

DELIVERING NEXT-GENERATION CLINICAL RESEARCH SCIENTISTS

Cranfield University embeds SAS® in a clinical research MSc, providing high calibre scientists for industry

Business Issue

Providing life sciences and pharmaceuticals with expert personnel who combine technical and computing skills with scientific skills, and making graduates more employable.

Solution

Consistent support from the SAS Academic Programme in setting up and delivering the MSc in Translational Medicine, arming students with industry-leading expertise to manage clinical trials.

Benefits

Giving industry the skilled people it needs, providing graduates with more job opportunities, and helping speed up the process of transforming laboratory findings into new ways of diagnosing and treating patients.

Life sciences and pharmaceuticals place a premium on staff with great clinical research skills. But how can you ensure people entering the industry have the right expertise? Especially since, today, this includes knowledge of SAS®, the de facto standard for data management, analytics and reporting in clinical studies. In 2003, Cranfield University began providing students with these sought-after skills.

“The MSc gives people the expertise to manage clinical trials, including the use of SAS,” says Dr Sarah Morgan, Lecturer in Molecular Medicine at Cranfield Health and Course Leader. “The course was developed in conjunction with the industry, and we worked with SAS in setting-up the course then delivering it over the last few years.”

The MSc launched in October 2003 with 18 students. Since then, successive years have averaged 12 to 14 full-time students and 2-3 part-time students. In total, more than 40 students have completed the MSc – the course has a 97.5 percent success rate – with the vast majority of those, some 95 percent, soon taking up jobs in industry or further academic studies in a related field. “We are very happy with how our relationship with SAS has developed, and with the results we get,” says Dr Morgan. “Our graduates enter the job market fairly soon and take up jobs in a range of organisations – from training CRA positions to clinical trials management, regulatory affairs, clinical writing posts and project management.”

From lab bench to hospital bed – faster

Launched in 2006, Cranfield Health is the most recently established of Cranfield University’s schools. It focuses on research, education and consultancy to provide new solutions for the health sector. A forerunner to the school, Cranfield Biomedical Centre, spearheaded the University’s expansion into biomedicine and health that included the MSc in Translational Medicine.

Translational medicine covers the transformation of lab findings into new ways to diagnose and treat patients – and the drive to speed up the move from lab bench to hospital bedside fuelled demand for a new breed of professional able to bring research closer to commercial technology. This is where the MSc and SAS came in: delivering scientists competent in study design, protocol initiation, study management, data analysis and regulatory submission. And the benefit to students was clear: enhanced employment opportunities with pharmaceutical companies, contract research organisations, the NHS and academia.

Attracting students

“The MSc grew out of our research and from discussions with companies and sponsors,” says Professor Anthony Woodman, who set up the course and is now Director of Education.

“In diagnostics and pharmaceuticals, organisations could find people with technical and computing skills, or

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scientific skills. However, a combination of these appeared rare. Companies can invest a huge amount in clinical trials but then find a shortfall of talented people to undertake them.” As course content was discussed, it became clear SAS would be a key element. Prof. Woodman continues, “Many, many job advertisements mention SAS skills and experience as ‘essential’ or ‘preferred’. It was obvious SAS had to be involved. Sometimes you don’t see real buy-in from a supplier but that’s precisely what we got from SAS. Its people were very proactive in suggesting new approaches and ways to work – that meeting of minds was critical to our early success.” The students all have a first degree in areas such as biochemistry, biomedicine, pharmacology and medicine, and most have experience working in a related discipline. All want to move from bench-based to patient-based research.

SAS® – a course essential

“The SAS element has evolved since 2003, along with other aspects of the course,” says Dr Morgan. “For instance, building on the lectures by SAS tutors in the first year, the second year saw us bring in real-life data from industry partners and developing more specific exercises. Having real clinical and pharmaceutical data to work with made a big difference. We also started using SAS in statistical analysis. That changed how we taught things. The course definitely improved.

“Year after year, the support from SAS has been very good in the two Experimental Methodologies modules it’s involved in, which cover data handling and data analysis. We have many of the same SAS tutors each year, which is useful in terms of how they see the MSc developing, as well as new tutors coming in. They all provide feedback. And once a year I meet with people from the SAS Academic Programme between courses to discuss how things are going and plan requirements for the next year.” SAS UK provides additional ideas and has also helped recruit students onto the course.

“If students haven’t worked with something like SAS before it can be quite challenging, so we want to make it easier.” Dr Morgan continues. “The SAS element is very different to the other course modules and we don’t want students to panic if they’re unfamiliar with working with data and statistics. We want to lead the students through the process during the two-week SAS modules. While students can still find it challenging, we’re definitely not seeing them panic. The SAS tutors provide specific exercises, relating SAS to clinical data and research activities, and help the students put it all in context.”

Bridging a gap

SAS Certification, at one time compulsory, is now optional. “We examine students internally but they can also take SAS Certification,”

says Dr Morgan. “A number decide to do this and, generally, they pass. I think they recognise that in the job market, certification could give them an edge over other candidates.

“The MSc bridges a gap, in terms of providing industry with people who have the right mix of skills. The main issue is people working in silos, who may be great in a specific area but don’t have broader expertise. Our graduates are not only very proficient in specific areas but also have a good overview of clinical research and requirements in general, including SAS. We know we’re following the right approach, from our students’ experiences on industry placements to produce their personal research projects, and later when they graduate. “A student said recently that a recruitment agency was very interested to see SAS experience on their CV. Even if students don’t become SAS certified, the course gives them SAS knowledge. And over the last few years, students have come back from their placements having used SAS in the workplace. The placements are a major part of the MSc, and we have good links with companies like Quintiles to support this each year.

Dr Morgan concludes, “Education is a big part of Cranfield Health, as we work to look at healthcare and health solutions in a joined-up fashion. SAS technology is an important part of the MSc course – and we value our relationship with SAS.”



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