



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Games Research and Development		
Module Code	UFCFCK-60-M	Level	Level 7
For implementation from	2020-21		
UWE Credit Rating	60	ECTS Credit Rating	30
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Project		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> Techniques from within Games Development and Design are rapidly evolving to meet new and ever-increasing demands. In availing cutting-edge Games Technology to consumers at a fraction of previous costs, the demand for these technologies is evolving similarly across cross-disciplinary fields of research, in academia and real-world applications. As well as the use of gameplay and UX design to illicit familiarity and behaviour change.</p> <p>This module provides a platform for students to immerse themselves in this rapidly moving stream of innovation, deploying new game-like artefacts across a range of contexts and emerging application areas; forming the basis of a valuable portfolio that provides an entry point not only to research and development within the Games industry itself, but also to cutting-edge academic research and real-world application, via the use of Serious Games.</p> <p><b>Outline Syllabus:</b> A set of real-life client briefs will be presented forming the basis for a prospective live student project. Students will be expected to identify and propose suitably innovative uses of Serious Games to address these problems; liaising with project stakeholders over the course of the module to bring projects from conceptualisation through pitching, planning, design, development, iteration, testing and delivery stages, to resulting prototype products that suitably meet the key aspects of a given client brief. Dependant on the scope these will be either individually or in multi-disciplinary teams.</p>

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Alongside practical implementations that meet problem specifications, students will be expected to establish an in-depth awareness and understanding of academic and industry research pertaining to their chosen area, and to identify and formally document aspects of their project's development (both technical and design) in a suitable format for academic or industry dissemination and publication.

The culmination of the module will see each student or group presenting their serious game artefact and documentation output to project stakeholders and academic staff for formal sign off and discussion. The presentation should address technology, research, design and implementation choices and critically evaluate the overall success of the project across each of these areas.

Indicative content includes:

**STAKEHOLDER ENGAGEMENT:** problem statements, requirements, contexts, proposals, presentations, milestones, progress meetings, sign-off processes, documentation

**SOFTWARE IMPLEMENTATION:** problem formulation, prototyping, system and user interaction design, key sub-systems and components, abstraction, Technical Design Documentation (TDD)

**TARGETED DESIGN:** UX, UI and gameplay features aligned with audience/user interaction and targets of the client brief, Design Documentation including Games Design Documentation (GDD)

**DEVELOPMENT PRACTICE:** project management, iterations, workflow, tools and frameworks, algorithms, patterns, pre-existing tools, engines and SDKs.

**EVALUATION:** evaluating project success, evaluating the development process, academic vs industry success, onward trajectories, playtesting, player/user impact

**RESEARCH:** locating and disseminating existing research, lateral application of contexts to new subject areas

**INNOVATION:** recognising and disseminating aspects of new contribution, identifying destination publications

**Teaching and Learning Methods:** Studio-based, 6 hours / week (over 24 weeks equals 144 hours), scheduled across a single day / week to facilitate part-time student engagement.

Students will have the opportunity to situate themselves in the PlayWest studio / Foundry environment beyond the contact hours stated whilst working on client facing projects.

Scheduled (Hybrid Work-based) Learning:

The module will be taught in a self-directed studio environment, timetabled across a single weekday to facilitate part-time study, overseen by academic staff supervising the development projects and the wider process. Supplementary taught material including topics such as application of Serious Games, project management, research and games development practices / documentation, and supplementary research and writing workshops will be scheduled within these blocks to support project activity.

Regular video logs will be used to document project research and development progress and provide not only focal points for formative feedback throughout the module, but valuable pieces contributing towards students' graduate portfolios.

Independent Learning:

Independent learning will be self-directed, but scaffolded through agreed project milestone deadlines, project stakeholder meetings, and the opportunity for students to work alongside PlayWest and within the Foundry outside of taught hours, immersed in the studio environment, with immediate access to student 'colleagues' and academic supervisory staff.

### Part 3: Assessment

Formative assessment:

Iterative design and development with regular, minuted project meetings, with variations of teaching team, peer

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and stakeholder interaction, constitutes the back-bone of the formative assessment within this module. To supplement this activity and promote cross-project fertilisation and interaction with peers, students will be expected to produce video logs at set intervals across the module, to visualise and demonstrate project progress, form a talking point for peer discussion, and contribute towards their externally facing professional portfolio.

