

## MODULE DESCRIPTOR

### Module Title

Product Development

Reference	EN1601	Version	9
Created	March 2023	SCQF Level	SCQF 7
Approved	March 2004	SCQF Points	15
Amended	August 2023	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 Implement a solution to a complex problem using a systemic planning process which incorporates industry standards and customer needs as appropriate.
- 2 Identify the responsibilities of engineering practice through the mitigation of project and security risks, supporting equality and inclusion.
- 3 Using practical workshop skills manufacture a product using appropriate materials, technologies, processes, and test schedule.
- 4 As an individual and as part of a team, use a reflective approach to communicate how planning, technical considerations and quality management have been considered in a project.

### Indicative Module Content

Engineering applications and workshop skills: Basic engineering design; CAD; sheet metal manufacture; fastening techniques; hand and machine tools; soldering; PCB design & manufacture; component assembly; inter-wiring; product testing; product demonstration; teamwork; project management, project security, 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, inclusivity, equality, 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 tutorials and Design & Build sessions. The student will contribute to 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:	60%	Outcomes Assessed:	2, 4
Description:	Logbook and live audio/visual presentation.				

#### Component 2

Type:	Coursework	Weighting:	40%	Outcomes Assessed:	1, 3
Description:	Evaluation incorporating product design, build and demonstration.				

### MODULE PERFORMANCE DESCRIPTOR

#### Explanatory Text

The module has 2 components and to gain an overall pass a minimum D grade must be achieved in each component. The component weighting is as follows: C1 (x-axis) is worth 60% and C2 (y-axis) is worth 40%.

		Coursework:						
		A	B	C	D	E	F	NS
Coursework:	A	A	A	B	B	E	E	
	B	B	B	B	C	E	E	
	C	B	C	C	C	E	E	
	D	C	C	D	D	E	E	
	E	E	E	E	E	E	F	
	F	E	E	E	F	F	F	
	NS	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**

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