UNIVERSITY OF LIVERPOOL

Game Design BSc (Hons)

COURSE DETAILS

- A level requirements: ABB
- UCAS code: I610
- Study mode: Full-time
- Length: 3 years

KEY DATES

- Apply by: 29 January 2025
- Starts: 22 September 2025

Course overview

Game Design BSc combines coding, creativity, and critical theory to deliver a distinctive new provision in interactive audiovisual media. This interdisciplinary programme is one of the first of its kind in the Russell Group, combining modules from Computer Science and the School of the Arts to deliver a holistic grounding in how games are made, why they're made, and what they tell us about the world.

INTRODUCTION

You will develop skills in coding and programming, games scholarship, and creative design through a combination of modules from Communication & Media, Computer Science, English, Music, and Philosophy. These individual disciplines are drawn together by a set of bespoke Game Design modules in which you will produce work that will form part of your professional portfolio.

Year in industry

This programme is available with an optional year in industry. If you choose to take this option, year three is spent on a paid placement within an organisation in industry, broadly defined. You will be supported by the Department of Computer Science throughout your placement, and your reflexive written account of the experience will contribute towards your final degree result. If you wish to study this programme with a year in industry please put the option code YI in the further choices section of your UCAS application form.

WHAT YOU'LL LEARN

- The basics of programming

- Creative principles
- Understanding of software engineering, artificial intelligence, and communication technologies
- Advanced study of computer game and app development
- Techniques of critical thinking and analysis
- Communication and teamwork skills
- Principles of software design and software development
- Project management
- How to develop a professional portfolio

Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

YEAR ONE

Year one will establish the foundations for your studies, introducing you to the basics of programming, creative principles, and the academic context for game design. Your first year of study will be made up of compulsory modules, establishing the foundational principles and skills required for the rest of your studies; and one optional module.

COMPULSORY MODULES

INTRODUCTION TO GAME DESIGN STUDIES (SOTA101)

Credits: 15 / Semester: semester 1

The module Introduction to Game Design Studies explores the phenomenon of video game studies from a variety of Arts and Humanities perspectives. Therefore, the module will focus on three key interrelated contexts for the analysis and theorisation of video games as digital media culture: the text of the game itself as an aesthetic and formal virtual object, genre and system of representation; the video game player as a type of audience or user who is immersed, interactive, and embodied; the video game industry as a global media business, one with a strong Japanese presence and with a profound effect on the wider media context.

GAMES AND MEANING (SOTA102)

Credits: 15 / Semester: semester 2

This module introduces students to the semantics of video game design and the techniques of close reading. It examines how mechanics, environment and audio design, genre conventions and iconography can be used to create meaning, both in support and subversion of explicit narrative. Students will learn to make connections between the disparate artforms involved in game design and develop the ability to form their own readings of games. The module is taught in 2-hour workshops which involve a mixture of theory lectures and in-depth discussion of specific games, including student-led choices. Assessment consists of a 2000-word coursework essay (85%), of which there is a formative, peer-reviewed ‘pitching’ exercise in week 6, and a 5-10 minute in-class presentation or video essay (15%), delivered during the second half of the module.

CREATIVE PRINCIPLES IN GAME DESIGN (SOTA103)

Credits: 15 / Semester: semester 1

This module provides an introduction to the principles and materials of game creation, highlighting available creative pathways within the Game Design Studies and Game Design programmes. Students will learn basic terminology and concepts, and critically engage with various topics within the field of game design. Comprehension of these topics is supported by lectures and seminars, and through critical engagement with texts, articles, interviews, and other resources over the course of the term. Students will then apply what they've learned to realize original ideas in the form of design documents.

SPATIAL DESIGN IN GAMES (SOTA104)

Credits: 15 / Semester: semester 2

This module will cover practical topics related to the design of virtual spaces in games. Students will critically examine the architectural principles embedded within existing games and will apply these principles to the design of original 2-dimensional and 3-dimensional game spaces. Lectures are supported by design texts and other textual resources.

DATA STRUCTURES AND ALGORITHMS (COMP108)

Credits: 15 / Semester: semester 2

This module introduces students to some basic algorithms and data structures. It gives some fundamental concepts of design and analysis of algorithms, and implementation of algorithms by choosing appropriate data structures.

INTRODUCTION TO ARTIFICIAL INTELLIGENCE (COMP111)

Credits: 15 / Semester: semester 1

Artificial intelligence (AI) is the theory and development of machines able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages. In the 21st century, AI techniques became an essential part of the technology industry. High-profile examples include autonomous vehicles, medical diagnosis, creating art, proving mathematical theorems, playing games, search engines, and online assistants. This module provides an application driven introduction to AI through studying the basic problems most AI systems have to deal with: search problems, reasoning under uncertainty, knowledge representation, planning, and learning in intelligent systems. The module will also provide a basic introduction to the history and philosophy of AI as well as recent issues in ethics of AI.

