

## Course Specification

Course Summary Information		
1	<b>Course Title</b>	BSc (Hons) Game Technology
2	<b>Course Code</b>	US1502
3	<b>Awarding Institution</b>	Birmingham City University
4	<b>Teaching Institution(s)</b> (if different from point 3)	
5	<b>Professional Statutory or Regulatory Body (PSRB) accreditation</b> (if applicable)	Not applicable

6	Course Description
	<p>Embark on a journey to the forefront of game technology with our BSc (Hons) Game Technology. This course dives deep into the mechanics of game engines, networked gaming, and emerging technologies. Benefit from hands-on experience in our state-of-the-art labs, featuring industry-standard tools and equipment.</p> <p>You will work with experts and peers to develop games that push the boundaries of technology and creativity. You'll also have the chance to explore new realms like cloud gaming and procedural content generation. Prepare to launch your career with a solid foundation in both the technical and creative aspects of game technology.</p> <p>Our labs are equipped with the latest in game development technology, including advanced graphics workstations, network simulation tools, and game testing environments. You will gain practical experience with both software and hardware tools crucial for modern game development.</p> <p>Collaborations with major tech companies and game studios offer you insights into the industry's best practices and emerging trends. These partnerships not only provide access to professional-grade software and hardware but also create pathways for internships and mentorships, enriching your educational experience with real-world perspectives and hands-on opportunities.</p>

7	Course Awards		
7a	Name of Final Award	Level	Credits Awarded
	Bachelor of Science with Honours Game Technology	6	360
	Bachelor of Science with Honours Game Technology with Professional Placement Year	6	480
7b	Exit Awards and Credits Awarded		
	Certificate of Higher Education Game Technology	4	120
	Diploma of Higher Education Game Technology	5	240

	Bachelor of Science Game Technology	6	300
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<b>8</b>	<b>Variation from the University Regulations</b>
	Not applicable.

<b>9</b>	<b>Delivery Patterns</b>		
	<b>Mode(s) of Study</b>	<b>Location(s) of Study</b>	<b>Duration of Study</b>
	Full Time	City Centre	3 years
	Professional Placement	City Centre	4 years
			<b>Code(s)</b>
			US1502
			US1503

<b>10</b>	<b>Entry Requirements</b>	
	<b>Home:</b>	<ul style="list-style-type: none"> <li>• A Levels: BBC</li> <li>• BTEC Diploma: D*D*</li> <li>• BTEC Extended Diploma: DMM</li> <li>• Access to HE Diploma: 60 credits with 45 at Level 3</li> <li>• International Baccalaureate Diploma: 28 points</li> <li>• GCSE English Language or English Literature and Mathematics at Grade 4 or above, or equivalent.</li> </ul> <p>For full entry requirements and fees: <a href="http://www.bcu.ac.uk/courses">www.bcu.ac.uk/courses</a></p>
	<b>EU:</b>	IELTS 5.5
	<b>International:</b>	IELTS 5.5
	<b>Access:</b>	N/A

<b>11</b>	<b>Course Aims</b>
	<ul style="list-style-type: none"> <li>• To equip students with a comprehensive understanding of game technology, focusing on both theoretical knowledge and practical application in game development.</li> <li>• To develop proficiency in game programming, including a deep understanding of various programming languages and their role in creating dynamic game environments.</li> <li>• To provide insights into the game design process, emphasising the integration of technology to enhance user experience and gameplay.</li> <li>• To cultivate skills in creating immersive and interactive game worlds, employing advanced techniques in worldbuilding and mixed reality.</li> <li>• To foster an understanding of the collaborative nature of game development, encouraging effective teamwork and communication within multi-disciplinary teams.</li> <li>• To prepare students to innovate within the field of game technology, equipping them with the skills to contribute to future advancements in gaming.</li> <li>• To ensure students grasp the significance of user interface and user experience design in game development, and their impact on player engagement.</li> <li>• To offer practical experience through a final year project that synthesises learning, allowing students to demonstrate their capabilities in game technology comprehensively.</li> <li>• To enable students to apply game technology skills in diverse sectors, such as virtual reality, simulation, and interactive media, broadening their career opportunities beyond traditional game development.</li> </ul>

