| 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 April 2019 APSC approved 2 replacement modules, 12 April 2019 APSC approved 1 replacement module and 1 module title change. |

**PART TWO PROGRAMME SPECIFICATON**

## BSc (Hons) Computer Game Design & Enterprise
## BSc (Hons) Computer Game Design & Enterprise (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 Design & Enterprise<br>Dip HE Computer Game Design & Enterprise<br>Cert HE Computer Game Design & Enterprise |
| *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.<br>**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 (eg 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 Design |
| *10* | UCAS **code** |

BSc (Hons) Computer Game Design & Enterprise GE17
BSc (Hons) Computer Game Design & Enterprise (with Foundation Year) CEIP

| | |
|---|---|
| *11* | **Relevant QAA subject benchmark statement/s** |

Computing (Feb 2016)
Business & Management (Feb 2015)

| | |
|---|---|
| *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%202017.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 points 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 requirements

N/A

## 19 Aims of the programme

The BSc (Hons) Computer Game Design & Enterprise is designed to be a hybrid course that balances project management, production and entrepreneurship, with that of industry practice and technical design and development skills along with industry simulation opportunities.

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 business start-up processes, innovation and commercialisation of products alongside current digital distribution and crowdfunding technologies, students will be empowered to develop game applications and assets with a view to encapsulating them within a business and marketing strategy. Such a model has the potential to grow and support the local and regional games and media industry through the creation of new businesses and support for entrepreneurial activity.

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.

Specifically, the programme aims to provide students with the following:

<u>BSc (Hons) Computer Game Design & Enterprise (with Industrial Placement)</u>

- Provide students with knowledge and understanding of the fundamental principles and technologies which underpin the discipline of game design and business 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 design and 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.

<u>BSc (Hons) Computer Game Design & Enterprise</u>

- Provide students with knowledge and understanding of the fundamental principles and technologies which underpin game design and development.
- Develop capability in the exploration, critical analysis and evaluation of technical and business issues and concepts including an awareness of the ethical and legal issues pertaining to the games industry.
- Provide students with an awareness of the roles and responsibilities of a professional working within the game development, and wider computing professions.
- Provide the skills necessary to work in and manage diverse and multidisciplinary development teams and the tools and technology that support them.

- Provide a rigorous and scientifically-based course of study, informed by research and industry practise, which successfully balances practical vocational skills with theoretical understanding.
- Equip students with independent learning skills, prepare students for employment and entrepreneurial activity or to prepare students for continued study at an advanced level, either in formal postgraduate study or as continued professional development.
- Produce versatile and resourceful practitioners fostering innovation, enterprise and enthusiasm for excellence in the discipline of game design and development.
- Develop competence, adaptability, self-confidence and critical self-reflection through critical enquiry and independent judgement.

The module diet of the programme has been designed in conjunction with the North Wales Business School to provide a vehicle for these aims and intentions to be met and will equip students with a mixture of theoretical and practical abilities that will allow them to development a rich skillset within the field. In addition to the specialist content, students will develop transferable skills in working multidisciplinary teams with industry standard tools and technologies.

## 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.

The proposed programme is designed to build upon the strong foundation of the successful BSc (Hons) Computer Game Development programme based within the department of Computing, which 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 a final year student prize sponsored by BAFTA (Cymru).

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 the newly proposed 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 business practise and the processes involved in starting a company.

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 games and media design skills by working with industry standard 3D design tools along with a variety of other supporting technologies and tools.

A key element of the course is its emphasis on blending advanced technical design with strong management and business skills. The business modules on the programme aim to focus on the practical application of business start-up, management and growth, empowering students to directly apply their business knowledge in support of the work produced in other modules on the programme. In addition, 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 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 artistry, user experience evaluation, scrum certification, software development, 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 programme consists of three full years of study, each consisting of 120 credits of taught modules. The Certificate of Higher Education in Computer Game Design & Enterprise is an exit award available for a student who has completed 120 credits at level 4 or above who is either unable, or chooses not to continue on the programme.

The Diploma of Higher Education in Computer Game Design & Enterprise is an exit award available for a student who has completed 240 credits of which 120 credits were studied at level 5 or above and who is unable or chooses not to continue on the programme. The Ordinary Degree in Computer Game Design & Enterprise is an exit award available for a student who has completed 300 credits, of which 120 credits were studied at level 5 or above and a further 60 credits at level 6.