OBJECT-ORIENTED PROGRAMMING (COMP122)

Credits: 15 / Semester: semester 2

The intention of COMP122 is to introduce students to the concepts and methodology of object-oriented programming using the Java programming language. Topics covered include hierarchical structures, polymorphism, collections and iterators, exception handling, and graphical user interface design. Basic concepts of software design methodology, testing, and version control are also included in the module. It is normally expected that students have prior programming experience.

OPTIONAL MODULES

INTRODUCTION TO PROGRAMMING (COMP101)

Credits: 15 / Semester: semester 1

The module provides an introduction to procedural programming using current language platforms. The module incorporates program design, problem solving, the importance of maintainable, robust software and testing as well as introducing procedural language main programming constructs. Students gain practical experience with program design, programming and testing during weekly laboratory sessions.

PROGRAMMING LANGUAGE PARADIGMS (COMP105)

Credits: 15 / Semester: semester 1

This module is for students that already have some programming skills. Students will learn about the two main programming paradigms: imperative programming and functional programming. Since most introductory programming courses teach imperative programming, this module will focus on the functional paradigm. Students will learn how to program in Haskell, a popular functional programming language. They will learn how to formulate programs in a functional way, and the common techniques and idioms that are used to solve problems in functional programming.

Programme details and modules listed are illustrative only and subject to change.

YEAR TWO

In your second year, you'll deepen your understanding of specialisms such as software engineering, artificial intelligence, and communication technologies. A selection of optional modules will allow you to explore some of the more artistic aspects of game design. Alongside compulsory modules – which include an independent project – you'll choose two modules from a range of options.

COMPULSORY MODULES

COMPUTER NETWORKS (COMP211)

Credits: 15 / Semester: semester 1

This module provides an introduction to current computer networks and communications technologies. We will use the architecture and protocols of the Internet as a primary vehicle for studying fundamental computer networking concepts. This will include an in-depth study of the key protocols that enable communications accross the Internet. You will become familiar with the various network devices and network addressing schemes. We will identify critical network security issues and study approaches towards addressing these issues.

PRINCIPLES OF COMPUTER GAMES DESIGN AND IMPLEMENTATION (COMP222)

Credits: 15 / Semester: semester 2

This module introduces topics commonly present in the modern computer games from software architecture principles to advanced artificial intelligence techniques to the creation of 3D content. As part of the continuous assessment, students create a simple 3D video game using an existing game engine and an AI control procedure for a multiuser framework.

SOFTWARE ENGINEERING I (COMP201)

Credits: 15 / Semester: semester 1

This module deals with the issues associated with the analysis, design, implementation and testing of significant computing systems (that is, systems that are too large to be designed and developed by a single person).

GAME DESIGN INDEPENDENT PROJECT (SOTA205)

Credits: 30 / Semester: semester 2

This module provides students with a chance to work on the development of an individual project within their chosen specialization with the appropriate member of staff. Supervisors and project specifics will be decided on a case-by-case basis.

OPTIONAL MODULES

IMMERSIVE MEDIA AND VIRTUAL WORLDS B (COMM211)

Credits: 15 / Semester: semester 2

The second-year module Immersive Media and Virtual Worlds explores the histories, theories, and industries related to the production of immersive experiences, digital technologies and virtual realities and worlds. In particular, the module will focus on video games and cinema.

MUSIC IN GAMING (MUSI273)

Credits: 15 / Semester: semester 1

This module examines the function and design of music in video games (including games-consoles, PCs, and smart-phone 'apps'). It considers the historical development of music in gaming, the relationship between game-music and technological advance, and the role and function of music in different types of game (and how this dictates compositional choice). This is achieved via a combination of case-study analyses and engagement with appropriate literature and research. Delivery incorporates lectures, workshop/seminars, and directed activity. Assessment incorporates a discursive essay and a portfolio of case-study analyses. The module assumes the study and discussion of case-study examples, but is delivered and assessed in a manner which does not require technical music skills (ie notational literacy or formal analytical method).

COMPOSITION FOR DIGITAL GAMES (MUSI305)

Credits: 15 / Semester: semester 1

This module provides an introduction to the design and implementation of sound and music in video games. Students engage with game music scholarship and case studies, then apply their knowledge to create original sounds and music for premade game projects.

TALKING PICTURES: COMICS AND PICTORIAL NARRATIVE (ENGL362)

Credits: 30 / Semester: semester 2

In the 1920s a canny advertising executive coined the phrase, 'One Look is Worth a Thousand Words'. But the idea that pictures can be read (and that writing creates pictures in the mind's eye) has a long pedigree. According to Plutarch, it was Simonides of Keos – the Greek lyric poet of the 5th century BC – who first formulated the equation: 'poems are talking pictures, pictures are silent poems'. This module examines the ways in which pictures have been used to tell stories from the beginnings of widespread print culture in the seventeenth century to contemporary digital comics.

