OFFICE USE ONLY	
Date of validation event:	26 April 2018
Date of approval by Academic Board:	28 November 2018
Approved Validation Period:	*5 years from September 2018*
Date and type of revision:	03/04/19 APSC approved 3 replacement modules 12/04/19 APSC approved 2 replacement modules (1 superseding an earlier modification). 01 June 2021Replacement of COM552 with COM559 Games Programming 21/06/2022 Replacement of COM640 Advance Mobile Development with COM654 Advanced Games Programming

PART TWO PROGRAMME SPECIFICATON

BSc (Hons) Computer Game Development
BSc (Hons) Computer Game Development (with Industrial Placement)

1 **Awarding body**

Wrexham Glyndŵr University

2 **Programme delivered by**

Wrexham Glyndŵr University

3 **Location of delivery**

Plas Coch Campus, Wrexham

4 **Faculty / Department**

Faculty of Applied Arts, Science and Technology / Computing

5 **Exit awards available**

BSc (Ord.) Computer Game Development
DipHE Computer Game Development
CertHE Computer Game Development

6 **Professional, Statutory or Regulatory Body (PSRB) accreditation**

The Programme has been designed to align with the requirements of the British Computer Society (BCS) and accreditation will be requested post approval.
The information above is correct at the point of programme validation, refer to university PSRB register and university website for current details of programme accreditation.

7 **Accreditation available**

See above.

8 **Please add details of any conditions that may affect accreditation (e.g. is it dependent on choices made by a student?)**

Students must have studied all years at the WGU campus.

9 JACS3 **code**

	I620 : Computer Games Programming
10	UCAS **code**
	BSc (Hons) Computer Game Development G451 BSc (Hons) Computer Game Development (with Industrial Placement) CGIP
11	**Relevant QAA subject benchmark statement/s**
	Computing (Feb 2016)
12	**Other external and internal reference points used to inform the programme outcomes**
	BCS: Core requirements for accreditation of honours programmes BCS: Additional requirements for CITP BCS: Additional requirements for CEng/CSci Creative Skillset accreditation guideline descriptors UKIE academic programme descriptors
13	**Mode of study**
	Full & part time
14	**Normal length of study**
	BSc (Hons) Computer Game Development (with Industrial Placement): 4 years full-time BSc (Hons) Computer Game Development: 3 years full-time / 5 years part-time
15	**Maximum length of study**
	Refer to academic regulations.
16	**Language of study**
	English

17 Criteria for admission to the programme

Standard entry criteria

Entry requirements are in accordance with the University's admissions policy https://www.glyndwr.ac.uk/en/media/FINAL%20ADMISSIONS%20POLICY%202020 17.pdf

The University's entry requirements are set out at http://www.glyndwr.ac.uk/en/Undergraduatecourses/UCAStariffchange2017/

International entry qualifications are outlined on the National Academic Recognition and Information Centre (NARIC) as equivalent to the relevant UK entry qualification.

In addition to the academic entry requirements, all applicants whose first language is not English or Welsh must demonstrate English language proficiency.

European students are able to provide this evidence in a number of ways (please see http://www.glyndwr.ac.uk/en/Europeanstudents/entryrequirements/ for details), including IELTS.

International students require a UKVI Approved Secure English Language Test (SELT) (please see http://www.glyndwr.ac.uk/en/Internationalstudents/EntryandEnglishLanguageRequirements/ for details).

International Students are not eligible to study the Industrial Placement programme.

DBS Requirements

No DBS check is required for the BSc (Hons) Computer Game Development programme.

Non-standard entry criteria and programme specific requirements

Applicants with significant industry or professional experience will be treated on a case-by-case basis and invited for a discussion/interview with a member of the programme team.

18 Recognition of Prior (Experiential) Learning

Applicants may enter the programme at various levels with Recognition of Prior Learning (RPL) or Recognition of Prior Experiential learning (RPEL) in accordance with the University General Regulations. Any programme specific restrictions are outlined below

Programme specific restrictions

N/A

19 Aims of the programme

As the Creative Industries sector is growing, the competition for jobs is increasing, and so is the number of students seeking a higher level qualification that offers work experience and industry simulation opportunities. These students are recognising the need to achieve higher level qualifications in order to secure relevant employment.

Students studying this programme will be exposed to an education and learning experience that aims to instil knowledge and develops critical and intellectual abilities applicable to problem solving and solution specifying in technologically and socially diverse environments.

The programme will provide students with hands-on experience of multidisciplinary project management within the context of both moderate and large-scale game development projects.

This, in combination with knowledge of technical design and optimisation skills students will be empowered to develop game applications and assets with a view to imbuing them with a more professional level of quality. This programme also aims to help grow and support the local and regional games and media industry through the creation of new businesses and support for entrepreneurial activity by way of the business accelerator initiative.

Integrated into this experience is the explicit opportunity to gain first-hand involvement with the workplace, by completing the Industrial Placement at level 5. Although these are two distinct, named award routes, the programme team foresee that students may choose to start on one, but switch to the other, prior to completion of their core modules at level 5; thereby affording them the optionality of this year in industry.

The overall aims of the programmes are to:

BSc (Hons) Computer Game Development (with Industrial Placement)
- Provide students with knowledge and understanding of the fundamental principles and technologies which underpin the discipline of game development;
- Produce independently learning, workplace ready practitioners with a strong set of communication and employment skills who are cognisant of their career trajectory and personal and professional development goals;
- Provide a rigorous and scientifically-based course of study, informed by research, which successfully balances practical vocational skills with theoretical understanding;
- Produce versatile and resourceful practitioners fostering innovation, enterprise and enthusiasm for excellence in the discipline of game development;
- Develop capability in the exploration, critical analysis and evaluation of technical, business and professional issues and concepts, including an awareness of ethical and environmental factors;
- Provide students with an awareness of the roles and responsibilities of a professional working within the game development profession.
- Enable students to spend a significant period of time in the game development related workplace and to reflect upon their experiences and lessons learned therein.

BSc (Hons) Computer Game Development
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- Provide a rigorous and scientifically-based course of study, informed by research, which successfully balances practical vocational skills with theoretical understanding;
- Produce versatile and resourceful practitioners fostering innovation, enterprise and enthusiasm for excellence in the discipline of game development;
- Develop capability in the exploration, critical analysis and evaluation of technical, business and professional issues and concepts, including an awareness of ethical and environmental factors;
- Provide students with an awareness of the roles and responsibilities of a professional working within the game development profession.

20 Distinctive features of the programme

The computer games industry is now worth an estimated £4.33bn in the UK (UKIE 2017a) with 2,175 active games companies operating at all scales and sizes. An estimated 32.4 million people play computer games in the UK, which is the 5th largest global market. The Entertainment Retail Association (ERA 2017) (UKIE 2017b) states that UK game sales in 2016 generated more revenue than either video or music, making the games market (£2.96bn) 1.3 times the size of the video market (£2.25bn) and 2.6 times the size of music (£1.1bn). Worldwide, the number of players is estimated to be somewhere around 2.5 billion (UKIE 2017b), and is worth over $100bn and rising. The opportunities for the UK games industry have never been greater and the prospects for our students are encouraging.

In Wales the creative industry is one of the fastest growing sectors, it has been identified as a priority sector by the Welsh government. Around 84,000 people work in the 'creative economy' in Wales. Of these, nearly 53,000 work in the creative industries, and around 31,000 work in creative occupations outside the creative industries.
http://gov.wales/topics/businessandeconomy/our-priority-sectors/creative-industries/?lang=en

More recently gamesmap.uk (an interactive map built by Ukie and Nesta) identified 58 games companies operating in Wales, publishing over 140 games.