Finally, the full Honours Degree in Computer Game Design & Enterprise is an award available for a student who has completed 360 credits, of which 120 credits were studied at levels 4, 5 and 6 respectively, including a 40 credit project module.

Overall, only 3 of the programmes 17 modules have been newly developed, with a further 3 modules made up of pre-existing modules from within the North Wales Business School. All remaining 11 modules are shared between this programme and

the University's other Computing courses (including BSc (Hons) Computer Game Development), which makes the delivery more efficient and provides students with the opportunity to engage with a wider, more diverse, peer group. Indeed, the multidisciplinary nature of the programme is one of its key strengths.

The programme is to be offered in the full-time mode of attendance only. Students will typically be expected to attend the University for three or four days a week in addition to studying in their own time.

Full-time students will pursue each level of the programme over the two main teaching semesters of each academic year, with the potential of completing referral work over the following summer period if necessary. At level 4, students will typically study 60 credits per semester, with 40 of those credits being delivered "long and thin" i.e. over the course of the both taught semesters, and the remaining 80 credits being delivered in each consecutive semester only. This structure falls in line with the delivery pattern adopted by the wider computing department.

At level 5, the programme returns to a more standard delivery pattern of 60 taught credits per semester. At level 6, students will study 80 credits in semester one, with the 40 credit project module being delivered "long and thin", alongside 3 conventionally taught subjects. The second semester of level 6 sees the introduction of a final 20 credit module along with the continuation of the project.

At a glance, the structure of level 6 may appear to be congested, particularly in semester one, however, in reality this delivery mode has proven very popular with students with the existing BSc (Hons) Computer Game Development programme enjoying some of the highest NSS ratings across the UK for several years, along with retention and completion statistics of over 90%.

Finally, all students, having successfully completed the taught components at each level, will then progress to the next level of the programme.

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.

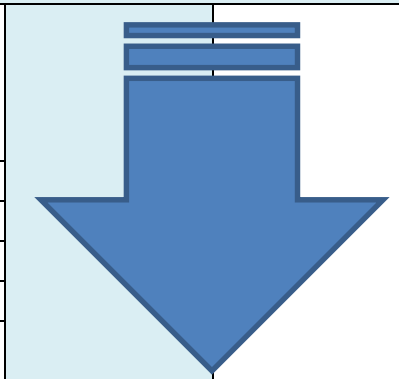
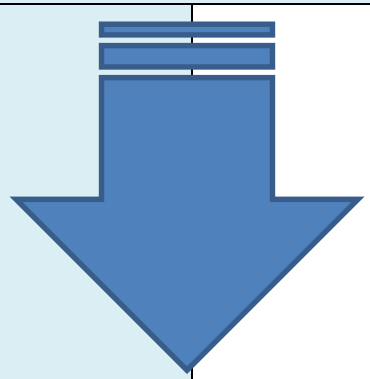
The following intended and exit awards are available from this programme, subject to the specified requirements:

| **Award** | **Credit Requirements** |
|---|---|
| BSc (Hons) Computer Game Design & Enterprise (with Industrial Placement) | 480 credits (including 120 credits at level 5 from the Industrial Placement module) |
| BSc (Hons) Computer Game Design & Enterprise | 360 |
| BSc (Ord) Computer Game Design & Enterprise | 300 |
| DipHE Computer Game Design & Enterprise | 240 |

| | |
|---|---|
| CertHE Computer Game Design & Enterprise | 120 |

## 22 Programme structure diagram

Full-time Mode Level 4 (Indicative):

| | Level 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Semester 1 | Mod title | Game Design & Interaction | Mod title | Game Environments & Narrative Design | Mod title | Information and Systems Engineering | Mod title | Games Industry & Agile Production Methodologies |
| | Mod code | COM458 | Mod code | COM453 | Mod code | COM437 | Mod code | COM450 |
| | 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 | Steve Jarvis | Mod leader | Denise Oram | Mod leader | Nathan Roberts |
| | | | | | | | | |
| Semester 2 | Mod title | Game Asset Development | Mod title | Business, Finance & Technology Management |  | |  | |
| | Mod code | COM454 | Mod code | BUS457 | | | | |
| | New/Existing | New | New/Existing | Existing | | | | |
| | Credit value | 20 | Credit value | 20 | | | | |
| | Core/Option | Core | Core/Option | Core | | | | |
| | Mod leader | Nathan Roberts | Mod leader | TBC | | | | |

Note: “Information and Systems Engineering” and “Games Industry & Agile Production Methodologies” are delivered in semesters 1 & 2.

