



Case study: T Level Science industry placement at Innospec

Innospec provides chemicals, additives, and formulations for many different markets, including agrochemicals, construction, fuels and home care, metal extraction, oilfield, personal care, polymers and waxes. To do this successfully, there's a need for a knowledgeable and technically skilled team of scientists – and with an ageing workforce there's a clear need to attract young talent. Apprenticeships are part of the solution, but T Level Science is an important part of the strategy to recruit young people into these crucially important scientific roles.

Mark Goodwin manages the Analytical Science Laboratories at Innospec, and he identified T Level Science students as a key piece in the recruitment jigsaw:

“We wanted some younger blood in the section... and we thought it fitted in nicely with our apprenticeship schemes. We could give the T level students some experience in our labs and also it might be a kind of feeder into our apprentice scheme if we found any suitable candidates.”

Jacqueline Reid is the research manager for the Fuels group at Innospec. The group synthesises molecules and comes up with new products for the business. These two arms of the company – the research and the analytical – provide great opportunities for students to gain experience in different scientific roles. And Jacqui and Mark collaborated with Birkenhead Sixth Form College to put together a recruitment process that suited them and gave them a choice of applicants. Jacqui says:

“We put together an advert and then the students have selected the ones that were most aligned to what they wanted to do. And we interviewed three and we had two placements, so we then picked the two that we thought were the best, although to be honest, all three of them would have been fine.”

With safety in the labs of paramount importance, Mark and Jacqui made sure that appropriate supervision was in place at all times. In fact, under-18s are not allowed to be in labs at Innospec unless they are supervised, so this was an early consideration in planning the placements, as Jacqui explains:

“We assigned supervisors in my area and in Mark's area and then we just treated them like a new member of staff. So, they went through the exact same training that a new member of staff would have in terms of all the safety aspects. And then obviously, they just needed a little bit more support.”

Existing team members shared day-to-day supervision, and this worked well. Jacqui and Mark also worked together before the placement began to plan a project for the students that allowed them to gain valuable experience in both the research and analytical labs. On the research side, this included literature reviews, working through risk assessments and thinking about how specified molecules could be synthesised before moving on to complete practical tasks - for example, weighing, pipetting, mixing



and heating samples. In the analytical lab, students were able to use some quite sophisticated techniques including gas chromatography and mass spectrometry, as they analysed different molecules. Their experience in both labs gave them valuable understanding. Mark says:

"We're really hot on the science in this building as well. So Jackie's group explained all the background on the science and the synthesis, and our group will have done all the background on the instrumental techniques and understanding the fundamentals of the analytical that they were doing as well at the same time, because we think that's really important."

The placement project was clearly planned and defined. The students were assigned a set of molecules that the company had identified as being of genuine value to the business and appropriate research and analytical tasks were scoped in advance.

Jacqui recommends a carefully planned approach to organising placement activity:

"Really think about what you can get somebody to do, that isn't an urgent sort of bit of work - something that you can maybe spread out over the period of the placement and really think about it up front so that it gives it gives the student a good understanding of science in industry... And understand who's going to be looking after them at each stage so that there aren't any surprises"

Mark adds:

"I think they feel as if they were doing something that actually has some value because they were doing a piece of work that we had struggled to resource in the past... So... plan ahead, look to have something that they can do, that's actually valuable to students and to the employers. And then make sure you understand what resource is going to be required as well."

Additional benefits for the company included career development for existing members of staff, who gained mentoring and supervisory skills through working alongside the students. These students were younger than the apprentices that team members were more used to sharing a lab with, but they acquitted themselves well. Jacqui says:

"They became more rounded people and they gained in confidence... they came in at 16 or 17 and they were quite quiet and reserved and then they fitted into a group of scientists and came out of their shells a little bit..."

"We were probably pleasantly surprised as to how much science had already been done through the college."

After the success of these placements, Innospec will be offering a similar experience to T Level Science students in the future. They have also asked one of their first T Level students to join them as an apprentice.