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# Novel work-based learning courses in analytical sciences

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## **Novel work-based distance learning courses in Analytical Sciences.**

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The Open University (OU) is well known for the delivery of world class distance education. From 2010, the OU offers a new Foundation Degree in Analytical Sciences, developed to enhance the skills base of the workforce in analytical laboratories. It allows students to earn and learn simultaneously without taking time off. Students are sponsored by their employer and supported by an OU tutor throughout the four years of part-time study. 25 per cent of the degree comprises two work-based learning modules where the students learn in their laboratory setting and additional support is provided by a work-based mentor. The degree is interdisciplinary in approach with opportunities for specialisation in chemistry or biology.

The first work-based module *Analytical Sciences in Practice* is central to the Foundation Degree and it is delivered primarily over the web with supporting text material. This course has been developed in consultation with the UK water industry and the Drinking Water Inspectorate that regulates public water supplies in England and Wales, and also consultants from the pharma and petrochemical industries. The course develops practical skills and understanding of the science underpinning analytical work. Students will learn information technology skills necessary to operate effectively in the modern workplace, and the numerical skills to carry out the calculations required in their job with accuracy and confidence. The module explains the regulations and science for safe working, enabling students to become safer practitioners. Considerable emphasis is given to understanding the importance of producing 'fit for purpose' analytical data and appreciating the need for quality assurance. Basic laboratory operations and techniques are developed using video clips and interactive assessment. Effective teamwork and communication are vital in an analytical laboratory and the course will help improve an individual's proficiency in these areas. Finally, problem-solving skills are developed, alongside learning how to make evidence-based decisions. The second work-based learning module *Developing your Analytical Science Practice* is currently being developed along similar lines to the first module.

Responsibility for learning is shared between the employer and the OU. The OU provides study materials and on-line tutorial support and manages the assessment procedures. The employer substantially manages the work-based learning on the programme and is responsible for assessing student's competence to practice. The employer must guarantee to provide students with an appropriate physical environment in which to undertake their studies and a named workplace mentor. There are one-to-one meetings between student, OU tutor and workplace mentor and also OU tutors and mentors have informal contact throughout the course. The OU is also able to offer support in training staff identified as practice assessors in the workplace. The student remains in employment while they study.