With the recent developments from Pinewood Studios, Tramshed Tech and BBC Wales' new headquarters, the prospects for the creative industries in South Wales looks extremely promising. In particular, interactive entertainment formats such as computer games.

BSc (Hons) Computer Game Development programme has been evolving for more than a decade and enjoys the benefits of close industry engagement with regular visits and guest speakers as part of an integrated programme of presentations, discussion groups and social events. The existing programme has an excellent track record for graduate employment is the only games programme in the UK to have an official BAFTA partnership.

A key element of the course is its emphasis on the technical skills that underpin games design, development and the game development pipeline. This includes areas such as games programming, agile project management, 3D modelling & optimisation, motion capture, virtual reality systems and serious games applications.

The proposed programme will make innovative use of agile project management methodologies in conjunction with cloud based management tools. Use of these platforms will be mandatory for all students undertaking substantial projects and will require the statistical tracking of all direct study hours completed meaning that students will be trained to manage their time effectively, and provide a detailed statistical analysis of their performance.

The wealth of existing programme team relationships with organisations such as Games Wales, BAFTA Cymru and the British Computing Society will ensure that our students always have access to cutting edge industry related training and knowledge. This knowledge, expertise and industry partnerships will be featured heavily in this programme.

Regular internal events along with external events and field trips are made available and as when they are appropriate and practicable, although attendance at internal activities will be expected. These modes of contact provide students with the ability to develop and practice the range of learning outcomes associated with the programme, ranging from the theoretical to the practical. Some example activities include:

Global Game Jam 2018

The Global Game Jam (GGJ) is the world's largest game jam event (game creation) taking place around the world simultaneously at physical locations. It is effectively a time constrained hackathon focused on game development. The GGJ philosophy is the growth of an idea that in today's heavily connected world, people can come together, be creative, share experiences and express themselves in a multitude of ways using game technology. Glyndŵr University registered with the GGJ as an official event site in 2011 as part of extra-curricular activities within the games development course. In doing so, we became the first (and only) Welsh representative, and that would continue to be the case for a further 3 years. In 2018, the GGJ had 803 sites around the world, spread across 108 different countries. There were 42,800 registered participants. At our own event site in 2018, a team of 60 participants were able to design and develop 11 individual games within the 48 hour period. We remain the oldest, and largest Welsh representatives in GGJ.

Games Wales

Games Wales is a non-profit industry group made up of Welsh games developers, educational institutions, media partners and industry bodies with a shared interest in growing and promoting the games industry in Wales. It is responsible for organising and running the annual Wales Games Development Show based in Cardiff and the promotion of games related activities across the country.

Games Wales North (GWN) was formed in 2013 by a group of industry professionals based in the region along with the Glyndŵr University game development programme leader (Richard Hebblewhite). Since that time GWN has been delivering a series of regular social and educational events on the 11th of each calendar month, and programme team have been instrumental in establishing the GWN group's core principles:

- to champion Wales as a place to make games
- to grow the North Wales and wider Welsh games industry
- to represent the industry's interests, and act as an advocate on behalf of the Welsh industry
- to introduce students and aspiring entrepreneurs to industry experience and best practice

The GWN now forms a critical part of the student experience and allows them to engage professionally and socially with experienced members of the industry on a regular basis.

InitGame(); Conference

Devised by the Glyndŵr University game development programme leader, and running for the first time in October 2014, the conference is part of our continuing strategy to energise the games and creative industry in North Wales, along with helping students and young people to learn more about the career opportunities and technologies available to them. The event provides a series of inspirational and technical talks designed to give some insight as to the workings of small, medium and large game studios and the challenges and opportunities they embrace.

The fourth annual conference took place on Saturday October 21st, 2017 and was supported by Games Wales North, BAFTA Cymru and the British Computing Society. Some notable speakers over the last three years are:

Colin Macdonald – Head of Games Commissioning at Channel 4 (All4 Games)
Ian Thomas – Programmer & Writer at Frictional Games
Anton Faulconbridge – Director of Rantmedia Games
Rick Vanner - Development Director at The Game Creators
Chris Payne – CEO of Quantum Soup Studios
Ralph Ferneyhough – Lead Engine Programmer at TT Games
Steffen Gronning - CEO of BetaDwarf
Dan Harris – Media Manage at Atticus Digital
Llio Wyn - Event Manager at BAFTA Cymru
Claire Heat – Awards & Events Manager at BAFTA Cymru
Murty Schofield – Freelance Artist & Writer on the Tomb Raider franchise
Carl Dalton – CEO at Brain In A Jar
Ella Romanos – Commercial Director at Strike Game Labs

The proposed BSc (Hons) programme brings together a range of modules that will equip students to build a strong set of core skills that will enable them to develop well designed game applications and assets, facilitated by the acquisition and application of theory through practical sessions and problem-based learning. In the first year of the new programme, students will be introduced to the fundamentals of game and media design, graphical rendering, agile methods and the workings of cutting-edge gaming hardware and software technology. They will also be introduced to the fundamentals of programming and mathematics.

As the degree progresses, students will be presented with opportunities to apply industry standard management techniques such as the scrum methodology in relation to live development projects within a multidisciplinary team. They will also further develop their programming and development skills to incorporate multiple scope for mobile app creation & deployment and multiplayer development and optimisation. Students will also build on their media design skills by continuing to work with industry standard 3D design tools along with a variety of other supporting technologies and tools.

The programme itself will be supported by our unique Business Accelerator initiative, which will allow students to gain valuable experience of business planning and finance along with the potential creation and management of a game studio.

The Accelerator programme was introduced in 16/17 and has been integrated into the existing undergraduate programme at levels 5 and 6 respectively. The scheme is a joint initiative between the department of computing and the North Wales Business School. It is designed to combine business, game design & enterprise and computer game development students together to further encapsulate the technical development work done in projects with a professional business strategy.

The proposed programme will also feature this initiative with a view to further increasing the number of successful start-up companies within the university incubation centre called the Enterprise Lounge (there are 4 active undergraduate Accelerator groups in 17/18). The spin out studios are also supported by the university Zone enterprise centre with a view to seeking and applying for potential investment, business mentoring and a range of other associated facilities.

It is widely recognised that many start-up companies fail within the first year due to a lack of management, business and financial stability. This scheme aims to fill that gap by addressing these such issues and exposing students to real world problems and development issues.

The programme team believe that this particular blend of creative technical skills and entrepreneurship is fairly unique within the context of UK undergraduate games courses and will further help to grow the local industry by way of spin out projects and social enterprise.

Finally, throughout the course, students develop a number of practical skills which are useful in any field of business or working environment such as self-motivation, time management, problem solving and the application of management methodologies, personal development and critical reflection. In addition, other critical skills including research, analysis and presentation will be developed along with knowledge of specialised software skills.

It is anticipated the graduates will go into careers in the games and media sectors, but also within mainstream computing and technology fields of: technical design and programming, user experience evaluation, scrum certification, software development and optimisation, or continuing study as master's level. Additionally, it is expected that the programme will lead to the creation of local SMEs within the field of game development, software and media design.

The opportunity of an Industrial Placement Year is a defining feature of this programme. It takes place upon completion of level 5 (full-time study only) after which students return to complete level 6 of the course. The Industrial Placement Year provides students with an opportunity to gain valuable experience of the workplace, put the knowledge and skills developed so far into practice, and to acquire new information and abilities in a practical setting.

