

[P21] A virtual institute of interdisciplinary innovation

Tania Burchell

i-Science Centre
University of Leicester
i-science@le.ac.uk

Mission Statement

We aim to provide an active research and teaching institute within a research university for innovating the doing and learning of science via the modern interconnections of its disciplines and society. We network scientists across the disciplines, support interdisciplinary research and innovative teaching methods in the sciences, and host events for businesses and the public to engage with communicators of modern scientific issues.

The University of Leicester's Centre for Interdisciplinary Science is a virtual institute of self-selected researchers and lecturers from our Faculty of Science and the School of Biological Sciences. Members collaborate on innovations in teaching, interdisciplinary research and outreach programmes with schools.

Due to its broad base of representation, the Centre is positioned to tackle wider scientifically-related issues facing the University, such as carbon dioxide reduction mandates and diversity of participation in science.

TWO UNDERGRADUATE INTERDISCIPLINARY SCIENCE COURSES

The Centre hosts two new, and thus far unique to the UK, undergraduate courses in Interdisciplinary Science. The BSc serves students looking for a science path in university that



'I-Science is the future of science and the future of learning.'

*Professor Ken Fogelman, Founder
British Educational Research Association*

prepares them for non-research careers. The MSci is for students who desire careers in cutting edge science research.

These courses are *not* lecture-based but use the strengths of Problem-based Learning (PBL). Centre researchers pose real-world interdisciplinary problems to small teams of undergraduates and give them access to experts, resources, labs and fieldwork opportunities for investigation of the issues within those problems.

After paced and facilitated research, teams deliver a final product in one or more media.

There are continuous and on demand PBL lessons in maths, communications skills and useful software, including Microsoft Office suite.

'This is an excellent initiative that will benefit industry.'

*Cedric Brown
Former CEO of British Gas*

PREPARING STUDENTS FOR CAREERS

Our I-Science students quickly develop as science researchers early in their first year on the course, and they learn to own their time at the University as active, enthusiastic and confident problem solvers. It is inquiry and interest that drive the I-Science students' direction of learning, and therefore we find the students are strongly motivated in their coursework and their professional growth.

This student-centred interdisciplinary science course naturally prepares graduates for jobs not only in cutting-edge science research but also in teaching, management, communications and enterprise. The Centre's partnerships offer added support.

PARTNERSHIPS IN DEVELOPMENT AND INDUSTRY

The Centre has a diverse Steering Committee and Advisory Board and welcomes new members. The Centre is responsible for the development of innovative teaching of physics in modern contexts for one of the University of Leicester's new Centres for Excellence in Teaching in Learning initiatives. Other current partners include Café Scientifique and the UK Resource Centre for Women in Science, Engineering and Technology.

SHARING THE MODEL

The enthusiasm of our members and the quantifiable successes of our students is compelling. We feel that partnerships may help others explore options for teaching

undergraduate science as well as help us to iterate and improve existing courses and develop future postgraduate or Distance Learning options.

If you would like to know more, please contact us.



'I thought before that science was not too much fun, but it has to be done. Now I think it's fun when it's for a real life purpose.'

'I have learnt how to communicate with others and how to state my opinion as well as taking into account others'.

'I-Science is interesting and worthwhile – I feel it is an excellent course!'

Year 12 students from I-Science Taster Day