Full-time Mode Level 5:

| | Level 5 | | | | | |
|---|---|---|---|---|---|---|
| Semester 1 | Mod title | Game Production & Distribution Technology | Mod title | 3D Modelling & Animation for Game Engines | Mod title | Financial Technology & Innovation |
| | Mod code | COM548 | Mod code | COM550 | Mod code | BUS581 |
| | New/Existing | New | New/Existing | New | New/Existing | Existing |
| | Credit value | 20 | Credit value | 20 | Credit value | 20 |
| | Core/Option | Core | Core/Option | Core | Core/Option | Core |
| | Mod leader | Richard Hebblewhite | Mod leader | Nathan Roberts | Mod leader | TBC |
| | | | | | | |
| Semester 2 | Mod title | Indie Studio Management & Game Production | Mod title | Group Project | Mod title | Serious Games and 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 | Denise Oram | Mod leader | Nathan Roberts |

Full-time Mode Level 5 (with Industrial Placement award only):

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

Full-time Mode Level 6:

| | Level 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Semester 1 | Mod title | Game Design, Marketing & Monetisation | Mod title | Advanced 3D Modelling & Animation for Game Engines | Mod title | Financial Technology & Business Success | Mod title | Project |
| | Mod code | COM649 | Mod code | COM650 | Mod code | BUS646 | Mod code | COM646 |
| | New/Existing | New | New/Existing | New | New/Existing | Existing | 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 | TBC | Mod leader | Vic Grout |
| | | | | | | | | |
| | Mod title | Future Technologies | Mod title | | | | | |
| | Mod code | COM643 | Mod code | | | | | |
| | New/Existing | New | New/Existing | | | | | |
| | Credit value | 20 | Credit value | | | | | |
| | Core/Option | Core | Core/Option | | | | | |
| | Mod leader | Vic Grout | Mod leader | | | | | |

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 | Information and Systems Engineering |
| | Mod code/'New' Module | COM458 | | |
| | Credit value | 20 | Mod code/'New' Module | COM437 |
| | Core/Option | Core | | |
| | Mod leader | Richard Hebblewhite | Credit value | 20 |
| Semester 2 | Mod title | Business, Finance & Technology Management | | |
| | Mod code/'New' Module | BUS457 | Core/Option | Core |
| | Credit value | 20 | | |
| | Core/Option | Core | Module leader | Denise Oram |
| | Mod leader | TBC | | |
| | | | | |

Year 2

| | Level 4 | | | |
|---|---|---|---|---|
| Semester 1 | Mod title | Game Environments & Narrative Design | Mod title | Games Industry & Agile Production Methodologies |
| | Mod code/'New' Module | COM453 | | |
| | Credit value | 20 | Mod code/'New' Module | COM450 |
| | Core/Option | Core | | |
| | Mod leader | Steve Jarvis | Credit value | 20 |
| Semester 2 | Mod title | Game Asset Development | | |
| | Mod code/'New' Module | COM454 | Core/Option | Core |
| | Credit value | 20 | | |
| | Core/Option | Core | Module leader | Nathan Roberts |
| | Mod leader | Nathan Roberts | | |
| | | | | |

* Games Industry & Agile Production Methodologies and Information and Systems Engineering modules take place over Semester 1 and Semester 2.

Year 3

| | Level 5 | | | |
|---|---|---|---|---|
| Semester 1 | Mod title | 3D Modelling & Animation for Game Engines | Mod title | Game Production & Distribution Technology |
| | Mod code/'New' Module | COM550 | Mod code/'New' Module | COM548 |
| | Credit value | 20 | Credit value | 20 |
| | Core/Option | Core | Core/Option | Core |
| | Mod leader | Nathan Roberts | Mod leader | Rich Hebblewhite |
| | | | | |
| Semester 2 | Mod title | Group Project | Mod title | Indie Studio Management & Game Production |
| | Mod code/'New' Module | COM553 | Mod code/'New' Module | COM554 |
| | Credit value | 20 | Credit value | 20 |
| | Core/Option | Core | Core/Option | Core |
| | Mod leader | Denise Oram | Mod leader | Richard Hebblewhite |
| | | | | |

