



Mini Guide –

**School of Computing**

**Make your mark  
in Computing  
at UWS**

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# Opportunities in Computing

Computing is a thriving and developing technology that is at the heart of modern devices used in everyday living. It is the means by which we control major communication, transport and other infrastructure systems, yet it has also played a key role in the development of the creative industries such as computer games, digital animation and music technology.

At UWS we provide our students with technology focused skills but we also instil the interpersonal attributes that are so heavily valued by employers. Our links with industry are strong and this directly influences the content and development of our courses, nearly all of which are approved by the British Computer Society. As a result, our graduates are well placed to make a very significant contribution to the computing industry and its related technologies.

We have computing courses at our Paisley, Hamilton, Ayr and Dumfries campuses - more information on what we offer can be found at **[www.uws.ac.uk/computing/](http://www.uws.ac.uk/computing/)**

Applications for our undergraduate courses are made through the Universities and Colleges Admissions Service, (using UCAS code U40). These can be made online at **[www.ucas.com](http://www.ucas.com)**

We hope you can join us soon!

# Our Undergraduate Courses

## **Business Technology (BSc/BSc Hons)**

You will work with real companies and be exposed to current and in-demand business technologies such as wireless technology and business intelligence, all of which will greatly enhance your appeal to future employers. You will be primed to appreciate how businesses function and technology helps to drive them to success, as well as knowing how to support and administer business technology systems in a small to medium-sized enterprise (SME) environment as well as in larger enterprises. The course also focuses on developing business analysis and project management skills and offers a number of industrial placement opportunities to ensure you acquire the personal and professional skills needed to compete in today's job market.



## Computer Animation (BSc/BSc Hons)

The Computer Animation degree is film and TV oriented, but also provides skills relevant to developing content for games and interactive multimedia. You will be introduced to animation principles, terminology and techniques beginning with core skills in 2D animation. The course progresses to emphasize 3D modelling and animation but you can also pursue more conventional drawn or stop motion animation in projects. As well as animation and modelling you will develop key industry skills in rendering, compositing and dynamic simulation. The degree encourages specialisation, for example in character animation or architectural visualisation. In later years there is an emphasis on the production of professional standard work for your show-reel, an important aspect in gaining employment in the industry. You may study computer animation as a single degree route or combine it with a specialism in digital art.

## Computer Games Technology/Development (BSc/BSc Hons)

UWS was one of the first universities in the UK to gain Computer Games Skillset Accreditation which is a major endorsement by industry. We have two games courses; in Computer Games Technology you will apply software engineering skills to 3D games development and learn the latest graphics technologies for PC, handheld and console platforms. Our other course, Computer Games Development, is designed to create developers of short-development time video games for smartphones, tablets and the internet. The focus is on game design, the use of games creation software and an understanding of the games industry itself.

## Computer Networking (BSc/BSc Hons)

You will learn how to design and manage networks of computers in a way that provides high standards of efficiency and security. To achieve this, you will examine and implement the principles of network design and administration, the configuration of wired and wireless systems, security strategies and the interoperation of different network platforms. In addition you'll learn vendor-specific technologies such as those adopted by Cisco, Unix/Linux, and Windows, ensuring you'll graduate with skills which are directly relevant to a rapidly changing network industry.



## Web and Mobile Development (BSc/BSc Hons)

There is a demand for skilled personnel who are able to design and develop web and mobile based platforms and administer the infrastructure on which these services operate. Throughout this course, you will gain expertise in systems design and analysis and in the use of HTML5, JavaScript, MySQL, Python, ASP, .NET and other relevant technologies for developing dynamic, interactive, secure and robust web/mobile solutions. You will also learn and implement the key principles for establishing and maintaining secure web servers as well as designing, developing and interacting with business models and database systems.



## Music Technology (BSc/BSc Hons)

You will apply modern audio technologies across a full range of activities from optimising studio set up, live sound recording, production and post production work and issues that affect final distribution as well as archiving and legal practicalities. You will learn how to design VST plug-ins for Digital Audio Workstations (DAWs) as well as understanding the practical aspects of live sound reinforcement and the technical application of acoustics to recording studios. There is also a strong focus on audio mastering and surround sound applications as well as integration of audio into video and computer games. You will have the chance to undertake work based learning with external companies and to apply for a period of study at the Harris Institute in Toronto.





