/generated from the experiment, modeling, test, survey and relate them to the stated aim and objectives	30
4	Report on the research carried out with reasonable conclusion	15
5	Demonstrate effective verbal technical communication	10

## 11. Teaching and Learning Activities (TLAs)

MILO No.	TLAs	Functions	Hours/Week*
1 - 5	Briefing, feedback and one-to-one discussions	Explain how to conduct literature review, design & carry out a research, analyse data and interpret them.	1
1 - 5	Project works/ independent study	Conduct literature review; design & carry out research; collect, analyse and interpret data, report the outcomes	5

\*Note: (1) This is an 'independent study' module, supported by consultation with the assigned supervisory staff from time to time, which may take some 10-15 hours only over the programme period. (2) The students are expected to carry out full time research (i.e. 35 hrs/wk) in semester 2b.

## 12. Assessment Tasks/Activities

Two independent assessors (i.e. supervisor and examiner) will assess the report and presentation, and then discuss to come to an agreement. If the difference of marks from report becomes more than 10% and in case of disagreement, a third assessor will assess the report, whose mark will be considered as final.

MILO No.	Type of Assessment Tasks/Activities	Weightage (%)
1	Interim presentation after semester 1	10
1, 2, 3, 4	Thesis	70
4, 5	Final presentation and viva	20

**Resubmission:** Reassessment will be specified by the programme area exam board.

## 13. Attendance Requirements

Students are expected to have regular attendance for the work and meeting with a supervisor.

#### 14. Contribution to Programme Intended Learning Outcomes

Milo No.	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
1	✓				✓		
2	✓	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓	✓
4	✓			✓	✓	✓	✓
5	✓				✓		

#### 15. Grading of Student Achievement

Graduate Degree Grading System		
Marks (%)	Grade	Grade Definitions
90-100	A+	Excellent
80-89	A	
75-79	B+	Good
70-74	B	
65-69	C+	Adequate
60-64	C	
55-59	D+	Marginal
50-54	D	
<50	F	Fail

#### 16. Resources

##### Primary texts

No	Name of Author(s)	Year of Publication	Title of Book	Edition	Publisher's Name	ISBN
1	David V. Thiel	2014	Research Methods for Engineers	1st	Cambridge University Press	978-1107610194
2	Irene L. Clark	2006	Writing the Successful Thesis and Dissertation: Entering the Conversation	1st	Prentice Hall	007-6092040484
3	Jonathan Weyers and Kathleen McMillan	2012	How to Cite, Reference & Avoid Plagiarism at University	1st	Trans-Atlantic Publications	978-0273773337