Year 4

| | Level 5 | | Level 6 | |
|---|---|---|---|---|
| Semester 1 | Mod title | Financial Technology & Innovation | Mod title | Game Design, Marketing & Monetisation |
| | Mod code/'New' Module | BUS581 | Mod code/'New' Module | COM649 |
| | Credit value | 20 | Credit value | 20 |
| | Core/Option | Core | Core/Option | Core |
| | Mod leader | TBC | Mod leader | Rich Hebblewhite |
| | | | | |
| 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 | Financial Technology & Business Success | Mod title | Advanced 3D Modelling & Animation for Game Engines |
| | Mod code/'New' Module | BUS646 | Mod code/'New' Module | COM650 |
| | Credit value | 20 | Credit value | 20 |
| | Core/Option | Core | Core/Option | Core |
| | Mod leader | TBC | 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 | |

| 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.<br><br>Demonstrate a basic understanding of hardware issues, including interfacing, graphical rendering, and their impact on the overall design and performance of computer games.<br><br>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.<br><br>Work as part of a team to design and develop moderately sized game applications, interfaces and business ideas.<br><br>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.<br><br>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.<br><br>Design and implement interactive game systems that utilise a variety of media types to a professional standard.<br><br>Design and implement intricate 3D models and animation techniques that incorporate sophisticated production pipelines.<br><br>Compare and contrast current industry trends and identify potential opportunities for the design and deployment of monetisation and business technology. | Demonstrate professional use of investigative and design strategies, and integrate them within the utilisation of tools and agile methodologies.<br><br>Analyse and critically appraise current and emerging technologies within the field of game development and IT.<br><br>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.<br><br>Demonstrate good practice in the development, management and utilisation of 3D models and animation techniques using industry standard software tools. | Demonstrate an in depth understanding of the characteristics, processes and limitations of modern games and 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.<br><br>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* | Game Environments & Narrative Design | Core | ■ | □ | ■ | □ | □ | □ | ■ | ■ | □ | ■ | □ | □ | ■ | ■ | □ | □ | □ | □ |
| | Game Design & Interaction | Core | ■ | ■ | ■ | □ | □ | □ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Information and Systems Engineering | Core | ■ | □ | ■ | ■ | □ | ■ | □ | □ | ■ | □ | ■ | □ | ■ | ■ | □ | □ | ■ | ■ |
| | Games Industry & Agile Production Methodologies | Core | ■ | ■ | □ | □ | ■ | ■ | □ | ■ | □ | □ | □ | □ | ■ | □ | □ | □ | □ | □ |
| | Game Asset Development | Core | ■ | ■ | ■ | □ | □ | ■ | ■ | ■ | □ | ■ | □ | ■ | ■ | ■ | ■ | ■ | □ | ■ |
| | Business, Finance and Technology Management | Core | ■ | ■ | □ | ■ | ■ | ■ | ■ | □ | ■ | □ | ■ | □ | ■ | ■ | □ | ■ | ■ | ■ |
| | | | | | | | | | | | | | | | | | | | | |
| *Level 5* | 3D Modelling & Animation for Game Engines | Core | ■ | ■ | ■ | □ | □ | ■ | □ | ■ | □ | ■ | □ | □ | ■ | ■ | ■ | □ | ■ | □ |
| | Game Production & Distribution Technology | Core | ■ | ■ | ■ | ■ | ■ | ■ | □ | ■ | ■ | □ | ■ | □ | ■ | □ | □ | ■ | ■ | ■ |
| | Financial Technology and Innovation | Core | ■ | ■ | □ | ■ | ■ | ■ | ■ | □ | ■ | □ | ■ | □ | ■ | ■ | □ | ■ | □ | ■ |
| | Group Project | Core | □ | ■ | □ | □ | ■ | □ | □ | ■ | □ | □ | ■ | ■ | ■ | □ | ■ | ■ | ■ | ■ |
| | Indie Studio Management & Game Production | Core | □ | □ | ■ | ■ | ■ | ■ | □ | □ | ■ | ■ | ■ | □ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Serious Games & Immersive Technology | Core | ■ | ■ | ■ | □ | □ | ■ | ■ | ■ | ■ | ■ | ■ | □ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Industrial Placement | Core | □ | ■ | ■ | ■ | ■ | ■ | □ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | | | | | | | | | | | | | | | | | | | | |
| *Level 6* | Game Design, Marketing & Monetisation | Core | ■ | ■ | ■ | ■ | ■ | ■ | □ | ■ | ■ | □ | ■ | □ | ■ | □ | □ | ■ | ■ | ■ |
| | Advanced 3D Modelling & Animation for Game Engines | Core | ■ | ■ | ■ | □ | ■ | ■ | □ | ■ | □ | ■ | □ | □ | ■ | ■ | ■ | □ | ■ | □ |