21 Programme structure narrative

The programmes are delivered following the University Academic Calendar, typically consisting of an academic year composed of two semesters, each 12 weeks in length. The majority of modules have duration of one semester, although there are some exceptions to this rule, as shown in the subsequent section.

The BSc (Hons) Computer Game Development (with Industrial Placement) programme is provided on a full-time only basis. Full-time students would normally complete their studies in four years. The third year must be based substantially in the workplace and would normally be expected to have at least the same duration as two complete semesters at the University (24 weeks) and take place between October and May of the calendar year.

The BSc (Hons) Computer Game Development programme is provided on either a full-time or part-time basis. Full-time students would normally complete their studies in three years and part-time students in five years.

Full-time students are expected to complete 120 credits per academic year, whilst part-time students normally are expected to complete 60 to 80 credits per academic year. In years 1 and 2 of the part-time programme, students will normally complete 60 credits, whilst in years 3 to 5 they will complete 80 credits per year, sometimes

spanning levels 5 and 6 within an academic year, facilitated via a module and progression being held at the end of semester 1.

Students will normally begin their studies at level 4 of the programme and progress through to completion of level 6. However, students with appropriate advance standing and/or the University Recognition of Prior (Experiential) Learning (RP[E]L) may be able to join the programme at the commencement of level 5 or level 6. In addition, to facilitate student exchange programmes, such as the ERASMUS scheme, it is possible for students to begin their studies at the beginning of the first or second semester, with agreement of the Programme Leader.

The following intended and exit awards are available from this programme, subject to the specified requirements:

Award	Credit Requirements
BSc (Hons) Computer Game Development (with Industrial Placement)	480 credits (including 120 credits at level 5 from the Industrial Placement module)
BSc (Hons) Computer Game Development	360
BSc (Ord) Computer Game Development	300
DipHE Computer Game Development	240
CertHE Computer Game Development	120

22 Programme structure diagram

FULL-TIME STUDY (INDICATIVE)

Level 4							
Semester 1							
Mod title	Game Design & Interaction	Mod title	Game Environments & Narrative Design	Mod title	Games Industry & Agile Production Methodologies	Mod title	Problem Solving with Programming
Mod code	COM458	Mod code	COM453	Mod code	COM450	Mod code	COM439
New/Existing	New	New/Existing	New	New/Existing	New	New/Existing	New
Credit value	20	Credit value	20	Credit value	20	Credit value	20
Core/Option	Core	Core/Option	Core	Core/Option	Core	Core/Option	Core
Mod leader	Richard Hebblewhite	Mod leader	Richard Hebblewhite	Mod leader	Nathan Roberts	Mod leader	Jason Matthews
Semester 2							
Mod title	Game Asset Development	Mod title	Game Technology	Mod title	Games Industry & Agile Production Methodologies	Mod title	Problem Solving with Programming
Mod code	COM454	Mod code	COM456	Mod code	COM450	Mod code	COM439
New/Existing	New	New/Existing	New	New/Existing	New	New/Existing	New
Credit value	20	Credit value	20	Credit value	20	Credit value	20
Core/Option	Core	Core/Option	Core	Core/Option	Core	Core/Option	Core
Mod leader	Nathan Roberts	Mod leader	Jack Harker	Mod leader	Nathan Roberts	Mod leader	Jason Matthews

Note: Games Industry & Agile Production Methodologies and Problem Solving with Programming are delivered over semesters 1 & 2.

Level 5							
Semester 1							
Mod title	Internet & Mobile App Development	Mod title	3D Modelling & Animation for Game Engines	Mod title	Games Programming		
Mod code	COM543	Mod code	COM550	Mod code	COM559		
New/Existing	New	New/Existing	New	New/Existing	New		
Credit value	20	Credit value	20	Credit value	20		
Core/Option	Core	Core/Option	Core	Core/Option	Core		
Mod leader	Jason Matthews	Mod leader	Nathan Roberts	Mod leader	Jack Harker		
Semester 2							
Mod title	Indie Studio Management & Game Production	Mod title	Group Project	Mod title	Serious Games & Immersive Technology		
Mod code	COM554	Mod code	COM553	Mod code	COM547		
New/Existing	New	New/Existing	New	New/Existing	New		
Credit value	20	Credit value	20	Credit value	20		
Core/Option	Core	Core/Option	Core	Core/Option	Core		
Mod leader	Rich Hebblewhite	Mod leader	Bindu Jose, Denise Oram	Mod leader	Nathan Roberts		

Level 5 (with Industrial Placement award only) Semester 1 & 2	
Mod title	Industrial Placement
Mod code/ 'New' Module	COM549
Credit value	120
Core/Option	Core
Mod leader	TBC

Level 6

Semester 1							
Mod title	Multiplayer Design & Optimisation	Mod title	Advanced 3D Modelling & Animation for Game Engines	Mod title	Advanced Games Programming	Mod title	Project
Mod code	COM647	Mod code	COM650	Mod code	COM654	Mod code	COM646
New/Existing	New	New/Existing	New	New/Existing	New	New/Existing	New
Credit value	20	Credit value	20	Credit value	20	Credit value	40
Core/Option	Core	Core/Option	Core	Core/Option	Core	Core/Option	Core
Mod leader	Richard Hebblewhite	Mod leader	Nathan Roberts	Mod leader	Jack Harker	Mod leader	Vic Grout
Semester 2							
Mod title	Future Technologies	Mod title	Project				
Mod code	COM643	Mod code	COM646				
New/Existing	New	New/Existing	New				
Credit value	20	Credit value	40				
Core/Option	Core	Core/Option	Core				
Mod leader	Vic Grout	Mod leader	Vic Grout				

Note: "Project" is delivered in semesters 1 & 2.

PART-TIME STUDY (INDICATIVE)

Year 1

Level 4			
Semester 1			
Mod title	Game Design & Interaction	Mod title	Games Industry & Agile Production Methodologies*
Mod code/'New' Module	COM458	Mod code/'New' Module	COM450
Credit value	20	Credit value	20
Core/Option	Core	Core/Option	Core
Mod leader	Richard Hebblewhite	Module leader	Nathan Roberts
Semester 2			
Mod title	Games Technology	Mod title	Games Industry & Agile Production Methodologies*
Mod code/'New' Module	COM456	Mod code/'New' Module	COM450
Credit value	20	Credit value	20
Core/Option	Core	Core/Option	Core
Mod leader	Richard Hebblewhite	Module leader	Nathan Roberts

Year 2

Level 4			
Semester 1			
Mod title	Game Environments & Narrative Design	Mod title	Problem Solving with Programming*
Mod code/'New' Module	COM453	Mod code/'New' Module	COM439
Credit value	20	Credit value	20
Core/Option	Core	Module leader	Jason Matthews
Mod leader		Core/Option	Core
Semester 2			
Mod title	Game Asset Development	Mod title	Problem Solving with Programming*
Mod code/'New' Module	COM454	Mod code/'New' Module	COM439
Credit value	20	Credit value	20
Core/Option	Core	Module leader	Jason Matthews
Mod leader	Nathan Roberts	Core/Option	Core

* Problem Solving with Programming Information and Game Industry & Agile Production modules take place over Semester 1 and Semester 2.

