1. **Title of the module**

EENG3130 (EL313) Introduction to Programming

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)**

Autumn

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

None

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

BEng Mechanical Engineering with a Foundation Year

BEng Mechanical Engineering

BEng Mechanical Engineering with a Year in Industry

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

BEng Biomedical Engineering with a Foundation Year

BEng Biomedical Engineering

BEng Biomedical Engineering with a Year in Industry

BSc Digital Design

BSc Digital Design with a Year in Industry

BSc Digital Design with a Year Abroad

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

1) Use a computer programming environment;

2) Design and implement in a procedural programming language a solution according to a program specification;

3) Understand the principles of the software engineering process.

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

1) Use a computer for problem solving;

2) Organise and manage time and resources within an individual project.

1. **A synopsis of the curriculum**

The module provides an introduction to the basic knowledge required to understand, design and write computer programs and the basic principles underlying the process of Software Engineering. No previous programming experience 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)**
* Kochan, Stephen G., Programming in C (4th Edition), Addison-Wesley, 2014

Deitel, Paul, Deitel, Harvery, C How to Program (8th Edition), Pearson, 2016

1. **Learning and teaching methods**

Total contact hours: 36

Private study hours: 114

Total study hours: 150

1. **Assessment methods**
	1. Main assessment methods
* Four programming assignments, 4 hours per assignment (48%)
* Two Mini-projects, 20 hours workload weighted 26% each (52%)

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** |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** |  |
| Lectures | **x** | **x** | **x** |  |  |
| Workshops and drop-in sessions | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |
| Programming Assignments | **x** | **x** | **x** | **x** | **x** |
| Mini-Project | **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.The considered computer programming language and its variants are globally recognised .

Internationally recognised and available texts are 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

**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 |
| 01/0003/19 | Major | September 2019 | 7,11,13,14 | no |