| | *Module Title* | *Core or option?* | ***A1*** | ***A2*** | ***A3*** | ***A4*** | ***A5*** | ***B1*** | ***B2*** | ***B3*** | ***B4*** | ***C1*** | ***C2*** | ***C3*** | ***C4*** | ***D1*** | ***D2*** | ***D3*** | ***D4*** | ***D5*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Future Technologies | Core | ■ | □ | □ | ■ | □ | □ | □ | □ | ■ | ■ | □ | □ | □ | ■ | ■ | □ | □ | ■ |
| | Financial Technology and Business Success | Core | ■ | ■ | □ | ■ | ■ | ■ | ■ | □ | ■ | □ | ■ | ■ | ■ | ■ | □ | ■ | ■ | ■ |
| | Project | Core | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | □ | ■ | ■ | ■ | ■ | ■ | ■ |
| | | | | | | | | | | | | | | | | | | | | |

## 25 Learning and teaching strategy

The BSc (Hons) Computer Game Design & Enterprise 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, and encapsulated within a business strategy.

Subject to cohort size, modules that are delivered by the North Wales Business School will be timetabled exclusively for the proposed programme, for all lecture and tutorial hours. However, if cohort sizes are smaller, then lecture hours for such modules will be timetabled as part of the North Wales Business Schools programmes, but tutorial hours will be timetabled and delivered exclusively for games students only to ensure subject specific knowledge. Regardless of the timetabled format, the assessment strategy for these modules will always conform to the module specifications provided.

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. Staff in Computing operate an Open Door policy in relation to students, ensuring flexibility and responsiveness in dealing with queries and questions that occur outside of the scheduled teaching hours.

The pace of delivery and range of syllabus content to be covered at each level of the programme requires a combination of teaching and learning strategies to be adopted in most areas of study. Modules are in the main divided into 2 types: technical and general. Technical modules cover the specialised subject areas and expertise pertaining to game development, while the more general modules cover other areas of business management, professional development and production methodologies.

Technical modules in level 4 total 80 credits of the academic year and are Game Design & Technology, Game Asset Development, Computer Systems and Games Industry & Agile Production Methodologies. These modules provide students with the theoretical

and practical skills to design, build and manage the production of simple game applications and assets.

General modules in level 4 total 40 credits of the academic year and are Information and Systems Engineering to Business, Finance and Technology Management. These modules aim to develop critical thinking skills, basic research capability, information handling, ethical awareness, and business skills.

Technical modules in level 5 total 100 credits of the academic year and are Game Production & Distribution Technology, 3D Modelling & Animation for Game Engines, Serious Games and Immersive Technology, Group Project Design and Group Project Implementation. These modules provide students with the theoretical and practical skills to work in multidisciplinary teams to design and develop moderately complex game applications and assets along with an understanding of the technology used to distribute them.

There is one general module at level 5 totalling 20 credits of the academic year and it is called Financial Technology and Innovation. This module aims to develop an awareness of processes and frameworks necessary to commercialise a product idea successfully.

Technical modules in level 6 total 80 credits of the academic year and are Advanced 3D Modelling & Animation for Game Engines, Game Design, Marketing & Monetisation, and the project. These modules provide students with the theoretical and practical skills to work in larger multidisciplinary teams to design and develop advanced game applications and assets along with an understanding of the technology used monetise and market them.

General modules in level 6 total 40 credits of the academic year and are Future Technologies and Financial Technology and Business Success. These modules aim to develop a critical awareness of current, emerging future games technology along with the business skills required to sustain and grow a working company.

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.

