BIRMINGHAM CITY University

COMPUTING AND DIGITAL TECHNOLOGY MINI LECTURES

ALL

An introduction to careers in computing, engineering and the built environment

If your students are interested in getting into science and technology, this talk provides an insight into the different pathways available, and the courses that will help them get there. If your students are interested in computing, engineering and the built environment, you can find out what types of jobs could be in store for them and what qualifications they may need.

COMPUTING

Careers in computing

This talk introduces students to the different computing courses available at Birmingham City University and provides guidance on which different areas of computing your students may wish to get into. It covers aspects of studying at BCU that may make your students more employable, such as placement options and work experience, as well as highlighting career pathways and earning potential.

Session dates are negotiable. For further information or to book, please get in touch via **www.bcu.ac.uk/schools-and-colleges**

Computing in Media

Did you know that there are many computing jobs in the audio and film industries? Not only this but creative industries often find it hard to attract experts in computing to their industries creating a demand for these skills. This talk explores the applications of computing in range of creative industries from programming a digital audio effect, training a computer to identify a sound or image or simulating the destruction of building in the latest Marvel film. In the School of Digital Media Technology, we have courses ideally suited to computing students wanting to use and apply their skills within the creative industry.

Cyber security

This talk looks at digital security issues raised within programmes such as CSI, including an engaging demonstration on a number of security flaws in wireless networks and on our computers. Not only for people studying computing/ICT subjects, this lecture will be of interest to anyone who wants to understand how the internet works.

Ethical hacking

Would your students like to understand the different approaches to ethical hacking and explore why we need to test networking and end systems for security? The session will look at some of the more common approaches to hacking and how to mitigate these within a network.

Computer forensics: forensics vs cybercrime

Posing new challenges to the police and intelligence agencies, the fight against cybercrime relies on forensics experts to analyse 'digital evidence' in order to bring criminals to justice. This interactive demonstration explores how digital devices are used by criminals, as well as the forensic techniques used to expose them.

The secrets that lie beyond

It's not always a case of what we see, but more what we do not see. The aim of this mini lecture is to demonstrate how data can be hidden inside data. Steganography is the art of hiding information in plain sight. Unlike encryption, where it's obvious that a message is being hidden, steganography hides data in plain view, inside a file such as a picture.

Computer networks and security

This mini lecture looks at how networks are created and addresses the importance of the security of our networks, from our own personal networks to huge networks in businesses. It also highlights and explores the threats that may be posed to them.

Business information technology session

Are your students interested in understanding business concepts and how IT can be used to serve business needs? Business information technology bridges the gap between IT and business, driving innovation and growth in modern global organisations. It embeds a systems philosophy of connectivity, to offer an in-depth understanding of business concepts, problem solving and the implementation of IT solutions.

Computer and data science

Data science has become a fundamental computing paradigm behind virtually every modern technological breakthrough. This workshop details the necessity of data science in the modern world, exemplifies its applications, and highlights the ever increasing demand for data scientists in industry, including a brief activity to introduce the nature of problems solved by the data scientists.

Computer Games Technology: game development with Scirra Construct3

Many of us enjoy playing games and wish we knew the secrets to making them. Exploring many disciplines including art, animation, music and programming, this session will give learners an insight into how games are constructed using simple fun game development tools.

Computer Games Technology: anatomy of a frame

Most computer games operate at 60 frames per second. This talk features a dissection of a single frame and what technology and techniques underpin the generation of the frame in the context of a AAA-title. This talk makes clear the necessary skills and knowledge to be successful as a developer in the games industry.

Computer Games Technology: develop an IDLE game with Unity3D

Incremental games are a genre of game where the gameplay consists of the player performing actions such as clicking repeatedly to earn reward. In some games, the clicking becomes unnecessary after a while and the game plays itself (hence the name "IDLE" game). Gain experience using an industry standard Game Engine - Unity3D to create a brand new IDLE game.

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How games are changing the world

Gaming is heavily influencing every industry and impacting the future. Director of Future Games and Graphics Carlo Harvey discusses how games are changing the world, explaining how video games are now bigger than music and movies combined and how to become a part of this exciting industry.

DIGITAL TECHNOLOGY

The art and science of video production

Art and science are intrinsically linked. Your students can explore how with a practical camera demonstration of the technology at work, and visual examples of the stunning images that can be created. This demonstration can be delivered on any of the following topics: exposure, shutter/framerate and lenses.

Focusing on image

This session explores the technical testing of images and students will experience demonstrations of how standard testing methods can be applied to image capture equipment.

Web technology: the career of a full stack developer

The ever-pervasive internet's popularity is built on sites that deliver content across a multitude of devices. The session will demonstrate the technologies and techniques that drive your students' favourite sites and the common problems web designers must consider when developing a web presence for a client.

Build your own universe: the power of 3D modelling

Have your students ever wondered what goes into building the 3D models you see in film, TV, or games? Enter the world of 3D modelling, where people have the ability to create anything they can imagine. Students must take account of real world physics if you want a believable construct.

Immersive technologies: augmented and virtual reality

Gaming has popularised AR and VR technologies, however, their applications extend way beyond these platforms. Students will see how cutting edge research is utilising this technology as well as its benefits in areas such as training and education to health and wellbeing.

How technology has evolved in the music industry

Course leader for Music Technology and Sound Engineering, Dr Islah Ali-MacLachlan discusses how perceptions have changed about careers in music, as well as the impact of technology on the industry. Those with a passion for music can explore how to turn it into a career, and discover the vast range of opportunities that could be accessed after studying a degree in Music and Sound.

How to get a career in visual effects

Course leader and Visual Effects specialist, Lianne Forbes, has worked on blockbuster films such as Harry Potter, Star Trek and The Amazing Spiderman! This talk covers what a Visual Effects specialist does and how this career can lead onto working on movies, games or even theme park rides. It also covers how to start a career within Visual Effects, Games or Animation and what our students have achieved on this course.

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