1. **Title of the module**

DIGM8390 (EL839) - Effects Animation

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 7

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**

Prerequisite: DIGM8310 Digital Visual Art set-up

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

MSc in Computer Animation (option)

MSc in Digital Visual Effect

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
2. Have a fundamental knowledge of Maya’s particle dynamic system.
3. Create effects such as rain, steam, crowd, populated city and etc., using Maya’s particle system at low cost of rendering and simulating power.
4. Have a knowledge of Maya’s Fluid effects and nCloth.
5. Create realistic effects such as fire, explosion, smoke as well as soft and interactive material such as cloth, rubber or deforming metal.

These outcomes are related to the programme learning outcomes in the Computer Animation and Digital Visual Effects MSc curriculum maps as follows: A2, B1, B2, B4, C1 and C2.

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

Learn to use ICT, and will develop core key skills, such as learning effectively, critical thinking and time management, contributing to the Transferable/Key Skills in the generic learning outcomes for the MSc programmes (D2, D5 – D7).

1. **A synopsis of the curriculum**

Particle dynamics:

Particle tool and particle emitters, cycle emission, volume emitters, force fields, lifespan, constraints, adding springs, soft-body dynamics, active and passive rigid bodies, setting static and dynamic friction, damping, mass, bounciness, caching, rendering in software hardware and Mentalray.  
  
Fluid Effects:

2d and 3d fluid containers, emitting fluids from objects and curves, colliding fluids with objects, explosions, creating atmospheric systems, realistic fire, explosion and smoke effects, interacting fluids with particles, combustible fluids.  
  
nCloth:

nParticle, nConstraint, nSolver, cloth collision, collision layer, wind and gravity, nCache.  
  
Coursework:

Students are required to assemble a portfolio contains various dynamic instances created, simulated and rendered using Maya tools.

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

Visual Effects in A Digital World: A Comprehensive Glossary of over 7,000 Visual Effects Terms (The Morgan Kaufmann Series in Computer Graphics), K. Goulekas, Morgan Kaufmann, 2001, ISBN 0122937856

1. **Learning and teaching methods**

Total contact hours: 56

Private study hours: 94

Total study hours: 150

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

Portfolio (100%)

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* | *8.5* | *8.6* | *9.1* | *9.2* | *9.3* | *9.4* |  |  |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | **x** |  |  |  |  |  | **x** |  |  |  |  |  |
| *e.g. workshop* | **x** |  |  |  |  |  | **x** |  |  |  |  |  |
| *e.g. laboratory* |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |
| *e.g. MCQ test* |  |  |  |  |  |  |  |  |  |  |  |  |
| *e.g. Presentation* |  |  |  |  |  |  |  |  |  |  |  |  |
| *Portfolio* | **x** |  |  |  |  |  | **x** |  |  |  |  |  |
| *e.g. Examination* |  |  |  |  |  |  |  |  |  |  |  |  |

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**

The field of effects simulations in Computer graphics is international.

**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) |
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Revised FSO Jan 2018