All of the modules in semester 2 at level 5 of the programme are assessed synoptically as part of an integrated set of group development modules. The modules are core to both the newly proposed BSc (Hons) Computer Game Design & Enterprise and BSc (Hons) Computer Game Development. The module delivery and assessment is closely coordinated by the appropriate module leaders, and the final assessment for all 3 modules is carried out by a panel made up of module leaders and members of the wider programme team.

The level 6 project module on the BSc (Hons) Computer Game Design & Enterprise programme is designed to be group oriented and is driven by a compulsory 4 hour session on the weekly timetable throughout the year. The module is supported by all members of the programme team, and is coordinated and driven by the module leader. This weekly session is broken down into clear two parts:

1) A formal lecture/talk aimed delivering all relevant information and subject specific content relating to the project module. The very first session of the year involves the introduction of the specific module outcomes and procedures, followed by the formal organisation and building of project teams. From there, each week is devoted to another aspect of the project such as PEGI ethical analysis, advanced agile management training and supporting platforms, research skills, report writing, data analysis and critical evaluation etc.

2) A supervised project workshop where, in the early part of the module schedule, students are guided through specific weekly activities such as brainstorming, team building, and initial work on the project proposal document. As the module progresses, the workshop session switches focus to the next relevant stage of work submission and greater support for management data preparation, refinement and team organisation.

In the final stages of the project, the workshop class hours are dedicated to providing supervised technical and methodology management support for students as they to work towards their final Level Up Expo demonstration and product submission.

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 Management 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.

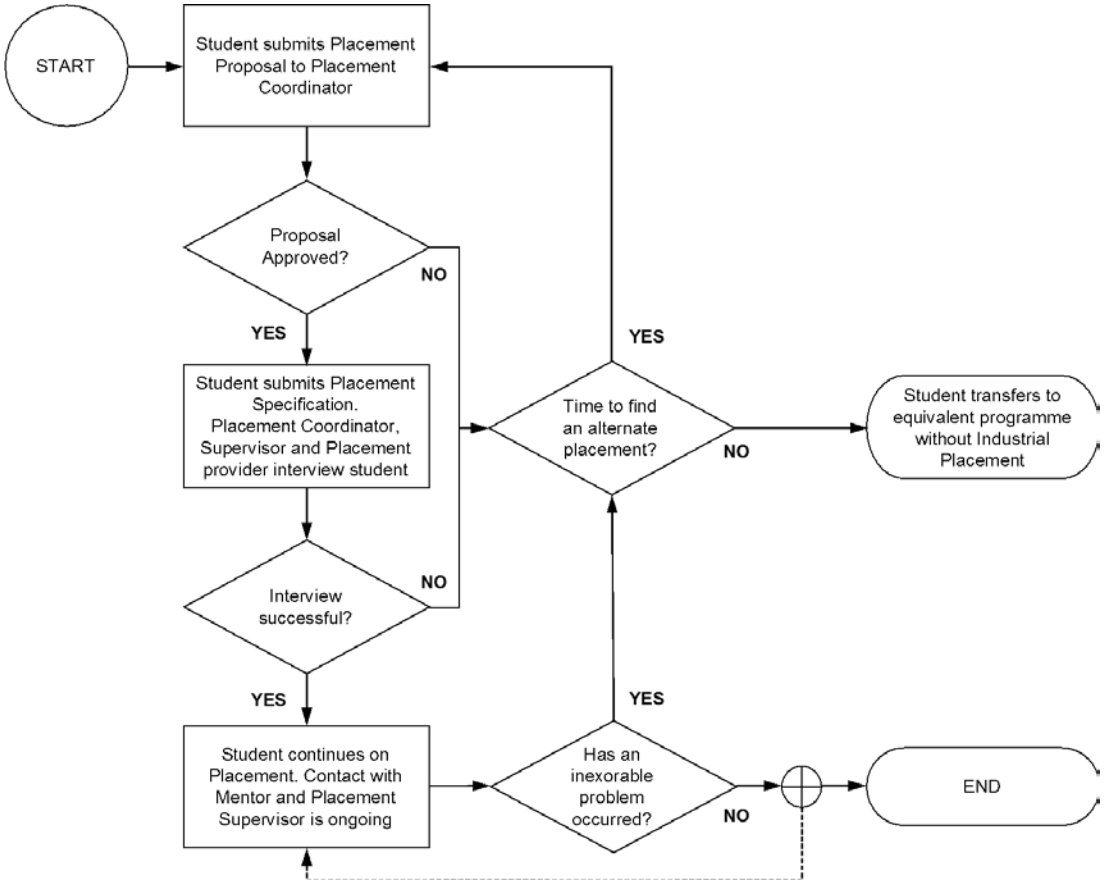
The Industrial Placement will normally take place during the normal academic year, as if over the two normal University semesters. As such its duration should normally be in the region of 24 weeks, no less than 20 weeks, and no more than 40 weeks. As such, students are encouraged to secure placements 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 Faculty Dean, 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 Design and Enterprise 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:




