

Course Title	BSc (Hons) Games Programming
Final Award	BSc (Hons) Games Programming
Interim Awards	Certificate of Higher Education in Games Programming Diploma of Higher Education in Games Programming BSc Games Programming
Awarding Body	Ravensbourne University London
Teaching Institution	Ravensbourne University London
UCAS Code	1610 Games Programming
HECOS code (with Subject percentage Splits if applicable)	100956 101020 100367
QAA Subject Benchmark	Computing 2022
External Accrediting Bodies	N/A
Apprenticeship Standard used to inform the development of the course (if applicable)	N/A
Accelerated Degree Option	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Level 6 Top Up Option (online only)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Study Load	<input checked="" type="checkbox"/> Full-time <input checked="" type="checkbox"/> Part-time
Mode of study	<input checked="" type="checkbox"/> Face-to-face <input type="checkbox"/> Blended <input type="checkbox"/> Online
Delivery Location(s)	<input checked="" type="checkbox"/> Ravensbourne University campus <input type="checkbox"/> Online
Length(s) of Course(s)	3 years FT 6 years PT
Type (open/closed)	Open
Validation period	Five years (September 2022-September 2027)
Intended First Cohort Start Date	September 2022
Date produced/amended	18/2/22
Course Leader	TBC
Course Development Team Members	Nick Rodriguez Neil Drabble
Course Administrative Contact	Charles Mullany

Course Description

BSc (Hons) Games Programming is a games-making course that gives students fundamental skills in the core games development technologies, programming languages and games production methodologies used in AAA and independent games production.

The course reflects forward thinking industry practice in its approach to programming for games, incorporating good programming practice, established game programming patterns and

Version 1

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software development practice alongside co-operating with other developers to make compelling games products.

The course enables a firm grounding in the Games development process and core technologies alongside deeper understanding of the programming and scripting languages used in development as well as the theoretical models at the heart of effective programming.

The course engages students in well-defined industry skillsets to enable individual and team-based games making. This includes computer programming methodologies, game programming patterns, game engine technologies, programming and scripting in game engines, mathematics and physics for programming, production methodologies (Scrum, Lean, Waterfall), games (and software) development cycles, concepting and ideation, prototyping, documentation, 2D/3D art pipelines, AI for game agents, UX/UI and team working.

The course differs from the Games Development course in its clear focus on computer and data science and programming for games applications rather than the gameplay driven scripting within games engines that forms the basis of technical delivery on those courses.

The course is designed using a Universal Design for Learning framework that has universal utility for the diverse cohort that Ravensbourne attracts. It supports the multiple learning inputs and outputs that students with challenges require to thrive, accepting that allowances for the increasing levels of neurodiversity within the cohort improves learning outcomes for all.

The three main precepts of UDL are:

- 1) Provide Multiple Means of Engagement: Affect represents a crucial element to learning, and learners differ markedly in the ways in which they can be engaged and motivated to learn. In order to build engagement, there must be multiple options to foster both attention and commitment in all learners to address the unique variability in interest, effort and perseverance, and self-regulation strategies.
- 2) Provide Multiple Means of Representation: Representation guidelines remind us to provide multiple formats when teaching to activate all students' recognition networks.
- 3) Provide Multiple Means of Action and Expression: It's imperative to engage students and represent content so it is accessible, but in order to determine if students have learnt content, instructors must assess learning using multiple strategies so students have options regarding the type of assessment and ways in which they can present evidence of learning.

The framework encourages self-efficacy and team building through project work, encouraging creative and innovative outcomes to a broad range of games industry briefs including mobile, console and PC based outcomes or through encouraging debate and action through a range of active industry and social issues.

The distinctiveness of the course comes from "games first" approach putting making at the centre of teaching, pushing students to develop their own practice in a supportive and critical environment and to engage with the wider elements of games culture and practice.

Graduates will be equipped to pursue careers in some of the following roles: games programmer, mobile applications developer and software engineer.

Course Aims
<ul style="list-style-type: none"> · To understand the fundamentals of good programming and how that applies to games making
<ul style="list-style-type: none"> · To prepare you for a career as a games-maker, either in the AAA or independent markets.
<ul style="list-style-type: none"> · To use technology to bring stories and game experiences to life.
<ul style="list-style-type: none"> · To enable you to specialise within the coding discipline that best suits your skills.
<ul style="list-style-type: none"> · To build a critical language and understanding about games and games development.
<ul style="list-style-type: none"> · To develop a solid understanding of games technologies enabling you to respond to changes in the development landscape quickly and confidently.

