Programme Specification

Games Technology {Foundation} [Frenchay]

Version: 2022-23, v1.0, 28 Feb 2023

Contents

Section 1: Key Programme Details

Part A: Programme Information

Programme title: Games Technology {Foundation} [Frenchay]

Highest award: BSc (Hons) Games Technology

Interim award: BSc Games Technology

Interim award: DipHE Games Technology

Interim award: CertHE Games Technology

Awarding institution: UWE Bristol

Affiliated institutions: Not applicable

Teaching institutions: UWE Bristol

Study abroad: Yes

Year abroad: No

Sandwich year: Yes

Credit recognition: No

Department responsible for the programme: FET Dept of Computer Sci & Creative Tech, Faculty of Environment & Technology

Contributing departments: Not applicable

Professional, statutory or regulatory bodies:

TIGA

Apprenticeship: Not applicable

Mode of delivery: Full-time, Sandwich

Entry requirements: For the current entry requirements see the UWE public website.

For implementation from: 01 September 2018

Programme code: G61A00

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: The BSc (Hons) Games Technology has the following general aims:

To enable students to embark upon professional careers by developing problem-solving and other transferrable skills.

To enable students to work effectively and productively as a member of a team.

To develop study skills that will enable students to become independent, lifelong learners.

To prepare students for progressing to study for higher degrees in computing and creative technologies.

To encourage the discerning use of reference material from a variety of sources.

Educational Aims: The BSc (Hons) Games Technology has the following specific aims:

To provide skills in the design and implementation of computer games, including an understanding of the mathematical and technological principles required, as well as an exploration of the creative potential presented within the development of electronic games, and the cultural and technological contexts out of which they arise.

To provide practical skills in computer games development, including high and low level programming for a variety of deployment environments, such as dedicated consoles, desktop computers and mobile devices.

To develop the students' ability to make efficient, innovative and robust contributions to companies engaged in the development of computer games, technology and digital media.

To develop the students' understanding of the importance and mechanisms of project management, and associated tools, within computing, with particular reference to the development of computer games.

Programme Learning Outcomes:
On successful completion of this programme graduates will achieve the following learning outcomes.

Knowledge and Understanding

A1. Apply knowledge of historical and cultural perspectives in computer game development, including principles and applications of games design, interactivity and user involvement, and related supporting technologies.

A2. Demonstrate awareness of mathematical foundations of computer games in 2D and 3D, by using appropriate techniques to simulate physical events.

A3. Apply applicable software design concepts, programming languages, methods, notations and algorithms to modern Computer Games development.

A4. Employ/develop technical tools to support the computer games production pipeline.

A5. Engage with a range of advanced topics in the creation of innovative Computer Games.

A6. Demonstrate awareness of professional, ethical and sustainability issues affecting the development and deployment of computer games within an international market place.

Intellectual Skills

B1. Critical thinking

B2. Analysis

B3. Synthesis of different types of information

B4. Evaluation

B5. Problem solving

B6. Appreciate problem contexts

B7. Balance conflicting objectives

B8. Creative and interpretive thinking

Subject/Professional Practice Skills

C1. Create computer games corresponding to specified requirements.

C2. Interpret game designs to form technical requirements and design code/software that meets them.

C3. Utilise professional standard tools and practices throughout the development process, to design, compile, debug, test, profile/optimise, package and quality assure their products.

C4. Critically and comparatively evaluate games and their designs.

C5. Have a working knowledge of the fundamental mathematics underpinning the development of computer games.

C6. Apply a range of techniques from related areas (wider computing and technology) to games development.

C7. Employ a range of tools and notations to support the activities listed above, including: Software design packages; Programming languages (C++, C#, C, etc); Integrated Development Environments (IDEs), compilers, debuggers, profiling/optimisation tools; RAD, level design and asset creation software and associated scripting languages; Audio-visual production tools; Project management and source control software etc.

Transferable Skills and other attributes

D1. Communication skills: communicate orally or in writing.

D2. Self-management skills: manage one's own time; meet deadlines and work with others.

D3. IT skills in context: use software tools in the context of application development.

D4. Logical reasoning skills: undertake analysis and interpretation of information in the context of Creative Technology and Computer Science.

D5. Problem formulation: express problems in appropriate notations.

D6. Progression to independent learning: gain experience of, and to develop skills in, learning independently of structured class work. For example, developing the ability to use on-line facilities to further self-study.

D7. Comprehension of professional literature: read and to use literature sources appropriate to the discipline to support learning activities.

Part B: Programme Structure

Year 1

Full-time and Sandwich students must take 120 credits from the modules in Year 1.

Year 1 Compulsory Modules (Full-time and Sandwich)

Full-time and Sandwich students must take 120 credits from the modules in Compulsory Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
UFCFQN-30-0	Computational Thinking and Practice 2022-23	30
UFCFRN-30-0	Creative Technology Studies 2022-23	30
UFCFPN-30-0	Information Practitioner Foundations 2022-23	30
UFCFTN-30-0	Web Foundations 2022-23	30

Year 2

Full-time and Sandwich students must take 120 credits from the modules in Year 2.

