1. **Title of the module**

EENG0027 (EL027) - Engineering Principles - 3

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 3

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**

None

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

* BEng Electronic and Computer Engineering including a Foundation Year
* BEng Bio-Medical Engineering including a Foundation Year
* BEng Mechanical Engineering including a Foundation Year

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
2. Understand the basic principles of operation of electronic engineering materials and devices;
3. Understand the basic principles of digital electronics logic gates and their arithmetic;
4. Understand the basic principles of AC circuits.
5. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
6. Generate, analyse, present and interpret data.
7. Communicate more effectively using a variety of methods.
8. **A synopsis of the curriculum**

This module consists of a series of lectures, laboratory sessions and example classes. Topics covered include logic gates and their associated arithmetic with applications. It also introduces materials used in electronic and mechanical engineering and their practical applications. Elementary alternating current circuit theory is also introduced.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

* DUNCAN, T. Electronics for today and tomorrow. London: John Murray. 1997.
* ROBERTSON, R.. Fundamental electrical and electronic principles. Elsevier(Newnes) Amsterdam, 2008.

1. **Learning and teaching methods**

Total contact hours: 41

Private study hours: 109

Total study hours: 150

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

1 x Laboratory reports - typically 5 pages per report (14%)

2 x Assignment - typically 2 -3 pages per assignment (8% each)

Exam duration 2 hours (70%)

13.2 Reassessment methods

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 | 9.1 | 9.2 |
| **Learning/ teaching method** |  |  |  |  |  |
| Lectures | **x** | **x** | **x** | **x** |  |
| Laboratory work | **x** | **x** | **x** | **x** | **x** |
| Example classes | **x** | **x** | **x** | **x** | **x** |
| Private study | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |
| Exam | **x** | **x** | **x** | **x** | **x** |
| Lab reports | **x** | **x** | **x** | **x** | **x** |
| Assignments | **x** | **x** | **x** |  | **x** |

1. **Inclusive module design**

The Division 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**

Engineering is an international discipline with techniques developed and refined by scientists across the globe. Mastery of the subject-specific learning outcomes, will equip students to apply the theories and techniques of this module in a wide range of international contexts. Internationally recognised components, symbols, units, names and engineering terms are used throughout this module. Where appropriate, international variants are discussed.

Specifically, the International System of Units (SI or Système international (d'unités)) is used throughout this module. The module team includes many members of staff with international experience of teaching and research collaboration. In compiling the reading list, consideration has been given to the range of texts that are available internationally and a selection of texts has been identified to complement the delivery of the material. The support provided to the students is also internationally attuned given our international student body.

**DIVISIONAL USE ONLY**

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

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| Date approved | Major/minor revision | Start date of delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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