Course Learning Outcomes

<p>The course provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.</p> <p>On completion of the BA (Hons) Games Programming students will be able to:</p>	
Explore	<p>Evaluate and contextualise capacity for utilising and synthesising Games Programming specific knowledge, critical thinking and reflection, supporting problem solving and development.</p> <p>(CLO1)</p>
Create	<p>Critically engage with the iterative development of ideas, materials, tests and outcomes that may inform practical and theoretical development in physical, written and oral forms aligned to Games Programming.</p> <p>Synthesise idea development, experimentation, and technical ability supporting fully resolved outcomes with consideration of audience/user regarding communication and presentation for Games Programming.</p> <p>(CLO2)</p>
Influence	<p>Interpret a methodical working approach and ethos that critically identifies consideration of social, ethical and environmentally responsible working methods and how this aligns and supports personal development and professional working practices in relation to Games Programming.</p> <p>(CLO3)</p>
Integrate	<p>Analyse critical ability to successfully synthesise collaboration, industry interactions & practices and professional working models in order to facilitate self-efficacy, personal agency and professional development in relation to Games Programming.</p>

	(CLO4)
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Where a student does not complete the full course, but exits with an Ordinary Degree, they will have had the opportunity to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.

On completion of the **BA Games Programming** students will be able to:

Explore	Evidence and contextualise capacity for utilising and synthesising Games Programming specific knowledge, critical thinking and reflection, supporting problem solving and development. (CLO1)
Create	Apply the ability to consider ideas, materials, tests and outcomes that may inform iterative practical and theoretical development in physical, written, and oral forms aligned to Games Programming. Design ability to synthesise idea development, experimentation, and technical ability supporting resolved outcomes with consideration of audience/user regarding communication and presentation for Games Programming. (CLO2)
Influence	Relate a coherent working approach and ethos that identifies consideration of social ethically and environmentally responsible working methods and how this aligns and supports personal development in relation to Games Programming. (CLO3)
Integrate	Align the ability to effectively synthesise collaboration, industry interactions & practices and professional working models to facilitate self-efficacy, personal agency and professional development in relation to Games Programming. (CLO4)

Where a student does not complete the full course, but exits with a Diploma in Higher Education, they will have had the opportunity to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.

On completion of the **Diploma of Higher Education in Games Programming** students will be able to:

Explore	Define evolving ability to utilise research and critical reflection to support developing understanding of subject knowledge and ability to problem solve in relation to Games Programming. (CLO1)
Create	Employ capacity to combine ideas, materials, tests and outcomes into solutions that inform and guide iterative practical and theoretical development in physical, written and oral forms aligned to Games Programming.

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	Exhibit developed technical competencies, supporting ideation, communication, and presentation with consideration of audience/user for Games Programming. (CLO2)
Influence	Relate developing working processes that identify consideration and interpretation of social, ethically and environmentally responsible working methods and how this guides personal professional practice in relation to Games Programming. (CLO3).
Integrate	Apply evolving ability to engage with collaborative working to support academic development, industry interactions & practices to enhance and progress self-efficacy and professional development in relation to Games Programming. (CLO4).

Where a student does not complete the full course, but exits with a Certificate of Higher Education, they will have had the opportunity to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.

On completion of the **Certificate of Higher Education in Games Programming** students will be able to:

Explore	Demonstrate capacity for engaging with research and critical thinking, developing Games Programming specific knowledge and emerging ability to problem solve. (CLO1)
Create	Apply capacity to consider ideas, materials, tests and outcomes that may inform iterative practical and theoretical development in physical, written and oral forms in relation to Games Programming. Exhibit emerging technical competencies, supporting ideation, communication, and presentation with consideration of audience/user for Games Programming. (CLO2).
Influence	Demonstrate an emerging working approach/attitude that identifies consideration of social, ethical and environmentally responsible working methods and how this informs personal practice in relation to Games Programming. (CLO3).
Integrate	Identify emerging capacity to engage with collaboration, teamwork, industry interactions, and professional working practices to support self-efficacy and professional development in relation to Games Programming. (CLO4).

