

# Imperial College London New Approaches Case Study

## Main Approach: Project work and interdisciplinarity

### Imperial College London

#### Programme

I-Explore

#### New Approach

Multidisciplinary Projects and STEMM Modules.

#### About the programme

We want to prepare our students to meet the challenges of a rapidly changing world by giving them educational experiences, skills and knowledge that goes beyond the traditional limits of a university curriculum. We aim to do this through our I-Explore programme. This is a college-wide initiative that will enable all undergraduate students (starting at Imperial from 2019/20 onwards) to take a five ECTS for-credit module as part of their degree but outside of their main subject of study.

Named for the interdisciplinarity and breadth of modules that will be available, I-Explore will encourage students to strengthen their competency in at least one of the following areas:

- Working effectively in diverse teams and across disciplinary boundaries.
- Approaching challenges with curiosity, critical thinking and creativity.
- Innovatively applying their skills to tackling complex real-world problems.
- Understanding and valuing different cultures and perspectives.
- Developing into independent learners with high self-efficacy and identity.
- Supporting the development of their communication skills in a variety of settings and for different audiences.

#### Overview of the new approach

I-Explore modules will be grouped into four streams, two of which exemplify a new approach:

- The Multidisciplinary Projects stream will bring together students from different departments and faculties to work collaboratively on projects, providing them with the opportunity and space to explore an idea, create a prototype or solve a problem together. The stream will explore dynamic approaches to group formation, using pitch and matching events, enabling students to come to the module with both prior projects that they wish to develop further or brand new project opportunities. During the module, which will run over a single term, it's envisaged that students will engage in an exploratory approach, structured in phases of discovery, definition, development and delivery.
- The STEMM Modules stream will provide students with an opportunity to study topical areas of science, technology, engineering, maths or medicine that are being pioneered by our researchers but do not currently feature within their

degree programme. It is anticipated that the modules will have no pre-requisite requirements, and so will be accessible to students from any department and faculty.

The remaining streams will build and expand on already established provision at the College – Imperial Horizons and Business for Professional Engineers and Scientists.

### **Leading and managing the change**

The changes have been made possible through a college-wide exercise to review our curricula across all programmes, which has resulted in I-Explore being embedded into every undergraduate degree. This exercise forms part of Imperial's overarching learning and teaching strategy, which is championed by the Vice-Provost of Education and supported by a significant nine-year investment plan.

A governing group has been established to implement the vision for I-Explore, providing strategic oversight of the development and delivery of the portfolio of modules and ensuring alignment with both the learning and teaching strategy and the principles of I-Explore. The group is chaired by the Assistant Provost (Learning and Teaching), a new senior role which was specifically created to help lead on the delivery of the learning and teaching strategy.

Two academics have been appointed to lead on the development of the multidisciplinary projects and STEMM Modules portfolios, working with academic colleagues across the college to develop modules within their respective streams. The Multidisciplinary Projects portfolio is led by Professor Peter Childs, the first Head of the Dyson School of Design Engineering at Imperial and Professorial Lead for Engineering Design.

These leads will work in collaboration with the leads of the already established Horizon and BPES streams to build a cohesive and holistic offer that will allow our students to explore a new subject area.

### **Benefits of the new approach**

Imperial is committed to providing a broader and more inclusive education experience for all students. The development and delivery of I-Explore will make a significant contribution to helping us realise this ambition.

The streams will provide students from the Faculty of Engineering with an opportunity to collaborate with and learn from their peers from Faculties of Natural Sciences and Medicine, and apply their knowledge in new contexts.

As described earlier, we hope that through I-Explore students will strengthen their competency in at least one of the following areas:

- Working effectively in diverse teams and across disciplinary boundaries.
- Approaching challenges with curiosity, critical thinking and creativity.
- Innovatively applying their skills to tackling complex real-world problems.
- Understanding and valuing different cultures and perspectives.
- Developing into independent learners with high self-efficacy and identity.
- Supporting the development of their communication skills in a variety of settings and for different audiences.

### **Making the changes: learning points**

Input from students and staff has been vital in shaping the vision for I-Explore and will continue to be as we develop the portfolio of new modules.

As described earlier, embedding I-Explore into every undergraduate degree programme has been made possible through a college-wide exercise to review our curricula. This has provided departments with time and support to review their programmes and create a five ECTS space for I-Explore.]

### **Quotation from student**

“As part of the learning and teaching strategy, and in partnership with Imperial College Union, Imperial College is developing the I-Explore programme with the aim of enabling students to explore new disciplines and develop transferable skills. With research and industry becoming increasingly multidisciplinary, the STEMM Modules and Multidisciplinary Projects streams are particularly exciting as they will enable students from different disciplines to work together in new contexts on real-world challenges. The four I-Explore streams will offer students a huge range of modules to choose from, providing them the opportunity to tailor their experiences to their individual interests.”

Alejandro Luy, Imperial College Union Deputy President (Education) 18/19 and MEng Mechanical Engineering Graduate.

### **Statistics**

[This is a new programme which will be available to students starting undergraduate degrees at Imperial from 2019-20 onwards. It is anticipated that the first I-Explore Multidisciplinary Projects and STEMM modules will be delivered from 2020-21 onwards.]