1. **Title of the module**

COMP5420 (CO542) - Fundamentals of Information Technology and Computing

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

School of Computing

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

Level 5

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)**

Pre-term (September)

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

None

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

BSc Information Technology

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

8.1 Use advanced features of an object-oriented programming language, such as inheritance and graphical libraries, to write programs. [A2]

8.2 Use object-oriented analysis, design and implementation with a minimum of guidance, to recognise and solve practical programming problems involving inheritance hierarchies. [A4, C1]

8.3 Design appropriate interfaces between modular components. [B5]

8.4 Evaluate the quality of competing solutions to programming problems. [A4, C2]

8.5 Evaluate possible trade-offs between alternative solutions, for instance those involving time and space differences. [C2]

8.6 know about the components and structures of typical information systems [A4, C3];

8.7 be familiar with the basic principles of data and information, and their presentation, representation and structuring using XML [A2];

8.8 appreciate the wide range of applications of XML, within and without the information systems domain; [A3]

8.9 be familiar with some of the notations used in representing the conceptual design of information systems;

8.10 be able to use standard notations drawn from UML to describe the functionality and components of straightforward information systems; [A2, B2, C2, C4]

8.11 be able to specify simple documents using XML. [A3]

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

9.1 Make appropriate choices when faced with trade-offs in alternative designs. [B1]

9.2 Recognise and be guided by social, professional and ethical issues and guidelines and the general contexts in which they apply [B6]

9.3 Deploy appropriate theory and practices in their use of methods and tools. [B5]

9.4 Make effective use of IT facilities. [D3]

9.5 Manage their own learning and time. [D5]

9.6 Develop a strategy for solving a problem [D3]

9.7 Develop a strategy for working with others. [D2]

9.8 Monitor progress and modify strategies to achieve agreed objectives [D5]

9.9 Evaluate the realized solution [B9]

1. **A synopsis of the curriculum**

This module builds on the foundation of object-oriented design and implementation to provide a deeper understanding of and facility with object-oriented program design and implementation. More advanced features of object-orientation, such as inheritance, abstract classes, nested classes, graphical-user interfaces (GUIs), exceptions, input-output are covered. These allow an application level view of design and implementation to be explored. Throughout the course, the quality of application design and the need for a professional approach to software development is emphasised. In addition, students will learn about the uses of XML in structuring, transforming and representing data.

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

E.T.Ray Learning XML 2nd edition, O-Reilly, 2003

David J. Barnes and Michael Kölling, Objects First with Java: A Practical Introduction Using BlueJ Pearson Education, 2006

1. **Learning and teaching methods**

Total contact hours: 32

Private study hours: 118

Total study hours: 150

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

Coursework – 100% to include:

First Java – 10%

In Class test – 40%

Essay – 25%

Second Java – 25%

13.2 Reassessment methods

Reassessment Instrument: 100% coursework

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* | *8.5* | *8.6* | *8.7* | *8.8* | *8.9* | *8.10* | *8.11* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* | *9.7* | *9.8* | *9.9* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |
| **Lectures** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  | **X** |  | **X** | **X** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ***Coursework*** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **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**

Medway

1. **Internationalisation**

The topics addressed by this module relate to a field which is of international importance, given the global role of computers in today's technological innovation. The topics covered by this module are international in nature, being identical worldwide and independent of traditional spoken language.

**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) |
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Revised FSO Jan 2018