1. **Title of the module**

COMP5200 - Further Object-Oriented Programming

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

CEMS 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)**

Autumn or Spring

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

Pre-requisite: COMP3200: Introduction to Object-Oriented Programming

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

BSc Computer Science, BSc Computer Science (Artificial Intelligence), BSc Artificial Intelligence, BSc Computer Science (Consultancy), BSc Computer Science (Networks), BEng Computer Systems Engineering, including Year in Industry and Foundation-year variants.

BSc Business Information Technology, BSc Computing, BSc Computing (Consultancy), BSc Computer Science for Health, including year in industry variants.

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, to write programs. [A2]

82 Use object-oriented analysis, design and implementation with a minimum of guidance, to recognise and solve practical programming problems involving inheritance hierarchies. [A4, B7, 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 Thoroughly test solutions to programming problems. [A4, C2]

8.7 Discuss the quality of solutions through consideration of issues such as encapsulation, cohesion and coupling. [C2]

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]

1. **A synopsis of the curriculum**

This module builds on the foundation of object-oriented design and implementation found in COMP3200 to provide both a broader and a deeper understanding of and facility with object-oriented program design and implementation. Reinforcement of foundational material is through its use in both understanding and working with a range of fundamental data structures and algorithms. More advanced features of object-orientation, such as interface inheritance, abstract classes, functional abstractions and exceptions 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.

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

"Objects first with Java – A practical introduction using BlueJ", David J. Barnes and Michael Kölling, Pearson Education, 2017, ISBN 978-1-292-15904-1.

1. **Learning and teaching methods**

Total contact hours: 44

Private study hours: 106

Total study hours: 150

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

A1: Coursework 1 (30%) (15 hours)
A2: Coursework 2 (40%) (20 hours)
A3: Class exercises (Weekly) (30%) (approximately 2 hours per week)

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* | *9.1* | *9.2* | *9.3* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| Lectures | x | x | x | x | x | x | x | x | x | x |
| *Practical classes* | x | x | x | x | x | x | x | x | x | x |
| *Private study* | x | x | x | x | x | x | x | x | x | x |
|  |  |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| *Coursework 1*  | x | x | x | x | x | x | x | x | x | x |
| *Coursework 2* | x | x | x | x | x | x | x | x | x | x |
| *Class exercises* | x | x | x | x | x | 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**

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.

**DIVISIONAL 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) |
| 11.04.2022 | Minor  | September 2022  | 13, 14 | No  |
| 01/02/2022 | Minor | September 2023 | 1, 8, 10, 13, 14 | No |