Ravensbourne University Assessment Criteria	
Explore	Research and Analysis Subject Knowledge Critical Thinking and Reflection Problem Solving
Create	Ideation Experimentation Technical Competence Communication and Presentation
Influence	Social Impact Ethical Impact Environmental Impact
Integrate	Collaboration Entrepreneurship and Enterprise Professional Development

Core Competencies

Each module learning outcome should be aligned to at least one competency.

Competency	Definition	Aligned Assessment Criteria
Cognitive	The ability to acquire, retain and use knowledge, recognise, pose and solve problems. Attributes may include: <ul style="list-style-type: none"> Evaluate their own beliefs, biases and assumptions Evaluate strengths, weaknesses, and fallacies of logic in arguments and information Apply lesson from the past or learned knowledge and skills to new and varied situations Perform basic computations or approach practical problems by choosing appropriately from a variety of mathematical techniques Devise and defend a logical hypothesis to explain observed phenomenon Recognize a problem and devise and implement a plan of action 	Explore, Create, Integrate, Influence
Creative	The ability to generate new ideas, express themselves creatively, innovate and/ or solve complex problems in an original way.	Create
Professional	The ability to understand and effectively meet the expectations of industry partners, through outputs and behaviours.	Integrate, Influence
	Emotional -The intrapersonal ability to identify, assess, and regulate one’s own emotions and moods; to discriminate	Explore, Influence,

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<p>Emotional, Social and Physical</p>	<p>among them and to use this information to guide one's thinking and actions and where one has to make consequential decisions for oneself. Attributes may include:</p> <ul style="list-style-type: none"> • Self-awareness & regulation (including metacognition) • Mindfulness • Cognitive flexibility • Emotional resilience • Motivation • Ethical decision- making <hr/> <p>Social - The interpersonal ability to identify & understand the underlying emotions of individuals and groups, enhancing communication efficacy, empathy and influence. Attributes may include:</p> <ul style="list-style-type: none"> • Managing your audience • Coordinating with others • Negotiation • Creativity • People management • Leadership & entrepreneurship • Service orientation • Active listening • Coaching and mentoring <hr/> <p>Physical - The ability to perceive and optimise physiological activity and responses to influence emotion, solve problems or otherwise effect behaviour. Physical intelligence engages the body to train neuron pathways to help change an inappropriate response to an appropriate response. Attributes may include</p> <ul style="list-style-type: none"> • Self-discipline & management • Attention • Reaction & response time • Cognitive & muscle memory • Managing stress • Physical resilience 	<p>Integrate</p>
<p>Cultural</p>		<p>Influence, Integrate</p>

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	The capability to relate to and work effectively across cultures including intercultural engagement, cultural understanding and intercultural communication.	
Enterprise and Entrepreneurial	The generation and application of ideas within a practical setting. It combines creativity, idea generation and design thinking, with problem identification, problem solving, and innovation followed by practical action. This can, but does not exclusively, lead to venture creation (UK Quality Assurance Agency, Enterprise and Entrepreneurship Education 2018).	Create, Influence, Integrate
Digital	The confident adoption of applications, new devices, software and services and the ability to stay up to date with ICT as it evolves. The ability to deal with failures and problems of ICT and to design and implement solutions (Jisc Digital Capabilities Framework)	Explore, Create, Integrate, Influence
Ravensbourne Return	Engagement with inhouse activities including mentoring other students, volunteering, acting as a student rep or ambassador. Demonstrate a knowledge of current events and social issues Identify their personal convictions and explore options for putting these convictions into practice Engagement with the external community through (from) employment, volunteering, participation in a Professional Life or other programme-based project.	Explore, Create, Influence, Integrate,

Learning, Teaching and Assessment

Learning and Teaching methods	Assessment Strategy
<p>All levels will adopt a hybrid strategy in terms of teaching. Modules will blend face to face delivery with sessions taught using online digital platforms (Discord, Microsoft Teams or similar), alongside the institutional virtual learning environment (VLE).</p> <p>The blended model will support learners to engage with enhanced approaches to Learning & Teaching engagement, and expanded parameters of the learning environment. The course curriculum and delivery model will be able to adapt quickly and seamlessly to changes in accessibility and social proximity.</p> <p>Level 4:</p> <p>At Level 4 skills will be developed through a combination of workshops, lectures, seminars</p>	<p>Level 4:</p>

and group exercises, self-directed study, as well as individual or group tutorials.

This will include blended modules where students will engage with online resources provided by the institution and from outside resources (Pluralsight, Unity Learn or similar) or sessions will be run using a digital platform.