	<ul style="list-style-type: none"> <li>To instil a strong foundation in problem-solving, critical thinking, and creative innovation through the lens of game technology, preparing students for challenges in various technological fields.</li> </ul>
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<b>12</b>	<b>Course Learning Outcomes</b>
	<b>Knowledge and Understanding</b>
<b>1</b>	Understand the fundamental principles and frameworks of game technology within the context of game development.
<b>2</b>	Grasp the interdisciplinary nature of game technology, encompassing aspects of programming, design, audio, and user experience.
<b>3</b>	Comprehend the application of game technology in various contexts, including virtual reality, simulation, and interactive media.
<b>4</b>	Recognise the ethical considerations and societal impacts of game technology and its applications in various sectors.
<b>5</b>	Understand the application of advanced programming concepts and emerging technologies in game development, enabling the creation of sophisticated and innovative game technologies.
	<b>Skills and Other Attributes</b>
<b>6</b>	Apply technical skills in game programming, design, and development to create engaging and immersive digital experiences and innovative applications in non-gaming contexts.
<b>7</b>	Utilise various software tools and platforms effectively to develop game technology components.
<b>8</b>	Demonstrate the ability to work collaboratively in multidisciplinary teams to achieve project objectives.
<b>9</b>	Exhibit problem-solving skills by identifying, analysing, and creating solutions to technical challenges in game technology.
<b>10</b>	Communicate technical concepts effectively to a range of audiences, including non-technical stakeholders.

<b>13</b>	<b>Level Learning Outcomes</b>
	<b><i>Upon completion of Level 4 / the Certificate of Higher Education, you will be able to:</i></b>
	<ul style="list-style-type: none"> <li>Demonstrate an understanding of basic programming concepts and their application in game technology.</li> <li>Apply foundational game design principles to create simple game environments and assets.</li> <li>Recognise the role of different technologies in the development of game assets and mechanics.</li> <li>Understand the importance of collaboration and communication in the game development process, working effectively in team-based environments.</li> </ul>
	<b><i>Upon completion of Level 5 / the Diploma of Higher Education, you will be able to:</i></b>
	<ul style="list-style-type: none"> <li>Develop more complex game technologies using advanced programming skills.</li> <li>Analyse and apply principles of user experience and interface design in game development.</li> <li>Collaborate on multidisciplinary teams to produce cohesive game projects.</li> <li>Integrate various game technologies to create immersive and interactive gaming experiences, demonstrating an understanding of the interplay between different gaming elements.</li> </ul>
	<b><i>Upon completion of 60 credits at Level 6 / the bachelor's degree, you will be able to:</i></b>
	<ul style="list-style-type: none"> <li>Design and implement sophisticated game technologies, demonstrating an integrated understanding of game programming, mechanics, and user interaction.</li> </ul>

- Critically evaluate and optimise game technologies for performance and user engagement.
- Execute a comprehensive game development project, showcasing technical skills, project management, and teamwork.
- Demonstrate leadership in the planning, development, and execution of game technology projects, showing the ability to guide teams and make strategic decisions.

#### 14 **Course Learning, Teaching and Assessment Strategy**

The learning, teaching, and assessment strategy for the Game Technology course is structured to provide a dynamic and immersive educational experience. The course utilises a blend of theoretical lectures, practical workshops, and real-world project-based learning to ensure students gain a deep understanding and hands-on experience in programming within game development.

##### **Learning and Teaching Approaches:**

- Lectures: Deliver foundational knowledge and emerging trends in game technology.
- Workshops: Provide hands-on experience with industry-standard tools and software.
- Seminars: Facilitate discussions on case studies and current industry practices.
- Group Projects: Promote collaboration and problem-solving skills, simulating real-world game development scenarios.
- Guest Lectures: Offer insights from industry professionals, enhancing learning with real-world relevance.

##### **Assessment Strategy:**

- Portfolios: Showcase a compilation of students' work, reflecting their technical skills and creativity.
- Practical Assignments: Evaluate the application of taught skills in real-world-like scenarios.
- Presentations: Develop communication skills, allowing students to articulate their processes and solutions.
- Reflective Journals: Encourage students to reflect on their learning journey, fostering self-assessment and critical thinking.
- Peer Reviews: Enable students to give and receive feedback, promoting a deeper understanding of the subject matter.

##### **Feedback and Feedforward:**

- Continuous Feedback: Provided throughout modules to guide students' learning and project development.
- Feedforward: Offers constructive guidance on how to improve and apply skills in future work.
- One-on-One Tutorials: Allow for personalised feedback and targeted developmental advice.

