1. **Title of the module**

EENG6710 (EL671) Product Development

1. **Division or partner institution which will be responsible for management of the module**

 Computing, Engineering and Mathematical Sciences

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 6

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn and Spring

1. **Prerequisite and co-requisite modules**

EL318 Engineering Mathematics

EL319 Engineering Analysis

EL311 The Robotics Project

EL562 Computer Applications Project

1. **The programmes of study to which the module contributes**

BEng/MEng Electronic and Communications Engineering

BEng/MEng Electronic and Communications Engineering with a year in industry

BEng/MEng Computer Systems Engineering

BEng/MEng Computer Systems Engineering with a year in industry

BEng Biomedical Engineering

BEng Biomedical Engineering with a year in industry

BEng Electronic and Computer Systems

1. **The intended subject specific learning outcomes.
On successfully completing the module students will be able to:**

1. Demonstrate an understanding of Product design and production technology: specification, design and manufacturing considerations for electronic products.

2. Demonstrate an understanding of Electromagnetic compatibility: EMC requirements, test methods and the European EMC Directive.

3. Demonstrate an understanding of Project management and systems engineering: basic management principles and tools for large scale engineering programmes, including product safety management.

4. Demonstrate an understanding of Financial Management: the importance of financial markets and principles of corporate financial management.

1. **The intended generic learning outcomes.
On successfully completing the module students will be able to:**

1. Analyse and interpret numerical data,

2. Solve problems by exploring optimal and alternate solutions, and decide upon a course of action.

1. **A synopsis of the curriculum**

This module introduces the issues relating to the development of commercial electronic products. Topics include design, production techniques, the commercial background of a company, quality, safety and electromagnetic compatibility standards, electromagnetic compatibility issues and product reliability, ethical and environmental issues.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**
* Introduction to Accounting - 3rd Edition, P. Marriott, J.R. Edwards, H.J. Mellett, Sage Publications, 2002, ISBN 0-7619-7038-X
* The Definitive Guide to Project Management, S Nokes and S Kelly, Second Edition, Financial Times/Prentice Hall, 2007, ISBN 0-273-71097-4
* EMC for Product Designers, T. Williams, Butterworth, 2006, ISBN-10: 0750681705
1. **Learning and teaching methods**

Total contact hours: 28

Private study hours: 122

Total study hours: 150

1. **Assessment methods**
	1. Main assessment methods

Examination 80%

CW 20%

* Product Design & production technology 33%
* Electromagnetic Compatibility 33%
* Project & Financial management 34%

13.2 Reassessment methods

Reassessment instrument: like-for-like

1. **Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *9.1* | *9.2* |
| **Learning/ teaching method** |  |  |  |  |  |  |
| Private Study and Assessments | **x** | **x** | **x** | **x** | **x** | **x** |
| Product Design & Product Technology | **x** |  |  |  | **x** | **x** |
| Electromagnetic Compatibility |  | **x** |  |  | **x** | **x** |
| Project management |  |  | **x** |  | **x** | **x** |
| Financial Management |  |  |  | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |
| Production Design & technology Assessment 1 | **x** |  |  |  | **x** | **x** |
| EMC Assessment 2 |  | **x** |  |  | **x** | **x** |
| Project and financial ManagementAssessment 3 |  |  | **x** | **x** | **x** | **x** |
| Examination | **x** | **x** | **x** | **x** | **x** | **x** |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

This course covers topics on international quality standards and the European electromagnetic directive.

**DIVISIONAL SUPPORT OFFICE USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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Revised FSO Jan 2018