Year 3

	Level 5			
	Level 5			
Semester 1	Mod title	3D Modelling & Animation for Game Engines	Mod title	Internet & Mobile App Development
	Mod code/'New' Module	COM550	Mod code/'New' Module	COM543
	Credit value	20	Credit value	20
	Core/Option	Core	Core/Option	Core
	Mod leader	Nathan Roberts	Mod leader	Jason Matthews
Semester 2	Mod title	Indie Studio Management & Game Production	Mod title	Group Project
	Mod code/'New' Module	COM554	Mod code/'New' Module	COM553
	Credit value	20	Credit value	20
	Core/Option	Core	Core/Option	Core
	Mod leader	Richard Hebblewhite	Mod leader	Denise Oram

Year 4

	Level 5		Level 6	
Semester 1	Mod title	Games Programming	Mod title	Advanced Games Development
	Mod code/'New' Module	COM559	Mod code/'New' Module	COM654
	Credit value	20	Credit value	20
	Core/Option	Core	Core/Option	Core
	Mod leader	Jack Harker	Mod leader	Jack Harker
Semester 2	Mod title	Serious Games & Immersive Technology	Mod title	Future Technologies
	Mod code/'New' Module	COM547	Mod code/'New' Module	COM643
	Credit value	20	Credit value	20
	Core/Option	Core	Core/Option	Core
	Mod leader	Nathan Roberts	Mod leader	Vic Grout

Year 5

Level 6				
Semester 1	Mod title	Multiplayer Game Design & Optimisation	Mod title	Advanced 3D Modelling & Animation for Game Engines
	Mod code/'New' Module	COM647	Mod code/'New' Module	COM650
	Credit value	20	Credit value	20
	Core/Option	Core	Core/Option	Core
	Mod leader	Richard Hebblewhite	Mod leader	Nathan Roberts
Semester 2	Mod title	Project		
	Mod code/'New' Module	COM646		
	Credit value	40		
	Core/Option	Core		
	Mod leader	Vic Grout		

23 Intended learning outcomes of the programme

	Undergraduate			
	Knowledge and understanding			
	Level 4	Level 5	Level 6	Level 6 Honours Degree	
A1	Demonstrate a working understanding of some essential facts, concepts, principles and theories relating to computing, game development, computer game applications and business practise. Shows competence in basic IT and communication skills, workshop practice and laboratory investigations.	Demonstrate a widening appreciation of the significance of key concepts, principles, theories and practices that underpin computing and game development as an academic discipline. Explore the extent and boundaries of game design and business through practical work, design exercises and case studies.	Show a confident familiarity with the broad areas of the knowledge bases of the discipline of computing and business, including the management and an appreciation of the principles, theories and practices that underpin game design and development as an academic discipline. Reveal a working understanding of current technology and of its limits.	Demonstrate confidence and reveal a clear understanding of the boundaries of existing and emerging technology and the limits of its application, and of the range of conventional design methods and the types of judgement employed by computing, game development professionals.	
A2	Evaluate the appropriateness of a range of development tools for the creation of software applications.	Demonstrate an ability to apply a range of development tools and techniques in new contexts from that in which they were first studied at level 4, in the design of applications for games.	Select and deploy accurately established techniques and tools to develop applications for selected game design and business problems, and choose appropriate theory for analysis, with only general guidance.	Demonstrate increasingly independent, confidence and flexibility in applying a range of development tools for the creation of applications for selected game design and business problems, and in the application of knowledge and skills appropriate to their solution.	
A3	Demonstrate a working knowledge of some of the tools, practices and methodologies used in the specification, design, implementation and testing of computer software systems; understand some of the risks of software implementation	Familiarity and ability to choose appropriate methods and tools for the design and implementation of software systems. Outline how software can be evaluated and show a working knowledge of the general rules and best practices adopted and knowledge of software testing techniques	Select accurately established techniques and methods used in defining and assessing criteria for measuring the extent to which a computer system is appropriate for its current deployment; understand the risks of software implementation and apply risk-based strategies and policies for software testing	Critical and reflective about the use of software testing, design and evaluation methodologies and tools, with full understanding of the associated risks, controls and potential impact	

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Undergraduate				
Knowledge and understanding				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
A4	Recognise a variety of professional and sustainability considerations that may be encountered in the exploitation of computer-based systems (social, legal, ethical, moral, economic, etc.)	Identify and describe several professional concepts and challenges that will be encountered in the deployment of computer-based systems in response to common, well-defined scenarios	Comprehensively appraise professional situations and scenarios where computer-based systems are deployed in terms of social, legal, ethical, moral, economic and sustainability issues.	Reflect upon own practices and conduct in carrying out a substantive project and discuss the social, legal, ethical, moral, economic and sustainability issues that are relevant to the project.
A5	Demonstrate a working knowledge of some of the tools, practices and methodologies used in the specification, design, implementation and testing of computer game systems; understand some of the risks of software implementation.	Demonstrate a widening appreciation of of some of the tools, practices and methodologies used in the specification, design, implementation and testing of game systems; understand the risks of software design and implementation. Demonstrate a working knowledge of the general rules and best practices adopted in game and software testing techniques.	Select and deploy accurately established techniques and methods used in defining and assessing criteria for measuring the extent to which a game system is appropriate for its current deployment; understand the risks of game design implementation and apply risk-based strategies and policies for game and software testing.	Demonstrate increasingly independent, confidence and flexibility in applying a range of methods used in defining and assessing criteria for measuring the extent to which a computer game system is appropriate for its current deployment and future evolution; understand the risks of game and software implementation, and apply risk-based strategies and policies for game and software testing.

Intellectual skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
B1	Using the tutor as a facilitator, the student begins to analyse basic problems, identify requirements and propose alternative solutions for computer software systems	Starts to develop an understanding of the limits of their knowledge, and how this influences analysis and interpretations based on that knowledge; identify requirements and propose and compare alternative solutions for computer software systems	Develops self-reliance and confidence in the analysis of problems, identify requirements and propose and critically evaluate alternative solutions for computer software systems	Integrates learned theory and techniques with practical experience to analyse problems, identify requirements and propose and critically evaluate alternative solutions for computer software systems with informed understanding

Intellectual skills

	Level 4	Level 5	Level 6	Level 6 Honours Degree	
B2	Demonstrates basic numeracy, literacy and algebraic competence; ability to manipulate data related to simple business problems and describe scenarios	Demonstrates more advanced standard numerical/ mathematical skills and literacy as appropriate to their chosen specialist subject	Applies a range of more specialist numerical/ mathematical and literacy skills as appropriate to their specialist subject	Confidently applies a range of specialist numerical/ mathematical and literacy skills as appropriate to the specialist subject area	
B3	Carries out application of basic computing principles and procedures to standard, simple situations, with considerable guidance provided by tutors	Applies standard computing principles and procedures to somewhat more demanding situations, still with some guidance provided	Demonstrates ability to select and use principles and procedures appropriate to the situation or problem in hand, with minimal guidance provided	Carries out confident and accurate selection and application of principles and procedures to the solution of a range of computing situations and problems, working autonomously	
B4	Develops an ability to explore and recognise any risks or safety aspects that may be involved in their work and to the relevance of selected professional, legal, moral, social and ethical issues; communicate the results of their study/work accurately and reliably, and with structured and coherent arguments	Uses a range of established techniques within tutorials, for example, using experiential learning exercises, to explore and recognise the relevance of selected professional, legal, moral, social and ethical issues in their work and to communicate the results of their study/work accurately and reliably, and with structured and coherent arguments	Demonstrates technology industry acumen, with minimum supervision, recognising the relevance of legal, professional, moral, social and ethical issues in the work place and the wider environment. Able to inform and adapt their work to satisfy these issues	Effective self-management in terms of time; ability to conduct research independently or as a team, into legal, professional, moral, social and ethical issues. Able to inform and adapt their work to satisfy these issues. Demonstrates an ability to carry out research and critical thinking	

