



## MODULE SPECIFICATION

### Faculty of Engineering

Last Updated 13<sup>th</sup> February 2016

**1. Module Title**

Group Design Project

**2. Module Code**

EM3101

**3. Number of credits**

20

**4. Level**

3

**5. Semester**

6

**6. Pre-requisites for admission to the module**

Normal Progression Requirements

**7. Module Coordinator**

Dr Hamid Ullah

**8. Aims**

The aim of the Group Design Project is to enhance students' teamwork, creativity, innovativeness, critical thinking, and problem solving skills through the application of their general engineering knowledge to a real-world problem.

**9. Summary of Contents**

The students will work in groups of 4-5 students. They will be provided with a remit for the project from their supervisor. The project will comprise of the following sections:

- Investigation of an engineering problem based on students' interest
- Determination of aim and objectives of the project
- Defining methodology to achieve the aim and objectives of the project
- Generating conceptual ideas
- Determine a work plan to execute the project within available timeline and resources
- Dividing project's activities among group members considering each member's interest
- Selecting the best idea using systematic approaches
- Complete the project with the defined aim and objectives
- Write the final project report as per the template to be provided from the programme area

## 10. Module Intended Learning Outcomes (MILOs)

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

No.	MILOs	Weightage (%)
1	Investigate an engineering problem and determine the aim and objectives of the project	10
2	Divide an engineering complex task into parts and steps and plan and manage time accordingly for timely completion of the project	10
3	Analyse and interpret engineering data obtained either through a survey questionnaire or by laboratory experiments	20
4	Apply engineering knowledge to a real-world problem	20
5	Choose among feasible design alternatives	10
6	Develop stronger communication skills through formal presentations, drawings, and reports.	30

## 11. Teaching and Learning Activities (TLAs)

MILO No.	TLAs	Functions	Hours/Week
1 to 6	Supervisors meetings with their project students	Guiding students in their projects activities, asking students for submitting their reports, and providing feedback on the students reports	1

## 12. Assessment Tasks/Activities

MILO No.	Type of Assessment Tasks/Activities	Weightage (%)
1,2	Investigation of the problem and determination of aim, objectives and methodology by project supervisor	10
1,2	Determination of work plan and tasks for group members by project supervisor	10
1 to 6	Final group report to be checked by project supervisor and two external examiners	40
1,3,4,5,6	Poster presentation to be made by the group members	10
1 to 6	Individual oral presentation to be made	20
1 to 6	Individual Viva Voce	10

### Assessment Criteria:

There may be an event organised for the display of posters and completed projects for all the projects (where applicable) and students will be required to give an oral presentation of their projects.

## 13. Attendance Requirements

Students are required to attend all meeting with project supervisor. Penalty may be applied in case students misses the Oral Presentation or Viva Voce or does not submit the Project Report without good cause.

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

	<b>Knowledge &amp; Understanding</b>	<b>Application</b>	<b>Analysis &amp; Evaluation</b>	<b>Creativity &amp; Design</b>
<b>Maths and Science</b> Underpinning Science and Mathematics for the study of Engineering	✓	✓	✓	✓
<b>Core Engineering</b> The main principles and core subjects of the relevant Engineering Discipline	✓	✓		
<b>Computing and IT</b> Computer-based methods for the analysis and modeling of Engineering problems	✓	✓	✓	✓
<b>Communication Skills</b> Communicate effectively using a variety of techniques both written and oral	✓	✓		
<b>Engineering Practice</b> Practical application of engineering skills combining theory and experience		✓		
<b>Design</b> Creation, design and development of a product, process or system	✓	✓	✓	✓
<b>Management &amp; Economics</b> Management and financial methods to achieve objectives in production and projects		✓		
<b>Social &amp; Environmental</b> Professional and ethical conduct; sustainable development; health and safety; environmental impact				

## 15. Grading of Student Achievement

Letter Grade	% Mark	Grade Definitions
A+	90-100	Excellent
A	85-89	
A-	80-84	
B+	75-79	Good
B	70-74	
B-	65-69	
C+	60-64	Adequate
C	55-59	
C-	50-54	
D+	45-49	Marginal
D	40-44	
F (Fail)	<40%	Fail

## 16. Resources

### Suggested primary texts

To be recommended by respective project supervisor (if any)

Note:

- Module specification valid for BEng Mechanical Engineering Intake 06 and 07.
- BEng Mechanical Engineering Intake 08 will use the updated grading system of 16<sup>th</sup> May 2017.