

## BSc (Hons) COMPUTER GAMES SOFTWARE DEVELOPMENT (July 2010)

<b>1. Qualification</b> BSc (Hons)	<b>2. Programme Title</b> Computer Games Software Development	<b>3. UCAS Code</b> 3 Year <b>G450</b> short form <b>BSC/CGD</b>	<b>4. Programme Type</b> Modular Single and Joint Full-time and Part time
<b>5. Main Purposes and Distinctive Features of the Programme</b>			
<ul style="list-style-type: none"> <li>i. To provide students with a broad education in computer game design, development and technology, with a special emphasis on the technical aspects of game production.</li> <li>ii. To equip students with the skills (especially programming) and knowledge necessary to pursue a successful career in industries specialising in the creation and distribution of leisure and entertainment computing technologies.</li> <li>iii. To use Computer Games Software Development methods and techniques as a vehicle for introducing the theoretical, intellectual, creative and dynamic aspects of computing.</li> <li>iv. To promote innovation and creativity assisted by rapid technological change.</li> </ul>			

### Special Features

Students' software development and problem solving skills are in high demand in the job market.

## 6. What a Graduate should know and be able to do on completion of the Programme

The programme outcomes have reference to the benchmark statement for Computing (**C**), and the International Game Developers Association curriculum framework. (**GDA**)

### (Objectives and Learning Outcomes)

Graduates will have demonstrated:

<i>Knowledge and understanding in the context of the subject</i> i. formal understanding of game play & game design. ( <b>GDA</b> ) ii. knowledge of the underlying theory, concepts and principles of computer game development. ( <b>C</b> ) iii. an understanding of the business constraints and financial requirements in computer game development. ( <b>C</b> ) ( <b>GDC</b> ) iv. adequate breadth of skill and knowledge to ensure flexibility.	<i>Subject-specific practical/professional skills</i> Ability to: i. Use appropriate theory, practice and tools, for the specification, design, and implementation of computer-based games. ( <b>C</b> ) ii. Use core analytical techniques and design tools. ( <b>GDA</b> ) iii. Work as part of a development team. ( <b>C</b> ) iv. Write computer programs.
<i>Cognitive skills in the context of the subject</i> Ability to: i. critically evaluate games software in both conceptual and completed forms. ( <b>GDA</b> ) ( <b>C</b> )	<i>Other skills (e.g. key/transferable) developed in subject or other contexts</i> Capacity to: i. make effective use of general IT facilities ( <b>C</b> ) ii. communicate effectively, orally

<ul style="list-style-type: none"> <li>ii. analyse and specify computer based systems for use in interactive entertainment. <b>(GDA) (C)</b></li> <li>iii. Deploy effectively the methods and tools used in the definition, construction and development of fully functioning computer games. <b>(GDA) (C)</b></li> </ul>	<ul style="list-style-type: none"> <li>electronically and in writing. <b>(C)</b></li> <li>iii. manage and organise. <b>(C)</b></li> <li>iv. solve numerical problems and analyse information. <b>(C)</b></li> <li>v. solve practical programming problems.</li> <li>vi. independent study, self-appraisal (reflection) and goal setting</li> <li>vii. literature review skills</li> <li>viii. employability skills</li> </ul>
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<b>7. Qualities, Skills &amp; Capabilities Profile</b>			
The educational and training goals of the programme seek to develop and demonstrate the following qualities, skills, capabilities and values in its graduates			

Cognitive	Practical	Personal & Social	Other
Game design and documentation. Applied Problem solving. Analysis of information.	Software design, implementation and testing. Hardware evaluation and effective use.	Self-motivation. Organisation, communication and time management.	Technical report writing. Presentation skills. Investigation skills.

## **8. Duration and structure of Programme**

BSc in Computer Games Software Development.

3 years full-time; organised on a 2 semester per academic year basis.

120 credits at level HE4.

120 credits at level HE5.

120 credits at level HE6.

All modules are mandatory.

## **9. Learning, Teaching and Assessment Strategy**

### **Learning and teaching methods**

Active learning is promoted by lecturers, seminars, demonstrations, tutorials, videos and guided student-centred activities.