Subject skills

	Level 4	Level 5	Level 6	Level 6 Honours Degree	
C1	Systematically relates a limited number of facts/ideas/elements in an imitative manner, with considerable guidance provided by tutors	Demonstrates appreciation of need for the relating and collecting of a range of facts/ideas/elements in an argued case; produces new ideas in closely-defined situations with	The ability to apply research methods to relate and collect facts/ ideas/ elements in an argued case; produces new ideas in a wider range of situations, with minimal guidance	The ability to apply appropriate research methods to collate facts/ ideas/ elements in support of a well-structured argument; design solutions to problems and evolve	

	Subject skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree	
		some guidance provided as appropriate		new concepts, working autonomously	
C2	Identify and understand the need to manage software and IT development projects	Apply appropriate project management and development tools to ensure viable and organised approaches are taken	Compare and contrast a range of IT project management methods and employ high-level tools and methods in real-world scenarios	Select and evaluate own use of IT project management methods and tools in a self-led and managed project	
C3	Implement computer programs for specific and well defined situations	Design and write computer programs or software for common applications	Specify and write computer programs or software in response to loosely defined problem scenarios	Specify and write computer programs or software in response to loosely defined problem scenarios and evaluate the quality of the solution	
C4	Demonstrate basic skills that underpin good practice in the field of computing and game design and development; design and create of simple game applications, interfaces and game assets. Demonstrate a basic understanding of hardware issues, including interfacing, graphical rendering, and their impact on the overall design and performance of computer games. Demonstrate a basic awareness and understanding of the concepts, techniques, and processes involved within an agile methodology; apply	Demonstrate more advanced skills that underpin good practice and elements of professionalism in the field of computing and game design and development. Work as part of a team to design and develop moderately sized game applications, interfaces and game assets. Co-operate in an effective manner with colleagues and other professionals through the development of interpersonal and communication skills, within in a project and business context using a recognised agile methodology and support tool. Develop and maintain a detailed set of production documentation	Demonstrate an advanced understanding of appropriate practice and professionalism in the field of computing and game design and development. Design and implement interactive game systems that utilise a variety of media types to a professional standard. Design and implement intricate 3D models and animation techniques that incorporate sophisticated production pipelines. Compare and contrast current industry trends and identify potential opportunities for the design and deployment of multiplayer and collaborative technology.	Demonstrate professional use of investigative and design strategies, and integrate them within the utilisation of tools and agile methodologies. Analyse and critically appraise current and emerging technologies within the field of game development and IT. Propose, plan, undertake and report a self-directed individual programme of investigation, design and implementation which will enable the effective use of self-directed investigative, design, business and other technical skills to be demonstrated through the management and development of a large team project.	

Subject skills			
Level 4	Level 5	Level 6	Level 6 Honours Degree
these techniques to a small development project.	that includes design, technical, testing and business rationale. Demonstrate good practice in the development, management and utilisation of 3D models and mobile development techniques using industry standard software tools.	Demonstrate an in depth understanding of the characteristics, processes and limitations of modern games and mobile media distribution technology.	Demonstrate knowledge and understanding of agile project management techniques and the ability to analyse their effectiveness in line with a business strategy. Work within a team to design and develop effective and efficient game applications and systems that utilise and integrate a variety of media technologies and conform to a specific target market and business plan.

Practical, professional and employability skills				
	Level 4	Level 5	Level 6	Level 6 Honours Degree
D1	Be able to provide an account of own actions and activities in a succinct and clear manner in written and oral communication	Communicates in a clear, systematic and concise way, in writing and orally, in more formal academic and professional styles, and in longer pieces of work of a technical nature. Be able to draw upon and effectively integrate supporting media	Engages effectively in a variety of roles; debates; produces clear, well-structured technical reports and other extended pieces of work; gives clear, subject-specific presentations in a variety of contexts.	Provide professional levels of information through a variety of verbal and non-verbal communication mediums and reflect upon own interaction and ability to support own opinions and arguments for a variety of audiences.
D2	Interacts effectively with tutors and fellow students; participates in clearly defined group situations	Demonstrates more advanced interactive and group skills, including effective participation in more demanding group tasks, presentations, or discussions	Interacts effectively within a learning or subject-specific group, demonstrates basic negotiating, role, leadership and group-support skills	Interacts effectively within learning or professional groups; demonstrates appropriate negotiating, role, leadership and group-support skills to an advanced level

D3	Select under guidance and use relevant sources of information to identify potential computing resources for a specific purpose. Demonstrates basic skill in using the Internet and designing web pages.	Demonstrates more advanced IT skills; Demonstrates competent use and application of business databases, additional specialist subject packages and produce reports to business standard. Use of online databases effectively to gain information.	Demonstrates, uses and accesses a limited selection of more specialist IT skills related to subject specific software. Conducts effective searches for information to identify potential computing resources for a specific purpose and critically evaluate their merit	Uses and accesses a limited selection of more specialist IT skills related to subject specific software for analysing business data. Conducts effective searches for information to identify potential computing resources for a specific purpose and critically evaluate their merit	
D4	Studies in a systematic, directed way with the aid of appropriate Tutor guidance	Learns in an increasingly effective and purposeful way, with beginnings of development as an autonomous learner	Adopts a broad-ranging and flexible approach to study; identifies learning needs; pursues activities designed to meet these needs in increasingly autonomous ways	With minimal guidance, manages own learning using a wide range of resources appropriate to the IT profession; seeks and makes effective use of feedback. Self-reflection and criticality including self -awareness, openness and sensitivity to diversity in terms of people, cultures, business, management and marketing issues	
D5	Shows an understanding of the opinions of other people; flexibility in considering alternatives and opinions	Demonstrates the ability to take the perspective of others; identifying the similarities and differences between two approaches to the solution of a given problem	Demonstrates the ability to take the perspective of others; comparing the strengths and weaknesses of alternative interpretations determining the credibility of a source of information	Demonstrates the ability to take the perspective of others; articulate the strengths and weaknesses of the suggestions of arguments posed; recognize the underlying agendas and motivations of individuals and groups involved in a given situation	

24 Curriculum matrix

To demonstrate how the overall programme outcomes are achieved and where skills are developed and assessed within individual modules.

Guidance - Identify which module covers the programme learning outcomes above by ticking the appropriate box. Please note that the programme learning outcomes must be differentiated by award, including all final and exit awards proposed

