

Software Development for Animation, Games and Effects (BSc Hons)

The Media School

BSc (Hons) Software Development for Animation, Games and Effects is a new course derived from the extremely successful course (BA Hons) Computer Animation and Visualisation. This course contains specialist units in software engineering and maths.

You will be studying within the National Centre for Computer Animation (NCCA) and therefore be taught by academics that not only currently work within the industry but are also leading animators within this ever-changing and exciting industry.

Duration:

3 years full time

UCAS Code:

GG74

Entry Requirements:

- 340 UCAS points from 3 A-levels or equivalent
- International Baccalaureate (IB) requires 34 points including 5 points from each of 3 Higher Level subjects

Preferred subjects:

Maths, Computing, Physics

Recommended GCSEs:

A minimum of 5 GCSE's grade A* – C including English and a B grade in Maths or equivalent qualifications

If English is not your first language:

IELTS (Academic) 6.5 or equivalent

Contact:

askBU Enquiry Service

Tel: 08456 501 501 (UK Callers Only)

+44 (0) 1202 961916

Email: askBUenquiries@bournemouth.ac.uk

Open Days: www.bournemouth.ac.uk/opendays

For more course information

www.bournemouth.ac.uk/courses/BSSDAGS

This course was created through extensive industry consultation; BSc (Hons) Software Development for Animation, Games and Effects is the strong technical course within the NCCA undergraduate portfolio.

This course aims to produce graduates who can work on large scale, high end programming projects. Students from all three undergraduate animation courses will work together in groups, adding their own elements of expertise to each project. This will simulate a 'real life' working environment and help you develop your technical skills within a highly creative atmosphere.

The NCCA are very proud of their strong industrial links; throughout this course they will provide significant input from the industry in the form of industrial visits, specialist lectures and master classes.

The NCCA has a tradition of 20 years in research, and teaching of computer animation. Based on the recent Research Assessment Exercise (RAE) government ranking the NCCA is amongst the 7 best institutions for research in Computer Animation in the UK.

What the industry says:

"The National Centre for Computer Animation is one of the most famous and dependable sources for animation talent in the UK. Graduates can be found working at major studios worldwide."

3D World magazine

Course Content

Year 1- Level C

Computer Animation Preproduction- This unit provides you with the fundamental building blocks to understand, conceive, present and generate preproduction material of animated and/or interactive Computer Generated Imaging (CGI) projects. It exposes students to the principles and techniques of storytelling through scriptwriting and storyboarding.

Computer Animation Production 1- You will learn the wider context for 3D animation content within feature productions. It will introduce you to the basic concepts of animation principles, 3D software and the grammar and practice of scripting.

Discrete Mathematics- You will be introduced to some of the fundamental ideas of discrete mathematics that are used in the areas of computing, computer animation and computer games. The various mathematical techniques are introduced in a way that demonstrates their relevance and application to computer graphics, animation and games.

Fundamentals of Computer Science and Computer Architecture- The topics covered in this unit include a short history of computing, an exposition of fundamental algorithmic techniques, an exposition of the fundamentals of data structures and databases, an introduction to automata and Turing machines, an exposition of the fundamental of computer hardware design and a brief introduction to the fundamentals of operating systems.

Principles and Practice of Programming- This unit provides you with the programming and algorithmic development foundation required for the development of software for games, films and effects. Emphasis will be placed on the appropriate selection of tools and techniques for the problem at hand and the embedding of transferable skills allowing you to pick up computer programming techniques regardless of the language or paradigm being used.

Mathematical Methods 1- The material presented in this unit provides a key mathematical ideas used in computer graphics, animation and games and will prepare you for further courses in mathematics and software techniques.

Year 2- Level H

Computer Animation Production 2- This unit aims to introduce you to the principles and practices of team work and develop your creative skills through the production of a short visual sequence. More advanced CG skills will be introduced to enable research and development of ideas and new techniques.

Computer Animation Specialist Production- In this module you will undertake a focused project in Computer Graphics. The project is student-centred allowing you to develop a more personal style and focus on your chosen area of specialisation in the field of computer graphics.

Object Orientated Programming and Graphics- You will gain an in depth understanding of the Object Oriented programming paradigm and its application to graphics programming. The unit aims to develop an understanding of the principles of API design and usage with emphasis placed on the application of modern software engineering techniques.

Mathematics and Algorithms for Computer Graphics-In this unit you will learn about the mathematical and algorithmic techniques employed in the construction of a computer graphics system, the ability to select appropriate tools and techniques in the construction of geometric models and the ability to construct algorithms utilising the appropriate mathematical and computer graphics techniques.

Mathematics Methods 2- The aim of this unit is the development and applications of advanced mathematical topics applied to computer graphics, computer animation and computer games.

Principles of Software Engineering and Operating Systems- This unit builds upon the level C Computer Science and Architecture unit and programming units to give you an engineering perspective to the theoretical underpinnings in year 1. It also introduces the fundamentals of operating systems together with the basics of networking and communications.

Year 3- Level H

Major Project & Report- Your Major Project will mark the culmination of production work and acts as the integrating component of techniques taught to throughout the three years of study. Major projects aim to produce work of high quality that demonstrates the technical, creative, and professional skills of a graduate. Major project productions should result in computer graphics and computer animation projects, of a high enough quality, which could be entered and/or presented in international and national festivals and conferences.

Collaborative Research Project- You will work in a professional manner as part of a research and development team on a specific project of your choice.

Animation and Games Systems Techniques- You will learn some of the more advanced mathematical and programming techniques involved in the development of modern computer animation and games systems and tools.

Masterclasses in Computer Graphics Techniques- This unit introduces you to the professional world of a digital media production house. This unit aims to provide you with the theoretical and practical knowledge of specialist computer graphics techniques.

Advanced Graphics Software Development Techniques- This unit aims to provide you with an understanding of advanced graphics and software engineering techniques and looks to build on your ability to develop software. This unit shows how modern specialised-hardware is used to facilitate graphics production for animation, games and effects. The main emphasis of this unit will be using the GPU and modern consoles to implement high-end graphics algorithms and techniques.

Assessment

The course employs coursework assessment and examinations. Coursework is based on written and visual assignments and project assessments.

Postgraduate study

This course is now part of a Masters framework where you can choose to complete the Honours degree or carry on studying for an extra year to complete the Masters (postgraduate level). Currently BU graduates get 20% alumni discount on postgraduate fees.

Selection Criteria

Background and experience

We want committed, keen, enthusiastic students who are going to make a real difference to the course they are studying. Our students learn from each other, as well as their academic staff, so it is really important to us that you can show us how much you care about the course you are interested in.

Your UCAS personal statement is a great place to do this. Tell us about your personal achievements or any relevant work experience you have done, and show us how they make you the ideal candidate for a place on the course.

The right type of applicant

Students on this course must have a strong background in maths and computing. Students will also have a proven ability to work in groups and individually.

Students will also have strong technical background in computer programming, and have completed an A level or equivalent in Computing before beginning the course

Selection Methods

We'll use the UCAS applications to create a shortlist of candidates that we would like to find out more about.

As this course requires you to demonstrate practical and applicable skills in this particular subject, we invite applicants who present the necessary skills on their UCAS form to attend an interview day at Bournemouth University.

During this visit you will be asked to take a Maths and Logic tests, as well as show your portfolio of software development/creative work.

Please note:

The University reserves the right to introduce changes to the information given, including the addition, withdrawal, re-location or restructuring of courses.

Last updated: August 2011