

| Module Details | |
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| Module Title | Simulation Effects for Animation and Games |
| Module Code | GAV6012-B |
| Academic Year | 2024/5 |
| Credits | 20 |
| School | School of Built Environment, Architecture & Creative Industries |
| FHEQ Level | FHEQ Level 6 |

| Contact Hours | |
|----------------|-------|
| Type | Hours |
| Directed Study | 160 |
| Laboratories | 12 |
| Lectures | 16 |
| Tutorials | 12 |

| Availability | |
|--------------|-------------------------------------|
| Occurrence | Location / Period |
| BDA | University of Bradford / Semester 2 |

| Module Aims |
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| <p>To give students a clear understanding of how to combine scientific, logical thinking and observational skill to create effective simulation and effects solutions for animation and computer games; instil a work practice around goal orientated iteration and adherence to efficient workflow;</p> <p>To introduce advanced topics and concepts in the field of modelling and simulation, simulation effects for animation and computer games and make students aware of the appropriate use of simulation and effects, taking into account complexity, rendering, time, memory and resource overheads;</p> <p>To gain an in-depth understanding of the real-time 3D modelling and animation.</p> |

| Outline Syllabus |
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| <p>Understanding Simulation effects topics and concepts for animation and computer games; The theory and practice of Effect Technical Animation and visual effects; making particle systems, rigid body dynamics, fluid, object move under the forces of physics with using expressions; variables and data, nodes, procedures and functions, and interface development.</p> |

| Learning Outcomes | |
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| Outcome Number | Description |
| 01 | Demonstrate an in-depth understanding of and critically evaluate the process of simulation effects and technical animation concepts and implementations with respect to commercial 3D graphics packages, and the knowledge of scripting animations and or the use of effects software in advanced level. |
| 02 | Demonstrate practical effects solutions to real problems; Demonstrate a combination of different kinds of simulation, applied appropriately; Demonstrate a library of reference work and observations and how they have informed and progressed their development. |
| 03 | Demonstrate self-management skills, ability to solve technical problems and to be able to complete their individual project within the prescribed timescale. |

| Learning, Teaching and Assessment Strategy |
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| <p>This module covers the advanced topics and concepts of Technical Effects Animation. Lectures and demos introduce the relevant theory and key concepts followed by lab sessions which provide hands-on lab experience.</p> <p>Students will create an individual effects technical animation project of their own ideas, which reinforce students' learning and develop their practical skills. The assessment will be combined with lab work tasks for strength the learning engagement and the module's learning outcomes.</p> |

| Mode of Assessment | | | |
|--------------------|-----------------------|-----------------------------------|-----------|
| Type | Method | Description | Weighting |
| Summative | Coursework - Artefact | Coursework Project | 60% |
| Summative | Coursework - Artefact | Oral feedback on project proposal | 40% |
| Formative | Presentation | Oral Feedback on project proposal | N/A |

| Reading List |
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| To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html |

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.