	Module Title	Core or option?	A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	D5
Level 4	Games Environments & Narrative Design	Core	■	□	■	□	□	□	■	■	□	■	□	□	■	■	□	□	□	□
Level 4	Game Design & Interaction	Core	■	■	■	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■
Level 4	Games Industry & Agile Production Methodologies	Core	■	■	□	□	■	■	□	■	□	■	□	□	□	■	■	□	■	■
Level 4	Problem Solving with Programming	Core	■	■	□	□	■	■	□	■	□	□	□	□	■	□	□	□	□	□
Level 4	Game Asset Production	Core	■	■	■	□	□	□	■	■	■	□	■	□	■	■	■	■	■	■
Level 4	Game Technology	Core	■	■	□	□	■	■	■	■	□	□	□	□	□	□	□	□	□	□
Level 5	3D Modelling & Animation for Game Engines	Core	■	■	■	□	□	■	□	■	□	■	□	□	■	■	■	□	■	□
Level 5	Games Programming	Core	■	■	■	□	■	■	□	■	□	□	□	■	□	■	□	□	■	□
Level 5	Internet & Mobile App Development	Core	■	■	■	■	■	■	■	■	□	□	□	■	□	□	□	□	□	□
Level 5	Indie Studio Management & Game Design	Core	□	□	■	■	■	■	□	□	■	■	■	□	■	■	■	■	■	■
Level 5	Group Project	Core	□	■	□	□	■	□	□	■	□	□	■	■	■	□	■	■	■	■
Level 5	Serious Games & Immersive Technology	Core	■	■	■	□	□	■	■	■	■	■	■	□	■	■	■	■	■	■
Level 5	Industrial Placement	Core	□	■	■	■	■	■	□	■	■	■	■	■	■	■	■	■	■	■
Level 6	Advanced Games Programming	Core	□	■	■	□	■	■	■	■	□	□	□	■	■	□	□	■	□	□
Level 6	Advanced 3D Modelling & Animation for Game Engines	Core	■	■	■	□	□	■	□	■	□	■	□	□	■	■	■	□	■	□
Level 6	Future Technologies	Core	■	□	□	■	□	□	□	□	■	■	□	□	□	■	■	□	□	■

Module Title	Core or option?	A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	D5
Multiplayer Design & Optimisation	Core	■	■	■	□	■	■	■	□	■	■	□	■	■	■	■	□	■	□
Project	Core	■	■	■	■	■	■	■	■	■	■	■	□	■	■	■	■	■	■

25 Learning and teaching strategy

The BSc (Hons) Computer Game Development will adopt the Computing subject area Learning, Teaching and Assessment strategy. It seeks to assist the student to become an independent learner while still supporting the students in their transition to postgraduate education. The curriculum is designed to encourage an appreciation for learning.   Learning is enriched by appropriate underpinnings, current research, industrial applications and the development of transferable skills.

Students on the programme will gain theoretical and practical experience of working with a range of game development tools and environments in building and managing game applications & assets. Students will also learn about the fast-evolving fields of digital content distribution, marketing and business processes.

The majority of scheduled learning and teaching activities is through attendance at lectures, guest talks, tutorials, and labs.

The course provides students with knowledge in several subject disciplines that support the design, development, and management of computer game applications, assets and projects. The course modules cover the practical skills of computing, necessary to design, develop and manage game applications in conjunction with multidisciplinary teams, supported by learning the theories, investigation techniques, and research skills that allow them to work successfully with emerging technologies and devise solutions that are fit for purpose.

In the early stages of each module, problems will be well defined and limited in scope and scale. At later stages, problems will become less structured (to encourage reflection on problem issues) and open-ended (to give scope to propose and evaluate alternative solution strategies). Case studies are used when appropriate to integrate study topics and to underline vocational relevance. Coursework assignments are important throughout.

As the programme progresses, students are expected to demonstrate increasing proficiency in use of IT tools and techniques to support production of technical documentation, to enhance oral and written presentations, and to aid organisation of personal study material.

The project module is designed to emulate industry standard development and management practices with production data analysis forming a key part of the assessment and general project coordination. Students are guided by their supervisor from the initial proposal phase, with the selection of a suitable team role and appropriate personal research hypothesis, through the several phases of assessment and submission.

Students are also required to encapsulate their project within a business framework with a view to managing their group as a formal enterprise supported by our Business Accelerator programme. However, participation in the accelerator programme itself is optional.

Extensive use is made of the University's Virtual Learning Environment (VLE), Moodle, to provide students with access to a range of delivery, and supporting, materials related to each of the modules featured on the programme. In addition to the materials used during the taught sessions, the VLE is used to provide students

with additional content such as quizzes, videos, audio recordings, external links, technical reports, research papers, and so forth. The VLE also provides students with the ability to communicate using discussion forums and is the platform primarily used in the issuing, submission, marking, and feedback of student assessment.

26 Work based/placement learning statement

Students will gain work-related experience at several points through their academic studies. For example, in the level 6 Project module there is the opportunity to work in collaboration with organisations external to the University on 'live' ventures. The level 5 project modules emphasize the importance or professional and workplace skills, through the use of case studies and real-world problem scenarios.

Opportunities for work-based placement and learning for the game development programme may be comprised of (but not limited to) the following:

- Student placement within an appropriate games company
- Placement within our Business Accelerator initiative where students will work on a game intended to be released publically (e.g. via Indie DB, itch.io or a mobile app store). This may be free-to-pay or commercially released. Business Accelerator can support small groups of students or individuals.
- Student placement within a non-games (e.g. a design agency), working on games or interactive digital content.
- Live projects set by a visiting company representative, who then provides feedback at significant project milestones.
- Preparation of student's games-related content for: local, national or international games competitions and festivals.
- Playtesting and bug reporting for other companies' games.

The Industrial Placement will normally take place during the normal academic year, as if over the two normal University semesters. As such its duration should normally be in the region of 24 weeks, no less than 20 weeks, and no more than 28 weeks. As such, students are encouraged to secure placements prior to the commencement of the academic year in which it is to take place and ideally before the end of the second semester of their level 5 studies. The student and placement provider will negotiate specific working hours, arrangements, and payment. It is the expectation of the University that, whilst the student is being hosted by the Placement Provider, they will hold a contractual position in that organisation. As such, the Placement Provider is responsible for the Health and Safety of the student and the student will be excepted to have conducted a full risk assessment, in collaboration with the Provider, in advance of placement commencement. The Risk Assessment is a mandatory part of the Placement Proposal, which students require the University to approve.
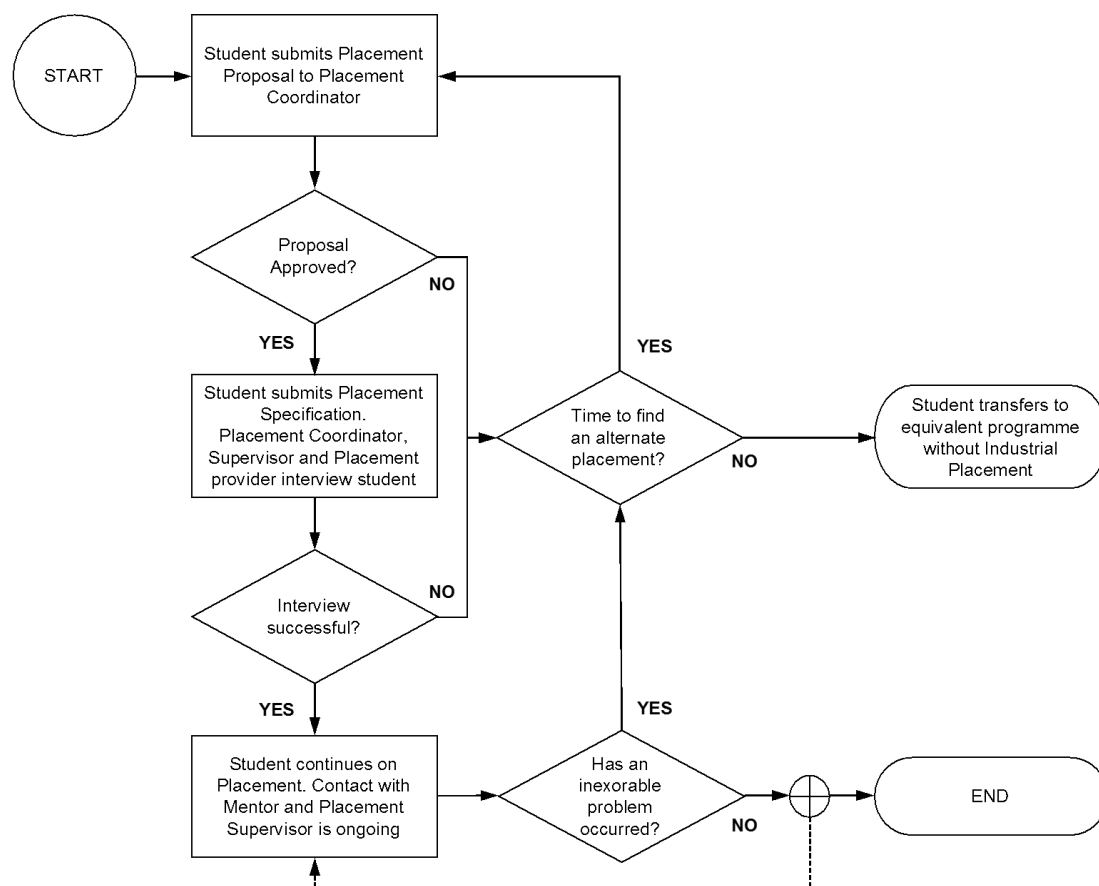
Students intending to take up a placement will be provided with a series of tutorial sessions, led by academic members of staff at the University, in the academic year the precedes the placement. This will be used to ensure that students understand the expectations and requirements of the placement, provide them with guidance and instruction upon obtaining a placement, and in completing the Placement Proposal and Placement Specification forms. It is the responsibility of students to identify and negotiate their own placement opportunity and to keep the University informed of their intentions. Placement Providers will be expected to nominate a Placement Mentor, who will bear responsibility for the student whilst with the

