

# ENGINEERING AND BUILT ENVIRONMENT 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.

### **BUILT ENVIRONMENT**

#### Business and Law Skills in the Property World

Planning, constructing and managing places is big business. How do we decide what to invest in or calculate how much construction will cost to deliver good value? How does planning and property law, contract law, health and safety law help deliver projects? Your students can get an insight into the fascinating and well-paid jobs they can apply law and business studies to within the built environment while tackling some case studies.

#### Architecture: The Science and Technology Behind it

We've all heard of architecture and we've all admired amazing buildings. But what goes into making sure designs work and can stand up to the future? Students can learn about the profession of architectural technology, 'where science meets design' and discover what goes on behind the drawings to create well designed, sustainable cities.



#### **Building Smart Cities**

This session gets students to explore the things we often don't think of about how a city functions and the many different professions that go into that. From keeping traffic moving to making sure the lifts work, from designing skyscrapers to planning for healthy neighbourhoods - all the STEM subjects have a part to play.

#### An Insight into Careers in Property and Construction

Construction isn't just hard hats and muddy boots. Designing, planning, building and managing cities takes hundreds of different professions accountants, designers, lawyers, investors, managers, digital specialists, negotiators, planners, engineers and many more. Learn about what goes into making cities happen and the careers you could enter.

#### Business, Accountancy and Law in the Built Environment

Planning, constructing and managing places is big business. If your students have a head for figures and detail they could have a fascinating and well-paid career as a quantity surveyor. In this session, they will learn how skills in measuring, specifying materials, costing proposals and procuring contracts makes sure construction projects are designed to be good value and get delivered on time and on budget.

#### How do we Make Sure that Grenfell Never Happens Again?

In hindsight we think 'how could Grenfell have happened?'. Students will learn about how different construction, design and surveying professionals - as well as politicians and business people - make decisions about the design and construction of buildings. How could your students as a built environment professional play their part in making sure future buildings are safe and sustainable?

#### How Law Affects Construction

Imagine a construction project without laws. Would anything ever get built on time? How many contract disputes would there be? How unsafe would our buildings be? Would anyone get paid properly? In this session, students will explore some case studies and learn how planning and property law, contract law, health and safety law, building regulations and more affect every aspect of construction.

#### **Construction Management**

This course talk informs your students about the careers in the Built Environment and focuses on what it takes to be a construction manager. It covers the different requirements needed and different pathways to get into the role, as well as discussing the skills needed for the role and the careers it can lead into.



#### **Quantity Surveying**

This course talk informs your students about the careers in the Built Environment and the quantity surveying profession. It covers the different requirements needed and pathways available, as well as discussing the skills needed and careers prospects followed by an overview of the Quantity Surveying course at BCU.

#### The Planning Game: Geography and Politics in Practice

This game, designed by BCU for the Royal Town Planning Institute, gets your students hands-on with solving challenges about how we use land and about where and what we can build. Apply geography, citizenship, law and design thinking to deciding the future of the places we live and work in. Your students can find out what diverse careers a degree in property development and planning can lead to.

#### What Makes a Good Property Investment?

In this session, students will learn about what property professionals consider when investing in property. How do they decide on a site, look at refurbishment or development options, finance mechanisms and long-term strategy to make property investment pay? The session will also cover some of the exciting and well-paid careers in property you can follow.

### ENGINEERING

#### **Engineering at BCU**

Do you think your students might like to go down the engineering pathway? This talk introduces students to the different courses that they may want to take, career opportunities in the sector and areas they can explore while at university that will look to increase their employability. It covers what it takes to get onto engineering courses and what they can do when studying.

# Engineering/Formula Student: How do you Design and Build a Car in one Year?

Where do you start when organising a project of this scope? What issues do designers face and what tools are available for them to use? This mini lecture enables students to find out from industry experts about how these skills relate to the 'real world' and the engineering industry.



# Engineering/Future of Visualisation: Virtual, Augmented and Mixed Reality at its Heart

Technological advancements in hardware are increasingly enabling people to play games, collaborate, construct innovative ideas, design products and shop in a fully immersive learning experience. We often assume that these technological advancements are delivered solely by innovators in research labs. In fact, several of the most pioneering ideas came from those with little experience of science/technology. This session explores recent advancements, like smart glass, demonstrating that future technologies may be closer to science-fiction than people think!

#### Micromouse

This activity will develop your knowledge of electronics and engineering, as you experience how to create a functional micro-mouse robot through circuit building, coding, soldering, and using open-source electronics platform Arduino.

#### Introduction to Civil Engineering

Civil engineers design and construct anything from buildings and bridges, to dams, power stations and motorways. This mini lecture will introduce you to the key concepts used in this field of engineering and highlight the collaborative nature of the work that takes place.

# How the Subjects you Study may Lead you to Careers in the Built Environment

This talk guides students through the different subjects they may study at school and how their interest in these may lead them into the many careers in the built environment - from architecture, to construction to real estate.



