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## MODULE DESCRIPTOR

### Module Title

Professional Skills for Biomedical Technology

Reference	EN1602	Version	2
Created	April 2019	SCQF Level	SCQF 7
Approved	March 2018	SCQF Points	15
Amended	May 2019	ECTS Points	7.5

### Aims of Module

To develop and apply skills in biomedical laboratory practices, engineering applications and written, oral and graphic communication.

### Learning Outcomes for Module

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

- 1 Demonstrate competence in the use of workshop skills to complete an engineering build project.
- 2 Demonstrate the ability to record activities accurately and concisely in a logbook.
- 3 Demonstrate an understanding of the fundamentals of engineering drawing practice.
- 4 Write a technical report and deliver an oral presentation on an appropriate biomedical technology topic, incorporating information retrieval skills.

### Indicative Module Content

Engineering application and workshop skills: Sheet metal manufacture; fastening techniques; hand and machine tools. Soldering; printed circuit boards; component assembly; inter-wiring; mains wiring (mechanical, electronic and electrical). Use of workshop instrumentation; metrology; sources of error. Biomedical Technology Skills: Work safely in a wet-lab, microscopy, introduction to material characterisation, dilution and concentration of the solutions, basic anatomy demonstration. Project: Understanding the design, manufacture, and assembly and testing of an electro-mechanical biomedical product. Communications skills: Engineering drawing - understanding basic principles: projection systems (orthographic, isometric); sectioning and assembly. Principles and practice of maintaining an engineering and laboratory logbook. Report writing - information sources and retrieval skills; library resources and databases; drawing conclusions. Oral presentation - principles and practice; use of visual aids; answering and asking questions.

### Module Delivery

Communication and information retrieval skills will be delivered by a mixture of lectures, tutorials and directed study. Engineering drawing will be delivered by a series of in-class guided lessons leading to a portfolio of completed drawings. The remainder of the module will be student centred and will be delivered in the flexible learning workshops by Engineering Applications supervisors. Additionally, the biomedical laboratory skills will be taught in respective laboratories in different departments. The students will be given set objectives and will, in general, be expected to follow prescribed procedures. The work will include students tackling an individual project, in which they will design, manufacture and assemble an electro-mechanical product.

### Indicative Student Workload

	Full Time	Part Time
Contact Hours	60	N/A
Non-Contact Hours	90	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:	70%	Outcomes Assessed:	1, 2, 3
Description:	Component 1 is the delivery of an engineering build project, a logbook of practical activities and a portfolio of engineering drawings.				

#### Component 2

Type:	Coursework	Weighting:	30%	Outcomes Assessed:	4
Description:	Component 2 is a biomedical technology report and an oral presentation.				

### MODULE PERFORMANCE DESCRIPTOR

#### Explanatory Text

To pass the module, you must achieve at least 40% in the coursework. In addition you need to achieve at least 35% in both the individual 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 BRITISH STANDARDS INSTITUTION, 2017. PP 8888. Technical product documentation and specification. London: British Standards Institution.
- 2 LOVEDAY, G.C., 1995. Electronic Testing and Fault Diagnosis. 2nd ed. Harlow: Longman.
- 3 KENT, M., 2000. Advanced Biology. Oxford: Oxford University Press.
- 4 Manuals and other technical literature will be made available on loan as appropriate.