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## MODULE DESCRIPTOR

### Module Title

Product Development

Reference	EN1601	Version	6
Created	July 2018	SCQF Level	SCQF 7
Approved	March 2004	SCQF Points	15
Amended	March 2018	ECTS Points	7.5

### Aims of Module

To enhance and develop the student's hands-on engineering skills via workshop activities leading to management of, and participation in, a structured project and also written, oral and graphic communication. Introduce the assessment of safe working practice.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Design, manufacture, assemble and test a product and carry out a risk assessment of the work involved.
- 2 Keep detailed written records of a project.
- 3 Present information on a project in oral and visual form and carry out a product demonstration.
- 4 Work effectively and productively as a member of a project group to deliver a quality product.

### Indicative Module Content

Engineering application and workshop skills: Engineering design; sheet metal manufacture; fastening techniques; hand and machine tools; soldering; PCB design & manufacture; component assembly; inter-wiring; product testing; product demonstration; teamwork; project management, health & safety assessment. Design & build project (electro-mechanical): The project will be used as a vehicle to - 1. Give the student a realistic exercise in engineering practice, i.e. understanding of basic project management, design evaluation, manufacturing principles, and assembly and test procedures. 2. Integrate the knowledge gained in other subject areas and to introduce appropriate theory. 3. Allow the exercise of decision making and showing personal qualities, such as initiative, imagination and creativity.

### Module Delivery

The module will be student centred and will be delivered primarily in the flexible learning workshops. It will involve students participating in a series of workshops followed by active involvement in the management and delivery of a group project, in which they will manufacture and assemble an electro-mechanical product. The students will be given set objectives and will, in general, be expected to follow prescribed procedures. The activities in the workshops and the project will be supervised by engineering applications supervisors.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	40	N/A
Non-Contact Hours	110	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	1, 2
Description:	Component 1 is a logbook of practical activities.				

**Component 2**

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	3, 4
Description:	Component 2 is a product evaluation incorporating an oral presentation and product demonstration.				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

To pass the module, you must achieve at least a 40% weighted average mark in the exam and coursework. In addition you need to achieve at least 35% in both coursework Components.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	>70%
<b>B</b>	60-69%
<b>C</b>	50-59%
<b>D</b>	40-49%
<b>E</b>	35-39%
<b>F</b>	0-34%
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 Manuals and other literature will be made available on loan as appropriate. There is no further recommended reading.