

## **Advanced Game Technology and Development**

|                |                                           |
|----------------|-------------------------------------------|
| Module Code:   | GAV5025-B                                 |
| Academic Year: | 2018-19                                   |
| Credit Rating: | 20                                        |
| School:        | Department of Media Design and Technology |
| Subject Area:  | Games, Animation and Visual Effects       |
| FHEQ Level:    | FHEQ Level 5                              |
| Module Leader: | Dr Tao Wan                                |

Additional Tutors:

Pre-requisites:

Co-requisites:

### **Contact Hours**

| <b>Type</b>    | <b>Hours</b> |
|----------------|--------------|
| Lectures       | 12           |
| Seminar        | 6            |
| Demonstration  | 3            |
| Tutorials      | 6            |
| Laboratory     | 20           |
| Directed Study | 153          |

### **Availability Periods**

| <b>Occurrence</b> | <b>Location/Period</b>                          |
|-------------------|-------------------------------------------------|
| BDA               | University of Bradford / Semester 2 (Feb - May) |

### **Module Aims**

To introduce the concepts and the fundamentals of Advanced Game technologies, including Indie Games design and programming, and development; to gain in-depth understanding of real-time animations for computer games applications; to further understand the process of

game programming and development with game engines; to gain the technical skills by developing a 3D application project.

## Outline Syllabus

The fundamentals and concepts of 3D computer graphics programming; computer game design and development; artificial intelligence in game applications; collision detection; the use of imported 3D models; user interactivity; rendering; lighting and texture mapping; motion game, VR technologies, mobile games, project evaluation.

## Module Learning Outcomes

*On successful completion of this module, students will be able to...*

- 1 understand in-depth 3D computer graphics concepts and the 3D programming foundations underlying 3D graphics and game applications in a programming context.
- 2 develop a basic 3D game/real-time graphics application.
- 3 Gain the knowledge and skill with the use of latest 3D game technologies
- 4 work autonomously and as part of a team, demonstrating time-management and presentation skills.

## Learning, Teaching and Assessment Strategy

Lectures, practical sessions, seminars and individual and group project work.

The module is assessed by individual and group lab work and individual coursework project and report.

The strategy for developing students confidence is implemented and continually developed by setting assignments which are challenging and relevant to module aims and by providing constructive and timely feedback.

## Mode of Assessment

| Type      | Method     | Description                                                  | Length          | Weighting | Final Assess' |
|-----------|------------|--------------------------------------------------------------|-----------------|-----------|---------------|
| Summative | Coursework | Individual 3D project/development product                    |                 | 65%       | Yes           |
| Summative | Coursework | Individual project report 1500-2000 words                    | 1500-2000 words | 35%       | No            |
| Referral  | Coursework | Supplementary Assessment: individual 3D application project. |                 | 65%       | No            |

|          |            |                                                              |                 |     |    |
|----------|------------|--------------------------------------------------------------|-----------------|-----|----|
| Referral | Coursework | Supplementary<br>Assessment:Project report (1500-2000 words) | 1500-2000 words | 35% | No |
|----------|------------|--------------------------------------------------------------|-----------------|-----|----|

### Legacy Code (if applicable)

EM-0282D

### Reading List

To view Reading List, please go to [rebus:list](#).