## Computing (BSc/BSc Hons)

You will learn software development processes and technologies and how to design applications for the internet including web services and database systems. Acquiring in depth programming skills is a core feature of the course and to complement this you can specialise in a number of areas including network services, enterprise systems, web development and multimedia. You will learn how to use modern software modelling tools and development environments to assist you in analysis, design and coding tasks. Depending on the modules chosen you will have the opportunity to use Cisco hardware, Java software, Dreamweaver, SQL, Oracle, XNA Studio, Xara X, Flash and Lightwave. To enhance your employability there is the opportunity to undertake work-based learning as part of your studies.

## Information Technology (BSc/BSc Hons)

In this course you select from a range of core themes and specialist areas which include web development, multimedia, computer animation, music technology, computer games and business technology. You will be guided by academic staff on the particular modules available to you and how these may be selected to create a coherent programme of academic study. There is also the option to use our IT Academy vendor certified facilities from which you can achieve vendor accreditation as offered by Cisco, Microsoft and other recognised organisations.

# IT Academy Courses

Through its IT Academy, the School offers professionally certified computing courses which are internationally recognised. With up to 2000 registrations each year, the IT Academy is one of the top UK education-based providers of industry renowned IT training, offering vendor certification from the likes of Adobe, Cisco, CIW, CompTIA, IBM, Microsoft, Oracle and SAP.

Typically, courses are between 3 to 12 weeks long and are available in daytime, evening, distance-learning and online formats. These can be tailored and delivered either on campus or in-house to organisations, and are designed to develop your skills base in: web design and development, network implementation and administration, software development, server administration and IT support.

This allows companies to build core employability skills at the same time as allowing employees to gain industry recognised certification, for example, as a: Cisco Certified Network Associate or Professional, Certified Internet Web Professional, Microsoft Technical Specialist or Professional, Adobe Certified Associate, Oracle PL/SQL Developer Associate, Oracle Certified Java Programmer, SAP Certified Business Associate or IBM Certified Developer.

# Research Opportunities

After graduating many students decide they wish to pursue a career in research. Undertaking a PhD or other research degree provides an ideal start and here at UWS there are a number of research areas which students from our own undergraduate courses as well as those from other universities have joined. The research community in the School is a strong and vibrant one which is reflected in the high research rating it secured in the last Research Assessment Exercise, the national and international links it has developed with other institutions and the level of external grants obtained from public research bodies as well as from industry.

The main areas of research are:

- Applied Computational Intelligence
- ICT in Education (ICTE), including Web2.0 and Serious Games
- Audio-Visual Communications and Networks
- Databases and Knowledge Management

The four areas above are under the umbrella of the Centre for Creative Technologies and Applied Computing (C2TAC) which is the flagship research centre of the School.

# Digital Futures

Digital Futures has long been an established event in the School calendar and provides an opportunity for many of our final year students to showcase their work to outside organisations and employers as well as to fellow students and relatives. In recent years we've had representatives from BBC Scotland, SECC and Scottish Enterprise present as well as a full range of companies from the creative industries including Tern TV, Red Kite Animation, Playground Games, Inspired Gaming, Chem19 Studios, D8, Specialmove, Foundry Music Lab, Framestore, Double Negative and Wray and Entwistle.



The event also attracts external sponsorship from the likes of Mediaspec and Renfrewshire Chamber of Commerce, which has allowed us to offer prizes for the best final year student project in:

- Computer Animation
- Computer Games
- Music Technology
- Web and Mobile Development.

Some of the companies have been so impressed by the work of our students that they have offered internships or paid employment – it's easy to see why this event has become such a popular and high profile one with students!



# Facilities

The School has over 20 computing laboratories across the four campuses. A number of these are multi-function in that they are able to cater for the software requirements of a wide range of computing classes while giving students access to many applications that are used in industry. Other laboratories, however, are specialist in nature and are set up to deliver niche technologies, for example;

- Networking - students can set up a virtual multiple workstation network on a single PC so they investigate issues of administration, security and interoperability over different platforms. They also have access to a range of Cisco equipment for both class and project work.
- Games - students use our dedicated games studio for console development and implementing mobile platforms for Android and Apple applications. We have Mac Minis for iPod and iPhone work and students are also able to use our PS3 development kits – these units are in very restricted circulation and are only made available to ourselves because of our links with the games industry.
- Music Technology - students have access to two music studios. One is entirely digital and utilises Pro Tools, while the other is a hybrid unit with an analogue mixing desk feeding a digital signal path. Students also have access to a surround sound suite that is used for mixing audio and video for 5.1 applications as well as a large Mac based laboratory that is set up for post production, music composition and video editing purposes.

- Computer Animation - Students have access to animation studio facilities that include motion capture equipment, green screen facility, lightboxes and rostrum cameras for conventional animation. The animation lab computers have the latest software and dual monitors to streamline work flow. Students also have access to video and stills cameras.



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