Practical skills will be acquired through laboratory sessions, demonstrations, assignments and projects.

### **Assessment methods**

Assessment tasks are linked to the learning outcomes of each module, and are normally completed by the end of each module.

Written examinations (closed / open book), essays, assignments, projects, in-class tests (practical, written or online), demonstrations and viva voce.

### **Modules for BSc (Hons) Computer Games Software Development**

Level	Module Code	Module Title	Credits
HE4	CGD1001	Applied Physics	20
	CGD1003	Programming for Games ( <i>two semesters</i> )	40
	CGD1004	Games Mathematics	20
	GAD1004	Games Design 1 ( <i>two semesters</i> )	40
HE5	CGD2000	Mathematical Physics	20
	CGD2001	Games Hardware and Peripherals	20
	CGD2003	Data Structures for Games	20
	LCT2500	Games Entertainment Technology 2	20
	LCT2502	Software Engineering	20
	LCT2614	Project Skills	20
HE6	CGD3002	Advanced Games Technology ( <i>two semesters</i> )	60
	LCT3001	Project ( <i>two semesters</i> )	40
	LCT3003	Business of Computer Games	20

**BSc (Hons) Computer Games Software Development module learning outcome map**

LEARNING OUTCOME	CGD1003	GAD1004	CGD1001	CGD1004	LCT2500	LCT2502	CGD2001	CGD2000	CGD2003	LCT2614	LCT3003	LCT3001	CGD3002
K1	X	X			X				X			X	
K2	X	X			X	X			X			X	
K3										X		X	
K4	X	X	X	X	X	X		X	X	X	X	X	
S1	X	X	X	X	X	X	X	X			X	X	
S2	X	X	X	X	X	X	X	X			X	X	
S3	X									X		X	
S4	X		X		X	X	X	X	X			X	
C1		X							X			X	
C2	X	X			X	X	X		X			X	
C3	X	X	X	X	X	X	X	X	X			X	
O1	X	X	X	X	X	X	X	X	X	X	X	X	
O2	X	X	X	X	X	X	X	X	X	X	X	X	
O3	X	X			X	X		X	X	X	X	X	
O4	X		X	X		X	X	X		X	X		
O5	X				X	X	X					X	
O6		X						X				X	
O7	X							X	X	X	X		
O8	X							X	X	X	X		

**Mapping of Assessment Methods to Modules:** Approximate balance of assessment methods by modules

ASSESSMENT METHOD (%)	CGD1001	CGD1003	CGD1004	GAD1004	CGD2000	CGD2001	CGD2003	LCT2500	LCT2502	LCT2614	CGD3002	LCT3001	LCT3003	
PRESENTATION		5		5				5			10	10	10	
PRACTICAL TESTS		50		20										
COURSE WORK	40	45	50	75	50	50	100	95	50	100	70	90	40	
IN CLASS TEST	30								50		20			
EXAMINATION	30		50		50	50			50				50	

## LEARNING OUTCOMES

### ***Knowledge and understanding***

Graduates will have demonstrated:

- K1 formal understanding of game play & game design.
- K2 knowledge of the underlying theory, concepts and principles of computer game development.
- K3 an understanding of the business constraints and financial requirements in computer game development.
- K4 adequate breadth of skill and knowledge to ensure flexibility.

### ***Subject-specific practical/professional skills***

Ability to:

- S1 Use appropriate theory, practice and tools, for the specification, design, and implementation of computer-based games.
- S2 Use core analytical techniques and design tools.
- S3 Work as part of a development team.
- S4 Write computer programs.

### ***Cognitive skills***

Ability to:

- C1 critically evaluate leisure software in both conceptual and completed forms
- C2 analyse and specify computer-based systems for use in interactive entertainment.
- C3 Deploy effectively the methods and tools used in the definition, construction and development of fully functioning computer games.

### ***Other skills***

Capacity to:

- O1 make effective use of general IT facilities
- O2 communicate effectively, orally electronically and in writing.
- O3 manage and organise.
- O4 solve numerical problems and analyse information.
- O5 solve practical programming problems.
- O6 independent study, self-appraisal (reflection) and goal setting
- O7 literature review skills
- O8 employability skills