Students will engage with and be trained in the use of digital platforms for effective delivery of outcomes including games, presentations, documentation and prototypes.

All module briefs will be created with blended learning in mind but leverage appropriate face to face teaching. Some modules will feature online delivery as part of the normal delivery schedule.

In addition, students may also test their developing disciplinary knowledge with collaborative learning exercises and challenges as directed by module briefs using both digital and physical spaces to achieve goals.

Level 4 will provide a set of technical and theoretical competencies that enable students to engage with the practice of games programming and development, how to manage learning in a creative HE environment and develop a theoretical appreciation of games technology and its place in broader culture of game development.

Students will also be introduced to what it means to be creative and how creative people initiate, plan and execute projects alongside rigorous technical due diligence.

Students will also discover ideas around programming patterns and object-oriented programming methodologies.

Through set tasks and project work students will be introduced to technical workflows and approaches to prototyping that are common in industry and students will explore how

At level 4 students will be introduced to the types of assessment that will be used across the entire course. They will be introduced to working from a brief.

Students will have an opportunity to develop different ways of presenting work to tutors and peers.

Assessment will include a variety of tasks such as games development, blogs, reports, presentations and evidence of experimentation and research. It will require students to demonstrate working code in a manner appropriate to the specific brief i.e. when code should be compiled and how uncompiled code should be delivered.

Students can express these through a variety of media: written, recorded video, recorded audio and image-based work are acceptable.

Students will be encouraged to engage with professional qualification award schemes (Unity, Unreal, or similar) as part of their professional development, but this will not form part of unit assessment.

Each Module has a **Formative** assessment point where students are given feedforward/feedback on work so far and advice and guidance on how to develop and complete projects. This can take the form of a group code review, one on one with a tutor or small group as per the project brief for the unit.

Each Module has a **Summative** assessment point where a final grade is awarded and feed forward if given to the student.

these can inform their creative and professional process.

Learning is facilitated by permanent and sessional teaching staff, who are practising professionals themselves and bring an important industry-informed perspective to the course.

Students will be introduced to industry through skills, discussion of key topics and direct interaction with industry.

Level 4 will also introduce the students to the Professional Life Practice modules that are embedded in each undergraduate learning level. These modules specifically support collaborative experimental practice, entrepreneurship, and enterprise, helping to catalyse, develop and showcase interdisciplinary working methods interaction and innovation.

The Modules will also and facilitate opportunities to integrate with industry partners to establish professional currency at the start of the undergraduate journey, and to drive enterprise and employability through the degree experience.

This Module integrates the emerging subject knowledge of each student with working methods from a range of disciplines to create a multidisciplinary synthesis of practice, skills and learning. Students will develop social, cultural, emotional, and cognitive intelligence through projects that facilitate community and industry connections aligned to the Ravensbourne core competencies.

Level 5:

Skills acquired at Level 5 are developed further through a combination of workshops, lectures, seminars, group exercises, self-directed study, as well as individual or group tutorials.

Students will work alongside *BA(Hons) Games Development* students on collaborative sessions enabling students to develop team working and understanding of key development workflows.

These Modules will inform Level 6 Modules around portfolio creation and Final Major Project and enable students to make career choices around their industry discipline.

In addition, students will test their developing disciplinary knowledge in collaborative scenarios with the opportunity to take part in the Professional Life Practice Modules, and Work Based Learning Modules, offering collaborative and industry aligned opportunities both within Ravensbourne and in external contexts.

Students will also be introduced to what currently constitutes innovative practice within games programming and explores the interplay of innovation and technological development.

Visiting speakers and specialists will be invited to deliver lectures or practical workshops, bringing their own specialism and examples of industry work into the sessions.

The Professional Life Practice Modules at Level 5 supports practical, theoretical and industry focused engagement facilitating expertise, experience and interactions with professional aspects of the games and games programming disciplines.

All Level 5 students have the opportunity to undertake a Work Based Learning modules at the end of Semester 2. The Work Based Learning module will offer the students the ability to engage with either a work placement or equivalent industry-led experience supporting industry interactions, entrepreneurship and employability skills. The placements will be supported by the careers team at Ravensbourne.

Level 5:

At level 5 the types of assessment evidence required across the Modules are similar to level 4 in scope and breadth. However, students will be encouraged to self-direct their study within particular skill sets. Students will be exposed to the wide range of programming roles within industry and encouraged to investigate them further.

