National Careers Service™

Employer Spotlight

BUROHAPPOLD ENGINEERING

"Potential engineers need to have an inquisitive mind, a can-do attitude and a desire to improve their knowledge"

Introduction

I am a Chartered Civil Engineer and have been working with BuroHappold Engineering since I gained my first class honours degree in Civil and Environmental Engineering at Imperial College London in 2007. BuroHappold Engineering is an independent, international engineering firm with a reputation, built up over the last 40 years, for delivering creative, value led building and city solutions for an ever changing world. I work on infrastructure projects with a water input, looking especially at the role of water in engineering from the cloud to the coast.

Image: Duncan Ker-Reid, Civil Engineer - Burohappold

How did you get started in your career?

I took what I suppose is the clichéd approach: studying maths and physics at A-Level, then going to university to do a 4-year master's degree in Civil and Environmental Engineering. Along the way I spent some time at a number of engineering related businesses during the summer holidays and joined BuroHappold as a graduate following the completion of my degree.

Can you outline a typical work day?

Most of the day is spent working with my team to find creative but deliverable solutions to the challenges associated with the particular project that I am working on, e.g. how to deliver an efficient and fully integrated water network for a new city or engineer a parkland space to capture flood water and reduce the risk of flooding to housing.

What do you enjoy most about your job?

I enjoy having a real contribution towards addressing the challenges affecting the world today for example the availability of valuable resources such as water or the impact of climate change and urbanisation.

What skills are important for anyone wishing to start in your profession?

Problem solving is at the heart of engineering, and leveraging the relevant skills and knowledge is an important part of that. Typically, this will come from a good mix of mathematics, science, spatial reasoning and logic but also from areas such as geography and computer science. Graduate engineers would typically enter the business with a BEng or MEng degree whilst engineering technicians would typically start after A-Levels with the commitment to continuing in part-time further education.

What main personal attributes do you think is important for your type of job?

Potential engineers need to have an inquisitive mind, a can-do attitude and a desire to improve their knowledge and experiential learning. Engineers work as part of a multi-discipline team so good collaboration and communication skills are also an important part of the overall skillset.

Do you have any tips or suggestions on how young people and adults can enter your industry?

Civil engineering is a broad career covering many aspects of the built environment and requiring inputs from a broad range of professionals. Try and broaden your knowledge of civil engineering through further reading, talking to engineering professionals or through work experience programs to understand where you could potentially add value.

What career progression opportunities are available in your business/sector?

Young engineers typically start working on individual aspects of projects, contributing to the overall design solution as part of the wider design team. Progress is with experience and professional qualifications through to providing technical, project and team leadership for a range of projects with increasing complexity.

Why is it important for your sector to attract and train young people and new entrants?

Issues such as climate change, urbanisation and scarcity of natural resources are long term problems so the industry needs continual input of energy and fresh ideas from new entrants who are willing to contribute to tackling these issues over the next 10 or 20 years.

What trends do you predict for your industry within the next 10 years? E.g. is it a growing market requiring more young entrants

The increased influence of technology on engineering including partial automation of analysis and design will shift engineers away from basic process and towards critical thought and the application of engineering principles.

General words of wisdom

Engineering is usually associated with those who excel in maths and science and this has often put possible entrants into the profession off. With many routes into the profession, there will be a route more aligned with an individual's aspirations and capabilities if they do not fit this 'typical' candidate mould.

Further contact/information

If you are inspired by Duncan and would like to get in touch with him, please email inspiringsouthwestncs@prospects.co.uk with your enquiry and we will pass on your contact details.