Provider and will maintain contact with the Placement Supervisor whilst the student is on placement. Placement Supervisors and Mentors will be provided with a Handbook and the contact details of the Placement Supervisor, the Placement Coordinator, and the Head of School, in case of any issues.

Briefly, the operation of the Industrial Placement will follow these steps:

1. The student will be expected to find and secure a suitable placement opportunity. This could be done independently or in collaboration with a member of staff at the University or via the University Careers Centre.
2. The student will inform the Industrial Placement module leader of the placement opportunity via a Placement Proposal form. The Placement Coordinator will then discuss the opportunity with the student and placement provider and make a decision regarding its suitability. The student will then be asked to complete a Placement Specification, in collaboration with their nominated Provider.
3. The Placement Specification will then be scrutinised. This will involve the Placement Coordinator conducting an interview, alongside the nominated Placement Supervisor and Mentor, of the student to determine the student's suitability to undertake the placement. The Placement Coordinator, Placement Supervisor, and Placement Mentor will determine if the proposed placement meets the academic requirements of the module.
   a. If the placement is approved, practical arrangements will be completed by the student in collaboration with an allocated academic Supervisor and Mentor at the placement provider.
   b. If the placement is not approved the student must find an alternate placement or change to the BSc (Hons) Computer Game Development programme.
4. A full set of information, expectations and guidelines will be provided as part of the Industrial Placement Handbook, which will be supplied to students, placement providers and University supervisors and asked to sign a statement of agreement. This will include the Placement Specification, which is, in essence, a learning agreement and details the learning objectives, plan of work, and intended deliverables for the placement provider.
5. The student will produce a progress report before the end of the second semester and this will include a site visit by their academic supervisor.
6. During the course of the placement, the student will complete a learning log, which will be a diarised record of their activities and experience during the placement. This will also include comments and feedback from their mentor at the placement provider organisation. Students are expected to produce one entry every 3 to 4 weeks during placement.

The entire placement lifecycle process is illustrated in the following flowchart:

Flowchart: START → Student submits Placement Proposal to Placement Coordinator → Proposal Approved? (YES → Student submits Placement Specification. Placement Coordinator, Supervisor and Placement provider interview student; NO → Time to find an alternate placement?) → Interview successful? (YES → Student continues on Placement. Contact with Mentor and Placement Supervisor is ongoing; NO → Time to find an alternate placement?) → Time to find an alternate placement? (YES → Student submits Placement Proposal to Placement Coordinator; NO → Student transfers to equivalent programme without Industrial Placement) → Has an inexorable problem occurred? (YES → Time to find an alternate placement?; NO → END)

Students successfully completing the Industrial Placement module will be awarded the 120 credit value for the module, which is a requirement of obtaining their differentiated award title to include "with Industrial Placement".

If irreconcilable problems occur during the placement the student should attempt to find an alternate placement opportunity. In the event that this cannot be done or if students fail to meet the expectations of the placement year, the student will be transferred to the BSc (Hons) Computer Game Development programme and may have to suspend their studies for the remainder of the current academic year. Students failing the placement module will be automatically transferred to the BSc (Hons) Computer Game Development programme by the appropriate Progression Board.

Students who withdraw from the industrial placement more than one month after commencement, but prior to completion will revert to the 3 year programme and re-join their studies the following academic year. There will be no opportunity to retake the placement year.

27 Welsh medium provision

The programmes will be delivered through the medium of English. Students are entitled to submit assessments in the medium of Welsh.

28 Assessment strategy

A range and diversity of assessment is provided on the programme as a way to allow students with multiple types of opportunity to demonstrate the skills and knowledge that they are developing over the duration of the programme and to help

support inclusivity. This mixture often makes use of assessment methods where students must document a process or solution to a challenge, but also in the submission of artefacts, such as computer programs, databases, media assets, and practical network implementations.

Module code & title	Assessment type and weighting	Assessment loading	Indicative submission date
Game Environments & Narrative Design	Coursework (100%)	4000 Words	TBC
Games Technology	Coursework (100%)	4000 Words	End of Sem 1
Games Industry & Agile Production Methodologies	100% Portfolio (Over 2 semesters)	4000 Words	End of Sem 1 End of Sem 2
Game Design & Interaction	50% Coursework 50% Group Project	2000 Words 2000 Words	Middle Sem 1 End of Sem 1
Game Asset Development	100% Portfolio	4000 Words	End of Sem 2
Problem Solving with Programming	50% Coursework 50% Coursework	N/A N/A	Wk 12, Sem 1 Wk 12, Sem 2
3D Modelling & Animation for Game Engines	100% Coursework	4000 Words	End of Sem 1
Games Programming	100% Coursework	N/A	Wk 4, Sem 1 Wk 6, Sem 1 Wk 8, Sem 1 Wk 12, Sem 1
Indie Studio Management & Game Production	100% Portfolio	4000 words	End of Sem 2
Group Project	100% Group Project	4000 words	End of Sem 2
Serious Games & Immersive Technology	100% Coursework	4000 Words	End of Sem 2
Internet & App Development	Coursework (100%)	N/A	Wk 12, Sem 1
Industrial Placement	Placement Specification Progress Report Learning Log		Wk 3, Sem1 Wk 12, Sem 1 Wk 12, Sem 2
Advanced 3D Modelling & Animation for Game Engines	100% Coursework	4000 Words	End of Sem 1
Multiplayer Design & Optimisation	70% Coursework 30% Presentation	3000 Words 15 Mins	End of Sem 1
Future Technologies	40% Presentation 60% Report	40% 60%	Wk 6, Sem 2 Wk 12, Sem2

Advanced Games Development	100% Coursework	N/A	Wk 12, Sem 1
Project	100% Project	12000	Wk 13, Sem 2

29 Assessment regulations

Guidance - Please quote the title of the regulations that apply, e.g. Bachelor Degrees, Diplomas, Certificates and Foundation Degrees

The University regulations for Bachelor Degrees apply.