Formative Assessment

In Level 5 students will be provided with Formative assessment feedforward/feedback via individual tutorials, group presentations and individual presentations.

In addition, in Level 5 there is more opportunity for collaborative work with peer and industry feedback, and work-based learning opportunities. The Professional Life Practice modules and the Work Based Learning Modules support students to engage with external industry professionals and gain knowledge and insight regarding entrepreneurship, enterprise and agency.

<p>Level 6:</p> <p>Skills acquired at Level 4 and 5 will be developed and perfected at Level 6 through lectures, seminars, workshops, self-directed study and individual tutorials.</p> <p>A large proportion of project-based work will be initiated and developed by students themselves, with a view to mastering skills particular to their interests within the discipline.</p> <p>Students will be encouraged to delve deeper into their particular interests through individual tutorials and programmes of study initiated by the students themselves using online and physical resources.</p> <p>Students will be offered increased responsibility for their own learning undertaking a major project. Whilst students will be encouraged to work in multi-discipline teams to facilitate the most complete playable game outcomes, individuals can undertake major projects tied to the discipline.</p> <p>Students are expected to take on professional attitudes to time and project management, quality assurance, playtesting, and deployment.</p> <p>Visiting lecturers will be invited to deliver lectures and/or practical sessions related to their area of work and students will develop an outward facing portfolio to aid graduate progression.</p> <p>Written work will focus upon critical analysis and reflection of project-based work, with a view to encouraging ongoing development. Within the sphere of theoretical study, students will expand their ability to write reflexively and critically about their discipline and competently be able to contextualise their personal practice.</p>	<p>Summative Assessment</p> <p>This will happen at the end of each unit and involve the submission for formal assessment of the types of evidence required by each. Again, outcomes for each module will be as flexible as possible, focusing on engagement with the problems the brief describes rather than prescribed work products. Students will need to provide working builds and project files for assessment, if appropriate.</p> <p>Level 6:</p> <p>In level 6 the types of assessment evidence required across the Modules are similar to level 5 but are more individually focused.</p> <p>Formative Assessment In Level 6 students will be provided with</p>
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<p>Students will be expected to interface directly with industry through mentoring, competition, and research.</p>	<p>Formative assessment feedforward/feedback via individual tutorials, group presentations and individual presentations.</p> <p>In addition, in Level 6 there is more opportunity and encouragement for students to engage with peer and industry feedback.</p> <p>Summative Assessment</p> <p>This will happen at the end of each module and involve the submission for formal assessment of the types of evidence required by each.</p> <p>Again, outcomes for each module will be as flexible as possible, focusing on engagement with the problems the brief describes rather than prescribed work products. Students will need to provide working builds and project files for assessment, if appropriate.</p>
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Work Placement

Students are encouraged from Level 4 to engage with industry and seek internship opportunities within the industry at Level 5. The careers team within Student Services can facilitate outreach for students to contact companies. Students are provided with membership of industry bodies that can assist with placements.

Students are likely to apply for specific internship or work experience placements with development or publishing companies. They might also apply for zero hours casual work as quality assurance engineers.

Students are encouraged to find industry mentors to assist professional development.

Course Structure

Module Code	Module Title	Shared Module	Mandatory / Elective	Credits
Level 4				
GPR22101	Programming 1	x	Mandatory	20
GPR22102	Programming 2		Mandatory	20
GMD22102	Engines and Pipelines	x	Mandatory	20
GPR22105	Programming 3		Mandatory	20
PLP22103	Professional Life Practice	Part	Mandatory	20
PLP22106	Professional Life Practice	Part	Mandatory	20
				120
Level 5				
GPR22201	A.I. Behaviour for Games		Mandatory	20
GPR22202	Networking in Games		Mandatory	20
GMD22203	Games Studio	Part	Mandatory	40
PLP22103	Professional Life Practice	x	Mandatory	20
XXX	Work Based Learning		Mandatory	20
				120
			Total	240
Level 6				
GPR 22301	Pre-Production	Part	Mandatory	40
GPR 22302	Production	Part	Mandatory	40
PLP22103	Professional Life Practice "Situating your Practice"	x	Mandatory	20
GPR 22304	Postproduction	Part	Mandatory	20
				120
			Total	360