GAMES PLAYING ROLES (ENGL397)

Credits: 15 / Semester: semester 2

Games are ubiquitous today; even if you don't think you play them, you do, via schemes like loyalty cards. This module examines the role of games in contemporary society, and the ways in which this has been reflected within contemporary literature. Throughout this module, we will consider the relationship between games and literature in relation to three key areas—"Ludic Literature", "Gaming Cultures", and "Games of the Future"—with each area involving the analysis of particular literary texts to consider what they reveal about contemporary society and its interests in games and gaming. Illustrative authors include: Raymond Queneau and members of the OuLiPo, Orson Scott Card, William Gibson, Daniel Suarez, and Ernest Cline.

DIFFERENT PLAY (SOTA202)

Credits: 15 / Semester: semester 1

This module introduces students to academic work that challenges the conventions of mainstream gaming, or what has been called 'queer game studies'. It examines the relationship between queerness and play, and how the formalising of play into games, especially digital and technological games, has sustained and promoted societal norms. Themes covered include the representation of marginalised identities, queer reclamation of 'failure' and the ways that technology can reproduce or subvert social structures. Students will learn to reexamine the conventions of game design with a view to conceiving a wider range of possibility for games, as well as engaging with the fundamental concepts of academic queer theory. The module is taught in 2-hour design workshops, with an introductory lecture in the first week. Assessment consists of a 1000-word design sketch for a game (40%) and a 1500-word coursework essay (60%). The textbook for the module is Ruberg & Shaw eds 'Queer Game Studies' (2017), Minneapolis: University of Minnesota Press.

3D MODELLING AND ANIMATION FOR GAMES (SOTA203)

Credits: 15 / Semester: semester 1

This module continues from the principles of spatial design covered in SOTA104 and introduces students to materials and techniques related to creating objects and complex structures within game spaces. Students will also learn about proper character rigging and state-based animation to create a range of game assets that can be used in standard game engines like Unity and Unreal Engine.

Programme details and modules listed are illustrative only and subject to change.

YEAR THREE

During your third year, you'll undergo advanced study of computer game and app development, consider the philosophical issues associated with play and virtual worlds, and critically evaluate academic studies in games. Alongside compulsory modules, you'll undertake a major collaborative project that will see you apply your creative, critical, and technical skills.

NOTICE

Alongside compulsory modules, you'll undertake a major collaborative project.

COMPULSORY MODULES

APP DEVELOPMENT (COMP228)

Credits: 15 / Semester: semester 1

App Development is an exploration of the design and programming of application programs on mobile devices. It covers topics such as how to design for small displays and non-traditional input devices; what the expectations of mobile users are; how to use publicallly accessible data sources to develop innovative solutions.

GAMES AND ALGORITHMIC CULTURE (COMM309)

Credits: 15 / Semester: semester 1

Games and Algorithmic Culture investigates how videogames are responding and contributing to the current technological and cultural changes in the use of AI, data mining, procedurally generated content, metrics and automation. The module provides a fundamental knowledge of the videogame industry and its new markets and trends, such as eSports, live streaming, independent productions, casual and mobile gaming. It explores how these new social, cultural and aesthetic trends of game culture are framed around a broader algorithmic culture that pervades our contemporary technics of digital production and distribution. The module will enable students to understand the specificity of games as new media, to critically analyse the technical, economic and social factors that frame contemporary digital culture, and identify areas of intervention within the global entertainment industry.

PHILOSOPHY OF PLAY AND THE VIRTUAL (PHIL343)

Credits: 15 / Semester: semester 1

This module introduces students to the major philosophical issues associated with play, games (especially digital games) and virtual worlds. It examines both the philosophical literature around play and contemporary concerns expressed in relationship to the growth of the video games industry, including addiction, violence, ‘gamification’ and the use of play and software for education and therapy. Students will learn to challenge common assumptions, including their own, about the triviality of play in relation to modern constructions of labour and value, and develop an understanding of how these assumptions underpin both popular and academic discussions of games.

The module is taught by lecture (1 hour per week) and seminar (1 hour per week). Assessment consists of a 3-part project: a formative pitch meeting with the module leader in the first 5 weeks of the course, a short report on that meeting (500 words, 30%) including a research plan, and a final essay (2,500 words, 70%).

ADVANCED TOPICS IN COMPUTER GAME DEVELOPMENT (COMP342)

Credits: 15 / Semester: semester 2

This modules aims to cover advanced concepts underpinning computer games development; including game AI, content generation, graphics, physics and sound. As part of the continuous assessment, students apply those concepts to computer games development.