Summative assessment:

The project report (A1) should take the shape of an academic or industry research paper, ideally targeting an academic or industry journal, or alternative publication vehicle, appropriate to the project that was undertaken. This report should detail the context of the problem, summarise research undertaken, and highlight areas of technical or design innovation achieved within the project in a form suitable for wider dissemination. Even if the project is undertaken as a group project, this will be aligned with the individual contribution to the project.

The prototype artefact(s) (A2) developed during the course of the module to meet the client specification and requirements. This component will be assessed in terms of design, quality, implementation and, ultimately, viability given the context and potentially as a group element.

The process and milestone documentation (A3) should detail the unfolding of the project in terms of approach, design and methodology, provide details of client engagement and decisions made based on this interaction. Where the above assessments are largely about product, and dissemination of product, this will be assessed in terms of appropriateness and professionalism in terms of the project development process and should make use of suitable professional collaborative tools with the entire group engaged.

The final (group) viva presentation (A4) should give an overview of the project by summarising the processes and outcomes above into a format suitable for presentation to a panel of project stakeholders and interested others. A Q&A session will follow immediately after the presentation, interrogating key project aspects to assess overall student learning and onward trajectory upon completion of the module.

Note that more than one student may come to work across a single project. In these cases, it will be a requirement that individual strands of research and development are clearly attributable to a single student throughout, and that their project report (A1) will be individual and distinguishable, but with a clear line through the process and milestone documentation (A3). Each student's primary focus will be commensurate with their award or main subject focus / stream through that award. However, there should still be cross-disciplinary understanding within teams to create a suitable interface between design and technical development.

A mark will be given for each group element which will be scaled based on peer weighting agreed by the group, but with the module team making the final decision.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component A		30 %	Project report
Practical Skills Assessment - Component A		30 %	Prototype Artefact(s)
Portfolio - Component A		25 %	Process and milestone documentation
Presentation - Component A	✓	15 %	Viva presentation (15 mins + 15 min Q and A)
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Report - Component A		30 %	Project report
Practical Skills Assessment - Component A		30 %	Prototype Artefact(s)
Portfolio - Component A		25 %	Process and milestone documentation

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Presentation - Component A	✓	15 %	Video presentation (15 mins)
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Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th>Module Learning Outcomes</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Independently disseminate and synthesise research from a range of sources, of industry and academic origin, to propose innovative, viable research and development projects which incorporate technologies, design and other methodologies from games development that address academic or industry stakeholder needs</td> <td>MO1</td> </tr> <tr> <td>Utilise a range of technologies and techniques from games and related fields of study, to contribute innovative viable software artefact(s) that meet stakeholder needs and contribute towards the student's postgraduate portfolio.</td> <td>MO2</td> </tr> <tr> <td>Critically evaluate and reflect on the suitability of their own software artefact(s) in terms of research, design, methodology, and implementation, as well as stakeholder needs and audience/user reception, to produce reports suitable for industry or academic publication.</td> <td>MO3</td> </tr> <tr> <td>Engage with stakeholders and industry experts from the pitching of initial ideas to the presentation of final software artefacts, responding to changing requirements and addressing questions regarding the suitability, design and technical implementation of their projects.</td> <td>MO4</td> </tr> <tr> <td>Effectively explain, discuss and document key technical and design aspects of projects with fellow students, academics and project team members to scaffold the research and development process.</td> <td>MO5</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Independently disseminate and synthesise research from a range of sources, of industry and academic origin, to propose innovative, viable research and development projects which incorporate technologies, design and other methodologies from games development that address academic or industry stakeholder needs	MO1	Utilise a range of technologies and techniques from games and related fields of study, to contribute innovative viable software artefact(s) that meet stakeholder needs and contribute towards the student's postgraduate portfolio.	MO2	Critically evaluate and reflect on the suitability of their own software artefact(s) in terms of research, design, methodology, and implementation, as well as stakeholder needs and audience/user reception, to produce reports suitable for industry or academic publication.	MO3	Engage with stakeholders and industry experts from the pitching of initial ideas to the presentation of final software artefacts, responding to changing requirements and addressing questions regarding the suitability, design and technical implementation of their projects.	MO4	Effectively explain, discuss and document key technical and design aspects of projects with fellow students, academics and project team members to scaffold the research and development process.	MO5				
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Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p><a href="https://uwe.rl.talis.com/modules/ufcfck-60-m.html">https://uwe.rl.talis.com/modules/ufcfck-60-m.html</a></p>																

**Part 5: Contributes Towards**

This module contributes towards the following programmes of study:

Commercial Games Development [Sep][FT][Frenchay][1yr] MSc 2020-21

Commercial Games Development [Sep][PT][Frenchay][2yrs] MSc 2019-20