1. **Title of the module**

EENG3110 (EL311) First Year Engineering Applications Project

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

Engineering and Digital Arts

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**

EL305 Introduction to Electronics

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 Mechanical Engineering

BEng Mechanical Engineering with a Year in Industry

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

1. plan the progress of a small project;

2. abstract a design challenge to a technical solution;

3. realize a system through the integration of component parts;

4. apply fundamental construction techniques relating to a small electronics project.

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

1. generate, analyse, present and interpret data.

2. use Information and Communications Technology.

3. communicate effectively to peers and professional engineers (in writing, verbally and through drawings).

4. learn effectively for the purpose of continuing professional development.

5. self-evaluate, reason and reflect.

6. manage time and resources within an individual project.

1. **A synopsis of the curriculum**

The module provides a first attempt to translate a problem into a technical solution. An understanding of the relevant software and electronic hardware options to create a functional solution centred around a microcontroller will be developed. Design skills will be applied to define and fabricate the physical solution informed by the original requirement. An understanding of the fundamentals of Electronic Engineering is assumed and the module proceeds via lectures supported by supervision and technical advice. It is designed to give practical experience of the concepts introduced in the lectures of the prerequisite module.

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
* Floyd, Thomas, Electronics fundamentals: circuits, devices and applications (8th edition), Pearson 2013
* Horowitz, Paul and Hill, Winfield, The Art of Electronics (3rd Edition), Cambridge University Press, 2015
* Sangwine, S, Electronic Components and Technology, (3rd Edition), CRC Press, 2017

1. **Learning and teaching methods**

Total contact hours: 50

Private study hours: 100

Total study hours: 150

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

* 10 supervisions each 3 hours effort at 2.4% (24%):
* Four assignments each 6 hours effort at 10% (40%);
* Three professional practice assignments each 2 hours effort at 2% (6%);
* One logbook assessment (10%)
* Project demonstration (20%)

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* | *9.4* | *9.5* | *9.6* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Lectures | **x** | **x** | **x** | **x** | **x** | **x** |  |  |  |  |
| Supervisions | **x** | **x** | **x** |  | **x** |  | **x** | **x** | **x** | **x** |
| Professional Practice |  |  | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| Supervisions | **x** | **x** | **x** |  | **x** |  | **x** | **x** | **x** |  |
| Coursework Assignments | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Professional Practice |  |  | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Logbook | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** |
| Project demonstration |  |  | **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**

Electronic engineering in a global activity using internationally standardized techniques for characterization and analysis.

Internationally recognised processes are used.

**FACULTIES 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) |
| 30/06/16 | Major | September 2016 | 9-12, 14 | No |
| 18/02/19 | Major | January 2020 | 1,5,6,9,12,13 | No |

Revised FSO Jan 2018