1. **Title of the module**

COMP6410 (CO641) - Computer Graphics and Animation

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 6

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**

None

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

BSc Computer Science and related programmes

Applied Computing Joint Honours Programmes

Portfolio of Postgraduate Taught Programmes in Computing

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

8.1 demonstrate a broad and systematic understanding of computer graphics, animation and digital imaging from the perspective of computing, including an appreciation of technical and artistic applications;

8.2 demonstrate familiarity with a range of technologies, techniques and algorithms for the acquisition, generation, manipulation, presentation, storage and communication of various kinds of visual data;

8.3 apply this knowledge, including procedural techniques, through the use of 3D modelling tools.

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

9.1 evaluate systems in terms of function and performance, with an awareness of possible trade-offs;

9.2 communicate technical issues clearly to specialist audiences;

9.3 make effective use of IT facilities to support their learning;

9.4 exercise initiative, especially in relation to acquiring new knowledge and skills;

9.5 manage their own learning and time.

1. **A synopsis of the curriculum**

Computer graphics and animation are important for a variety of technical and artistic applications including web design, HCI and GUI development, games and simulations, digital photography and cinema, medical and scientific visualization, etc. This module introduces the subject from the perspective of computing. You will learn about technologies and techniques for modelling, manipulating, capturing, displaying and storing visual scenes, digital images, animations and video. You will also gain practical experience of 3D modelling tools.

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

Computer Graphics with OpenGL (Fourth Edition, International Edition), Donald Hearn, M. Pauline Baker and Warren Carithers, Pearson Education, 2010

Computer Animation: Algorithms and Techniques (Third Edition), Richard Parent, Morgan Kaufmann, 2013

The Complete Guide to Blender Graphics: Computer Modeling and Animation (4th Edition), John M. Blain, CRC Press, 2017

1. **Learning and teaching methods**

Total contact hours: 30

Private study hours: 120

Total study hours: 150

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

Modelling with Blender (44%)

Computer Graphics Quiz 2%

Computer Animation Quiz 2%

Digital Imaging Quiz 2%

2 hour unseen written examination (50%)

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 | 9.3 | 9.4 | 9.5 |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |
| Lectures | x | x | x |  | x |  |  |  | x |
| Private study (including mini-project) | x | x | x |  | x | x | x | x | x |
|  |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |
| Written exam | x | x |  |  | x | x |  | x | x |
| Mini-project | x | x | x |  | x | x | x | x | x |
| Computer Graphics Quiz | x | x |  |  | x | x |  |  | x |
| Computer Animation Quiz | x | x |  |  | x | x |  |  | x |
| Digital Imaging Quiz | 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

Note that the study of computer graphics and the application of graphical techniques requires a level of visual capacity. Hence this module is unsuitable for students with severe visual impairments. Students with minor visual impairments, such as colour blindness, should consult the convenor before selecting this module.

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.

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**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