Derogations

Guidance - Please list any derogations from regulations that will apply to this programme

Non-credit bearing assessment

Guidance - You should also indicate any assessment which is not associated with the gaining of credits but which is a compulsory requirement for successful completion of the programme e.g. attendance

N/A.

Borderline classifications (for undergraduate programmes only)

Guidance - For bachelor degrees, please also include the details confirming how borderline classifications will be managed (refer to point 14 on proposal checklist)

The 40 credit Project module at level 6 will be used to determine if a student's classification is to be uplifted to the higher grade.

Restrictions for trailing modules (for taught masters programmes only)

Guidance - For taught masters provision, please also include details of any module, (not including Research Methods) that is NOT eligible to be trailed to Part Two (refer to point 15 on proposal checklist)

N/A

30 Programme Management

Programme leader

Mr. Richard Hebblewhite

Module Leaders

Prof. Vic Grout
Mrs. Bindu Jose
Mrs. Denise Oram
Mr. Jason Matthews
Mrs. Julie Mayers
Prof. Richard Picking
Mr. Nathan Roberts

Mr. Jack Harker

Link to Staff Profiles

31 Quality Management

Programme Management
The programme will be managed under the auspices of the School of Applied Science, Computing and Engineering and the programme will develop and operate within the terms of the overall management of curriculum within the School. However, there will be a designated Programme Leader who will be responsible for the day-to-day running of the programme, including the following:

- The management and development of curriculum and the course portfolio
- Student tracking and student records
- Collation of assessment data and presentation of data at assessment boards
- Management/co-ordination of overall assessment activities across the programme
- Liaison with external bodies and agencies
- Quality assurance and annual monitoring, including compilation of the Annual
- Monitoring Report
- Co-ordination of admissions activities and other recruitment activities, including relevant publicity activities

At module level there is devolved responsibility to Module Leaders for the following:

- The maintenance and development of teaching and learning materials for all students enrolled on the module
- The publishing and updating of module timetables, which shall include a weekly schedule of module sessions and required reading, to be distributed to students at the start of all modules
- The setting, marking and collation of marks for all module assessments and examination papers, including resit assessments, and submission of student results to the Programme Leader
- Tutorial support for students taking the module which they are responsible
- Quality monitoring, including processing of annual student feedback questionnaires and, where appropriate, feedback for individual modules
- Liaison with part-time members of staff involved in module teaching

Student Feedback
The University has procedures for the regular review of its educational provision, including the annual review of modules and programmes, which draw on feedback from such sources as external examiner reports, student evaluation, student achievement, and progression data. In addition, programmes are subject to a programme periodic review (PPR) and re-validation in year 5 that includes external input.

Feedback from students plays a critical part in informing the School's strategic thinking. It also allows the School to evaluate how its most important group of stakeholders, its students, views its service provision. Students can provide feedback in a number of ways, for instance:

> Student Voice Forum (SVF): Chaired by a member of academic staff from outside the programme, will be held at least once per semester. The Chair will minute student feedback for action/response by the Programme Leader. Minutes of the
> SVFs and the response from the Programme Leader will be posted on the programme pages of Moodle. All programmes have representation at SVFs.

Student Evaluation of Modules (SEM): Module Leaders will distribute SEMs at the end of each module. A summary of the analysis of the SEMs, along with any other feedback (e.g. from the student suggestion box), will be passed to the Programme Leader for action/response.

Feedback on assessed work: Students submit work in a number of different ways depending on the module being studied. Wherever possible Moodle is used for electronic submission and Turnitin to check the similarity score and tutors give feedback via this interface within 3 working weeks. Practical work is developed and assessed by having students demonstrate their work, again immediate feedback is given. At the end of a module, overall feedback is provided along with a clear indication of what area the student needs, if necessary, to resubmit or what areas were good and which areas can be improved on.

32 Research and scholarship activity

Research within the programme team is co-ordinated at a School level via the Applied Science, Computing and Engineering Research Centre. However, at a local level this manifests itself through the Applied Research in Computing Laboratories (ARClab) group. ARClab's research encompasses the broader computing subject and is concentrated in the following areas:

- IoT, Networking and Cybersercurity
- Audio and Affective Computing
- Health and Assisted Living Technologies
- HCI, Augmented and Virtual Reality
- CAD/Engineering software
- MIS/Business
- Ethics/professionalism
- Robotics/AI

ARClab has taken over from the previous Computing research groups of Creative and Applied Research for the Digital Society (CARDS) and the Centre for Applied Internet Research (CAIR), which built up their activities very impressively over the past ten years. The commitment and enthusiasm of the staff is very evident and significant outputs have been achieved over a whole range of activities, covering publications, grant winning, conference organisation, industrial engagement etc.

In the 2014 Research Excellence Framework (REF 2014), the School's submission to the Computer Science and Informatics category received a grade point average of 2.04, with over two-thirds of all research scoring 2* or higher.

Significant achievements during the recent past include the very professional organisation of a conference to the highest international standards; the development of a large-scale EU-funded research project, the steady production of conference publications, in addition to a sound proportion of academic journal publications; the setting up of a usability laboratory - a relatively unique facility in Wales; the importing of a substantial new base of specialism in wireless technologies and a success in a radio frequency identification tagging (RFID) project, which is intended to be rapidly grown into an additional research theme.

33 Learning support

Institutional level support for students

The University has a range of departments that offer the support for students as:

- Zone Enterprise hub
- Enterprise Lounge (Start-up incubation centre)
- Principles House (post-start-up incubation centre)
- Library & IT Resources
- The Assessment Centre
- DisAbility Support Team
- Irlen Centre
- Careers Centre and Job Shop
- Zone Enterprise hub
- Chaplaincy
- Counselling & Wellbeing
- Student Funding and Welfare
- International Welfare
- Student Programmes Centre
- Glyndwr Students' Union

School support for students

All students at Wrexham Glyndŵr University are allocated a Personal Tutor whose main responsibility is to act as the first point of contact for their personal students and to provide pastoral and academic support throughout their studies at the University. It is a vital role to support student engagement and retention, and to help every student to success to the best of his or her ability.

Programme specific support for students

Induction
New students on the programme will undergo an induction programme that will provide them with a full introduction to the programme, and will include elements of work on study skills and professional development.

Student Handbook
All students on the programme will receive a Student Handbook, provided electronically via the VLE, which will contain details and guidance on all aspects of the programme and forms of student support and guidance, programme-based, and School-based.

Computing Labs
The majority of Computing provision is located on the Wrexham campus, including teaching rooms, lecture theatres, staff offices, and specialist labs. There are a number of specialist computer labs on the Wrexham campus, including general purpose computing laboratories that support the teaching. These specialist labs offer access to a range of software that is utilised within the modules defined in the programme.

Open Door Policy
Computing operates an Open Door policy, meaning that academic staff are readily and easily accessible and approachable for students outside of scheduled learning and teaching hours. Staff can be approached without the need for a formal appointment to be made.

Progress Review and Attendance Monitoring
Student attendance will be subject to regular monitoring through registers, and this will be a means of addressing issues of student support. There will also be regular reviews for each student with personal tutors.

34 Equality and Diversity

Glyndŵr University is committed to providing access to all students and promotes equal opportunities in compliance with the Equality Act 2010 legislation. This programme complies fully with the University's Equal Opportunities Policy (http://www.glyndwr.ac.uk/en/AboutGlyndwrUniversity/Governance/TheFile,64499,en. pdf), ensuring that everyone who has the potential to achieve in higher education is given the chance to do so.