##### **Expectations from Students:**

- Active participation in all learning activities.
- Engagement with peer feedback and collaborative projects.
- Self-directed exploration and research to complement structured learning.

- Commitment to continuous improvement and receptiveness to feedback.

**15 Course Requirements**
**15a Level 4:**

**To complete this course, you must successfully complete all the following CORE modules (totalling 120 credits):**

Module Code	Module Name	Credit Value
CMP4XXX	Game Programming	20
CMP4XXX	Modelling	20
CMP4XXX	Game Asset Pipeline	20
CMP4XXX	Game Mechanics	20
CMP4XXX	Animation	20
CMP4XXX	Game Design	20

**Level 5:**

**To complete this course, you must successfully complete all the following CORE modules (totalling 120 credits):**

Module Code	Module Name	Credit Value
CMP5XXX	Interface and UX Scripting	20
CMP5XXX	Web and Mobile Development	20
CMP5XXX	Game Studio Production	20
CMP5XXX	Worldbuilding	20
CMP5XXX	Immersive Technologies	20
CMP5XXX	Collaborative Practice	20

**Professional Placement Year (optional):**

**To qualify for the awards of Bachelor of Science with Honours Game Technology with Professional Placement Year, you must successfully complete all the modules listed as well as the following Level 5 module:**

Module Code	Module Name	Credit Value
PPY5004	Professional Placement	120

**Level 6:**

**To complete this course, you must successfully complete all the following CORE modules (totalling 120 credits):**

Module Code	Module Name	Credit Value
CMP6XXX	Game Artificial Intelligence	20
CMP6XXX	Virtual Production	20

	CMP6XXX	Game Audio	20
	CMP6XXX	Console Game Development	20
	CMP6200	Individual Honours Project	40

<b>15b</b>	<b>Structure Diagram</b>
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All module credits are 20, unless otherwise stated.

**Level 4**

<b>SEMESTER ONE</b>	<b>SEMESTER TWO</b>
Core CMP4XXX: Game Programming CMP4XXX: Modelling CMP4XXX: Game Asset Pipeline	Core CMP4XXX: Game Mechanics CMP4XXX: Animation CMP4XXX: Game Design

**Level 5**

Core CMP5XXX: Interface and UX Scripting CMP5XXX: Web and Mobile Development CMP5XXX: Game Studio Production	Core CMP5XXX: Worldbuilding CMP5XXX: Immersive Technologies CMP5XXX: Collaborative Practice
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**Professional Placement – Year 3 (optional)**

PPY5004 Professional Placement Module (120 credits)

**Level 6**

Core CMP6XXX: Game Artificial Intelligence CMP6XXX: Virtual Production	Core CMP6XXX: Game Audio CMP6XXX: Console Game Development
CMP6200: Individual Honours Project (40 credits)	

<b>16</b>	<b>Overall Student Workload and Balance of Assessment</b>
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Overall student *workload* consists of class contact hours, independent learning and assessment activity, with each credit taken equating to a total study time of around 10 hours. While actual contact hours may depend on the optional modules selected, the following information gives an indication of how much time students will need to allocate to different activities at each level of the course.

- *Scheduled Learning* includes lectures, practical classes and workshops, contact time specified in timetable
- *Directed Learning* includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning
- *Private Study* includes preparation for exams

The *balance of assessment* by mode of assessment (e.g. coursework, exam and in-person) depends to some extent on the optional modules chosen by students. The approximate percentage of the course assessed by coursework, exam and in-person is shown below.

#### Level 4

##### Workload

##### 24% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	288
Directed Learning	336
Private Study	576
<b>Total Hours</b>	1200

##### Balance of Assessment

Assessment Mode	Percentage
Coursework	89
Exam	0
In-Person	11

#### Level 5

##### Workload

##### 24% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	288
Directed Learning	336
Private Study	576
<b>Total Hours</b>	1200

**Balance of Assessment**

<b>Assessment Mode</b>	<b>Percentage</b>
Coursework	83
Exam	0
In-Person	17

**Level 6**

**Workload**

**17% time spent in timetabled teaching and learning activity**

<b>Activity</b>	<b>Number of Hours</b>
Scheduled Learning	202
Directed Learning	236
Private Study	762
<b>Total Hours</b>	1200

**Balance of Assessment**

<b>Assessment Mode</b>	<b>Percentage</b>
Coursework	80
Exam	0
In-Person	20