Year 2 Compulsory Modules (Full-time and Sandwich)

Full-time and Sandwich students must take 120 credits from the modules in Compulsory Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
UFCFF5-30-1	Game Development Evolution 2023-24	30

UFCFWA-30-1	Games in C++ 2023-24	30
UFCFJL-30-1	Games Tech: 101 2023-24	30
UFCFY4-30-1	Principles of 3D Environments 2023-24	30

Year 3
Full-time and Sandwich students must take 120 credits from the modules in Year 3.

Year 3 Compulsory Modules (Full-time and Sandwich)
Full-time and Sandwich students must take 120 credits from the modules in Compulsory Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
UFCF9M-30-2	Game Engine Programming 2024-25	30
UFCF7M-30-2	Gameplay Programming 2024-25	30
UFCFXG-30-2	More Games in C++ 2024-25	30
UFCFC6-30-2	Play and Games 2024-25	30

Year 4
Full-time students must take 120 credits from the modules in Year 4.
Year Out: Students on the Sandwich route must take 15 credits when they complete a placement year.

Year 4 Compulsory Modules (Full-time)
Full-time students must take 120 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UFCFW3-30-3	Advanced Technologies 2025-26	30
UFCE3F-45-3	Commercial Games Development 2025-26	45
UFCFHQ-45-3	Comprehensive Creative Technologies Project 2025-26	45

Year 4 Compulsory Modules (Sandwich)
Sandwich students must take 15 credits from the modules in Compulsory Modules (Sandwich).

Module Code	Module Title	Credit
UFCFWJ-15-3	International Experience 2025-26	15
UFCFE6-15-3	Professional Experience 2025-26	15

Year 5
Sandwich students must take 105 credits from the modules in Year 5.

Year 5 Compulsory Modules (Sandwich)
Sandwich students must take 105 credits from the modules in Compulsory Modules (Sandwich).

Module Code	Module Title	Credit
UFCFW3-30-3	Advanced Technologies 2026-27	30
UFCFM4-30-3	Commercial Games Development 2026-27	30
UFCFHQ-45-3	Comprehensive Creative Technologies Project 2026-27	45

Part C: Higher Education Achievement Record (HEAR) Synopsis

Graduates will be able to demonstrate knowledge and understanding of the historical and cultural perspectives of computer games and related supporting technologies. They will understand the principles and applications of games design, interactivity and user involvement, as well as games programming design concepts, methods, notations and algorithms.

They will have knowledge and understanding of hardware components and supporting software technologies required for the production and deployment of contemporary game environments. Graduates will also have acquired knowledge of the role of artificial intelligence (AI) within computer games and associated

algorithms and programming techniques.

Furthermore they will understand the professional issues surrounding the development and deployment of computer games within an international market place.

These graduates will be creative, interpretative and critical thinkers, able to analyse, evaluate and to synthesise different types of information.
They will be able to appreciate problem contexts, balance conflicting objectives and solve problems.

Graduates of Games Technology will be able to write games programs that conform to designs and create high-level and low-level game designs that correspond to stated requirements. They will have the skills to evaluate games comparatively and apply appropriate AI techniques to Games development.

They will be able to perform adequate tests and analysis of user involvement whilst developing programs and build mobile/distributed gaming systems. They will also know how to utilise existing components and frameworks to build new applications and be able to employ a range of tools and notations to support these activities, e.g. RAD environments, Maya, C, C++,Java etc.

Games Technology graduates will be good communicators, both orally and in writing, and will be able to write the results of technical investigations. They will have developed the skills to manage their own time; to meet deadlines and to work with others, having gained insights into the problems of team-based systems development. They will be able to learn independently of structured class work and to read and to use literature sources to support their learning.

They will also be able to use software in the context of problem-solving investigations and to interpret findings, as well as have the ability to express problems in appropriate notations.

Part D: External Reference Points and Benchmarks

In designing this programme, the faculty has drawn upon the following external reference points:

The QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland

The QAA Benchmark Statement for Computing

The SkillSet Undergraduate Course Accreditation Guidelines for Computer Games - Technical Path

UWE's Learning and Teaching Strategy

The QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland: describes the attributes and skills expected of Honours graduates. The learning outcomes of this programme are fully consistent with the qualification descriptor in the Framework, and hence graduates will be able to demonstrate that they meet the expectations of the Framework.

The QAA Subject Benchmark Statement for Computing (2000, amended 2007):

The QAA Subject Benchmark Statement for Computing is applicable to this proposal. The proposal falls clearly within the scope of the Computing benchmark, in that it is precisely concerned with "the understanding, design and exploitation of computation and computer technology" (Benchmark Statement, p1, section 1). The Games Technology curriculum falls within the cognate area identified in the document and draws from the topics listed at Annex A of the document. In terms of the Statement's high-level characterisation of Computing, the programme has at its heart practice and software with its application oriented approach focused on the development of Games. Nevertheless, theory and hardware are important and significant strands.

Great attention has been paid in the design of this programme to create a teaching and learning programme which will foster a good and effective mix of the cognitive,

practical and generic (transferable) skills discussed in 3.2 of the Benchmark Statement. The programme matches well with the course design principles listed in 4.1 of the Statement.

UWE's Learning and Teaching Strategy has informed the faculty's policy for the delivery of its programmes.

Part E: Regulations

Approved to University Regulations and Procedures.