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 Design and Enterprise 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 Design and Enterprise 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

The methods of assessment used on the programme are designed to prepare students for entry into the industry and as such, primarily revolve around coursework and portfolio development.

Where modules focus on group work, there are strict controls in place to guide students in terms of assessment requirements and management of personal workloads. In addition, online tracking tools play a critical role in ascertaining a student's individual contribution to the collective effort due to the accurate logging of work hours and supporting evidence. This helps to ensure that students are assessed in a fair and transparent way.

Assessment is co-ordinated between modules to ensure diversity and a range of assessment submission dates where possible. This coordination effort also includes staff members from the North Wales Business School to ensure consistency of the student experience. Specific assessment tasks are incorporated into each module guide and relate to specific learning outcomes across all areas of programme assessment.

The number of module assessment elements and their individual assessment word counts are consistent with other programmes across both the department and the Faculty at the same level.

| Module code & title | Assessment type and weighting | Assessment loading | Indicative submission date |
|---|---|---|---|
| Game Design & Technology | 50% Coursework<br>50% Group Project | 2000 Words<br>2000 Words | Middle Sem 1<br>End of Sem 1 |
| Game Asset Development | 100% Portfolio | 4000 Words | End of Sem 2 |
| Information and Systems Engineering | Portfolio (100%) | 3000 Words | Wk 12, Sem 1 |
| Game Environments & Narrative Design | 100% Coursework | 4000 Words | End of Sem 1 |
| Business, Finance and Technology Management | 50% Essay<br>50% Case Study | 2000 Words<br>2000 Words | Middle Sem 1<br>End of Sem 1 |
| Games Industry & Agile Production Methodologies | 100% Portfolio<br>(Over 2 semesters) | 4000 Words | End of Sem 1<br>End of Sem 2 |
| Group Project | 100% Group Project | 4000 Words | Wk 12, Sem 2 |
| Indie Studio Management & Game Production | 100% Portfolio | 4000 Words | Wk 12, Sem1 |
| Serious Games & Immersive Technology | 100% Coursework | 4000 Words | Wk 12, Sem1 |
| 3D Modelling & Animation for Game Engines | 100% Coursework | 4000 Words | End of Sem 1 |
| Financial Technology and Innovation | 100% Report | 4000 Words | End of Sem 1 |
| Game Production & Distribution Technology | 50% Coursework<br>50% Coursework | 2000 Words<br>2000 Words | Middle Sem 1<br>End of Sem 1 |
| Industrial Placement | Placement Specification<br>Progress Report<br>Learning Log | | Wk 3, Sem1<br>Wk 12, Sem 1<br>Wk 12, Sem 2 |
| Advanced 3D Modelling & Animation for Game Engines | 100% Portfolio | 4000 Words | End of Sem 1 |
| Future Technologies | 40% Presentation<br>60% Report | 40%<br>60% | Wk 6, Sem 2<br>Wk 12, Sem2 |
| Game Design, Marketing & Monetisation | 50% Coursework<br>50% Coursework | 2000 Words<br>2000 Words | Middle Sem 1<br>End of Sem 1 |
| Financial Technology and Business Success | 100% Report | 4000 Words | End of 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

Richard Hebblewhite

### Programme team

Prof. Vic Grout
Nathan Roberts
Denise Oram
Steve Jarvis

### Supporting team

John Worden
Bindu Jose
Julie Mayers
Jason Matthews
Dr. Jan Green

## 31 Quality management

Programme Management

The programme will be managed under the auspices of the Faculty of Arts, Science and Technology and the programme will develop and operate within the terms of the overall management of curriculum within the Faculty. 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 Faculty's strategic thinking. It also allows the Faculty 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 Faculty level. 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 Faculty'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

### Faculty 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 faculty-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.