GAME DESIGN COLLABORATIVE PROJECT A (SOTA304)

Credits: 30 / Semester: semester 1

This module provides students with the opportunity to contribute to a large-scale design project with other members of their cohort. Students will be assessed individually, but will develop team-based skills and produce a portfolio of work within their chosen pathway of a level appropriate for professional applications.

GAME DESIGN COLLABORATIVE PROJECT B (SOTA305)

Credits: 30 / Semester: semester 2

This module provides students with the opportunity to contribute to a large-scale design project with other members of their cohort. Students will be assessed individually, but will develop team-based skills and produce a portfolio of work within their chosen pathway of a level appropriate for professional applications.

Programme details and modules listed are illustrative only and subject to change.

YEAR IN INDUSTRY

This programme can also be studied over four years, with the third year spent on a relevant, salaried work placement within an organisation. You will be supported by the Department of Computer Science throughout your placement, and your reflective written account of the experience will contribute towards your final degree result.

NOTICE

If you wish to study this programme with a year in industry please put the option code YI in the further choices section of your UCAS application form.

Programme details and modules listed are illustrative only and subject to change.

HOW YOU'LL LEARN

Contact time generally consists of lectures, in which students are presented with core content, and seminars/labs/workshops, in which students discuss lecture topics, readings and work in groups to complete exercises. The practical modules from within the School of the Arts follow a more interactive model of seminar/workshop. These modules stress short practical lessons and exercises in seminars while allowing students to have supervised time to work independently in workshops.

HOW YOU'RE ASSESSED

Assessments include a variety of written components (essays, case studies, creative responses, adaptation exercises, etc.) Inspired by the principles of the TESTA (Transforming the Experience of Students Through Assessment) programme, assessments also include both formative and summative coursework. Modules are largely designed to emphasise practical development by means of interactive workshops, small-group work, and individual tutorial sessions with instructors.

LIVERPOOL HALLMARKS

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

Careers and employability

Digital games represent one of the fastest-growing forms of entertainment media. This programme aims to equip you with the technical, creative, and critical skills that will help you find employment in this dynamic and rapidly growing field, whilst assembling a professional portfolio of work.

You'll have opportunities throughout the programme to develop a professional portfolio, as well as various options to gain workplace experience.

WORK EXPERIENCE OPPORTUNITIES

- Internships with enterprise activities, including support to form your own development studios alongside your studies.
- Students who take the year in industry option will be able to spend their work experience year managing their chosen companies, with support from the University.

Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

TUITION FEES

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)	
Full-time place, per year	£9,250
Year in industry fee	£1,850
Year abroad fee	£1,385

International fees	
Full-time place, per year	£22,400
Year in industry fee	£1,850
Year abroad fee	£11,200

Fees shown are for the academic year 2024/25. Please note that the Year Abroad fee also applies to the Year in China.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. Learn more about paying for your studies..

ADDITIONAL COSTS

Your tuition fee covers almost everything, but you may have additional study costs to consider such as books, stationery and equipment.

Find out more about the additional study costs that may apply to this course.

SCHOLARSHIPS AND BURSARIES

We offer a range of scholarships and bursaries to provide tuition fee discounts and help with living expenses while at university.

Check out our Liverpool Bursary, worth up to £2,000 per year for eligible UK students. Or for international students, our Undergraduate Global Advancement Scholarship offers a tuition fee discount of up to £5,000 for eligible international students starting an undergraduate degree from September 2024.

Discover our full range of undergraduate scholarships and bursaries

Entry requirements

The qualifications and exam results you'll need to apply for this course.

Your qualification	**Requirements** About our typical entry requirements
A levels	ABB Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is **BBB** with **A** in the EPQ. You may automatically qualify for reduced entry requirements through our contextual offers scheme.
GCSE	4/C in English and 4/C in Mathematics
BTEC Level 3 National Extended Diploma	BTEC applications are encouraged. We evaluate each BTEC application on its merits and may make offers at DDM.
International Baccalaureate	33 points, with no score less than 4
Irish Leaving Certificate	H1, H2, H2, H2, H3, H3
Scottish Higher/Advanced Higher	ABB in Advanced Highers, combinations of Advanced Highers and Scottish Highers are welcome
Welsh Baccalaureate Advanced	Accepted at grade A alongside A level grades BB
Access	Applications considered. Pass Access with 30 Level 3 credits graded at Distinction and 15 Level 3 credits graded at Merit.

Your qualification	Requirements About our typical entry requirements
International qualifications	Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the University of Liverpool International College, means you're guaranteed a place on your chosen course.

ALTERNATIVE ENTRY REQUIREMENTS

- If your qualification isn't listed here, or you're taking a combination of qualifications, contact us for advice
- Aged 20+ and without formal qualifications? The one-year Go Higher diploma qualifies you to apply for University of Liverpool arts, humanities and social sciences programmes
- Applications from mature students are welcome.

THE ORIGINAL REDBRICK