

Case Study: Internship

Peter Nugent, Third Year Civil Engineering Student

Which company did you undertake work experience with?

Buro Happold

How did you go about finding the internship?

It was advertised in the civil engineering department by one of the lecturers, the summer placement was arranged through the Happold Trust.

What was the timescale for your application?

I started applying in October, I applied to at least 20 companies. In particular, the Buro Happold application started in October and I sent it off in January. I got a reply in March after an interview in February.

What was the application and interview process like?

The first step was an application was a few questions. The interview was half an hour long, there were a few standard questions such as why I want to work there. They also asked what department I wanted to work in. There was a discussion about where I had travelled, where I wanted to travel and a few of my extracurricular experiences. In particular they were interested whether I would continue being a STEMNET Ambassador or continue doing similar work when I graduated. The final part of my interview focused on writing for the Civil Engineering student newspaper (LIVIC), they thought it was quite interesting and quite impressive. I even sent them a few articles to read after the interview which they commended me on.

How big was your team and where did it sit in the organisation?

I worked in the bridges team; it was a relatively small team of 12 people. However, we had plenty of work and for such a small team I felt we were very efficient. It was under the Energy and Infrastructure sector, but we acted as our own department procuring jobs specifically for bridges.

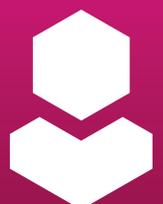
What was your role and what did it involve?

My role was being an engineer essentially, I got given all sorts of different types of work, and it was my first time working in a civil engineering office. Initially I started with a precedent study for a bridge. I then designed temporary foundations, this was actually really similar to what I had done in coursework for my Concrete Design and Geotechnics modules, so I was not out of my depth but there were some aspects I were



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introduced to that were not covered. I was able to use modelling software (LUSAS) to conduct a comparative study between two different bridge types for a current project; it was not too different from the finite element packages we learn on our course so the previous experience proved beneficial. There was not a point where I felt I was out of my depth so I guess I owe that to the civil engineering department!

The work was really split in to three categories, I would be doing calculations or modelling, design notes (internal notes explaining what I had done) or producing drawings on AutoCAD. The projects I was involved in were coming in at all different stages of the project, so we were not necessarily involved in a project from start to finish (although for some we were). This surprised me as I always imagined being involved on projects from start to finish, what I learnt was that my team took on a variety of different work, sometimes it was just a small ramp or a large bridge which was part of a master plan.

Throughout the 8 weeks I felt like I was being given more and more work, and I was being trusted with more complex jobs. By the end of it I was producing drawings on AutoCAD and exporting images of my model on LUSAS, and within minutes it was being sent off to architects. So my work was being trusted to be sent out externally which I felt was a good progression over the 8 weeks.

What was the most valuable thing about your work experience?

The most valuable thing I learnt is that it is ok to ask questions, no matter how silly or stupid you may think they are. When I first started I was quite nervous to ask questions, I thought it would look bad on me, and people may think I can't work independently. However, I observed the rest of the team and from the Partner all the way down to the Graduate Engineers people were asking each other questions. It was impossible to know projects inside out, so there were times I even got to explain a project to a colleague. Also, some members of the team knew more than others, one of the Graduate Engineers was really good at early age thermal cracking and really familiar with the standards and codes for it, one of the Senior Engineers was really good at dynamic analysis; so they would be the go to people for those types of questions.

There were also times when sometimes you can't just grasp a concept, so it is good to discuss it with a colleague to help make sense of it. I was involved in a few of these brainstorming sessions where we would sit down on a table, sketch out ideas and just throw out suggestions. What made this all possible was the office environment; we had a nice open plan space, a small team and an environment where people were encouraged to work together. The London team had 400 people and I felt this was a healthy size; if you wanted to get in touch with someone there was always someone around who them. There was an occasion where the CEO recognised me from an event at Imperial and we had a quick chat - I don't think there are many other businesses where that could happen!

Do you have any tips for future Imperial students looking to make the most of their summer?

Make the most of it. It's as simple as that, you can sit there and coast; no one is going to check up on you or keep tabs on you, but you will just be wasting your time. I was really lucky that this summer there was a massive influx of projects for me to work on; you may not be so lucky but make sure that when work for you comes along that you do your best on it. There were times where the person I was working for would be busy or not at the office, so I would challenge myself to think "What are they going to ask me to do next?", "Is this piece of work clear enough for someone else to use?" and "Have I explained and summarised it in a design note?" There is nothing more satisfying than the person who assigned you work asking to do another task and you being able to tell them you have already done it or that your worked exceeded what they were expecting. Also, at the start it may seem like you are being given easy work that anyone could do, just make sure you complete it to a high standard. As the summer progresses, if you are doing good work you will be trusted with harder and more important work. I just thought of the first few weeks as my team seeing if they could trust me. Sure, I'm studying a civil engineering degree, but they don't know what I'm good at or where my weaknesses are. Those first few weeks will give them an idea, so make sure as hard as you can so that they can trust you with more work.

On a related note, work smart. The manager of my team was the person on the team everyone looked up to; he was always on top of things because he always worked smart. He would come in just before 09:00 and he would never leave later than 18:00 because when he was in the office he worked smart and he worked hard. This set a great example for the rest of the team because you didn't feel like you had to pull ridiculous shifts because your manager is doing so, but you worked hard during the day just like he did.