1. **Title of the module**

EENG3030 (EL303) Electronic Circuits

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 4

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)**

Spring

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

None

1. **The course(s) of study to which the module contributes**

BEng Electronic and Computer Engineering with a Foundation Year

BEng/MEng Electronic and Computer Engineering

BEng/MEng Electronic and Computer Engineering with a Year in Industry

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

1. Analyse and design electric circuits comprising active and passive components;

2. Design simple amplifiers and understand electronic feedback;

3. Interpret frequency responses;

4. Understand introductory electromagnetism for engineers.

1. **The intended generic learning outcomes.
On successfully completing the module students will be able to:**
2. Generate, analyse, present and interpret data.
3. Use Information and Communications Technology.
4. Think, apply reason and reflect on their work.
5. **A synopsis of the curriculum**

The module provides techniques to design electronic circuits containing active and passive components and to appreciate the power issues and frequency response of circuits containing reactive elements. An introduction will be given to Electromagnetism for engineering purposes. An understanding of the fundamentals of Electronic Engineering is assumed and the module proceeds via a sequence of lectures supported by simple exercises designed to give practical experience of the concepts introduced in the lectures.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**
* Storey, Neil, Electronics A Systems Approach (6th Edition), Pearson, 2017, ISBN 978-292-11406-4
* Floyd, Thomas, Electronics fundamentals: circuits, devices and applications (8th edition), Pearson 2013, ISBN-978-1292025681
* Horowitz, Paul and Hill, Winfield, The Art of Electronics (3rd Edition), Cambridge University Press, 2015, ISBN 978-0-521-80926-9
* Dorf, R, Introduction to Electric Circuits, (8th Edition), Wiley, 2011, ISBN 9780470553022.
1. **Learning and teaching methods**

Total contact hours: 38

Private study hours: 112

Total study hours: 150

1. **Assessment methods**
	1. Main assessment methods
* 4 Assessed Laboratories - 2 hours, 7.5% each (30%)
* 1 problem solving assignment – 4 pages (10%)
* 2 hour examination (60%)

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* | *8.4* | *9.1* | *9.2* | *9.3* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Lectures | **x** | **x** | **x** | **x** | **x** |  |  |
| Laboratories | **x** | **x** | **x** |  | **x** | **x** | **x** |
| Problem Assignment |  |  |  | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |
| Laboratory assignments | **x** | **x** | **x** |  | **x** | **x** | **x** |
| Problem Solving Assignment |  |  |  | **x** | **x** | **x** | **x** |
| Examination | **x** | **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. Electronic engineering in a global activity using internationally standardized techniques for characterization and analysis including SI units and circuit symbols.

Internationally recognised technical literature will be used. 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 OFFICE USE ONLY**

**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.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 11/04/2022 | Minor | September 2022 | 12 | No  |
|  |  |  |  |  |