Learning Hours

Learning Hours (per 20 credit module excluding the Work Placement)			
Staff – Student Contact Hours		Independent Study Hours	
Taught Hours	48	Independent Study, Self-directed Study and Assessment	152
Total			200

Course Regulations

Entry Requirements
<ul style="list-style-type: none"> - 3 x A Levels at Grades CCC or above (96 Tariff points), or - BTEC Extended Diploma at MMM (96 Tariff points), or - equivalent level 3 qualifications, - plus GCSE English and Maths at Grade 4 or above <p><i>Please refer to the institutional regulations on the expected minimum entry requirements (found under Section 5 of the General Academic Regulations found on the website here), and the course page on the Ravensbourne University website for course specific entry requirements.</i></p>

Accreditation of Prior Learning (if applicable)

Applications are welcomed from those who may not possess formal entry qualifications, mature students, those with work experience or with qualifications other than those listed above. Such applicants should demonstrate sufficient aptitude and potential to complete the course successfully. Applicants will be assessed at interview in accordance with Ravensbourne’s Accreditation of Prior Learning Policy and Procedure and Student Transfer Plan.

Conditions for Progression

Students will be deemed to have passed a module if they achieve a 40% for undergraduate students; or a 50% for postgraduate students. A student who has passed all assessments to date but has not yet reached the end of a level (or stage) will be permitted to proceed into the following term by the Interim Assessment Board.

Reassessment of Failed Elements

Failure in any component will result in a Fail grade for the component.

Non-submission in any component will result in a non-submission for the component.

Students must then successfully retrieve the failed or non-submitted component by resubmission of assessment in order to pass the module.

Where a student does successfully retrieve a component failure, the grade for the component will be capped at 40% (undergraduate) or 50% (postgraduate) (except where Extenuating Circumstances have been approved). The overall grade for the module will be calculated using all achieved grades where there are 2 or more components.

Conditions for the Granting of Awards

A student who completes an approved course of study, shall be awarded BSc (Hons) Games Programming.

Those students who exit the Course without completing it may be entitled to exit with an award of either a:

1. Certificate of Higher Education in Games Programming provided they complete an approved course of modules and the learning outcomes for such award as set out in the Course Specification.
2. Diploma of Higher Education in Games Programming, provided they complete an approved course of modules and the learning outcomes for such award as set out in the Course Specification.
3. BSc Games Programming (ordinary degree), provided they complete an approved course of modules and the learning outcomes for such award as set out in the Course Specification.

Any derogation(s) from the Regulations required?

N/A

Student Support	https://www.ravensbourne.ac.uk/student-services
Assessment Regulations	https://www.ravensbourne.ac.uk/staff-and-student-policies

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Course Learning Outcomes	CLO1	CLO 2	CLO3	CLO4
Level 4 Modules				
GPR22101 Programming 1	X	X		
GPR22102 Programming 2	X	X		
GMD22102 Engines and Pipelines	X			X
GPR22104 Programming 3	X	X		
PLP22103 Professional Life Practice			X	X
PLP22103 Professional Life Practice		X		X
Level 5 Modules				
GPR22201 A.I. Behaviour for Games	X	X		
GPR22202 Networking in Games	X	X		
GMD22203 Games Studio		X		X
PLP22103 Professional Life Practice			X	X
XXX Work Based Learning	X	X	X	X
Level 6 Modules				
GMD22301 Pre-Production	X	X		
GMD22302 Production		X		X
PLP22103 Professional Life Practice			X	X
GMD22304 Post-Production			X	X

Course Diagram

	Semester 1	Semester 2	
Level 4	GPR22101 Programming 1 20 credits	GPR22102 Programming 2 20 credits	
120 credits	GMD22102 Engines and Pipelines 20 credits	GPR22105 Programming 3 20 credits	
	PLP22103 Professional Life Practice 20 credits	PLP22103 Professional Life Practice 20 credits	
	Semester 1	Semester 2	
Level 5	GPR22201 A.I. Behaviour for Games 20 credits	GMD22203 Games Studio 40 credits	XXX Work Based Learning 20 credits
120 credits	GPR22202 Networking in Games 20 credits		

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	Professional Life Practice 20 credits		
	Semester 1	Semester 2	
Level 6	GMD22301 Pre-Production 40 credits	GMD22303 Production 40 credits	GMD22304 Post-Production 20 credits
120 credits	GPRPLP22302 Professional Life Practice 20 credits		