School of Chemical Sciences

Structured Doctoral Pathway 2021-22

School Overview

The School of Chemical Sciences possesses an outstanding track record for postgraduate research, currently home to more than 60 postgraduate students engaged in research-based M.Sc. and PhD programmes, in diverse fields. These range from the development of chemical and biological sensors and intelligent materials, to drug design and discovery, and advances in science education. The School houses a suite of state-of-the-art research equipment including high resolution electron microscopy and a range of both mass and magnetic resonance spectrometers. It is one of the most successful Chemistry Schools in Ireland for attracting large-scale research funding, with our researchers having significant roles within a number of recently established, nationally significant university/industry collaborative initiatives, including biomedical diagnostics, biofermentation process analysis, separation science and marine monitoring.

The School of Chemical Sciences structured PhD programme is tailored to the needs of the School and its postgraduate students. It is a student-centred, flexible, research-focused programme, which aims to provide SCS students with discipline-specific knowledge, generic skills and autonomy to augment and support their postgraduate research. Within the programme, with their supervisor's guidance, students can undertake a range of modules across multiple subject areas, developing both scientific and generic skills. This allows our students to create truly individual and personalised PhD programmes, tailored to their specific needs.

Pathway Structure

The student's original research presented as a written thesis is the sole means of assessment for the award of PhD. In addition, PhD students will also normally have accumulated 30-50 taught credits. M.SC. students will have accumulated at least 20 credits. Modules will be taken from the current GTE (Graduate Training Element) offering within the Faculty. Additionally, appropriate level 8 modules may also be taken, in discussion with the student, the supervisory panel and the module coordinator.

Normally students will take 10 credits each year for years 1-3, with year 4, if appropriate, focused exclusively on their research.

Students will normally take approximately two-thirds discipline-specific modules and one-third transferable skills/language modules.

The individually-tailored structured pathway for each student should be discussed and agreed in the first instance with their supervisory panel and progress recorded on the annual PGR2 form.

Once approval from the supervisor has been granted, students should register for their approved Faculty GTE modules during the online registration process. However, if you wish to take a non-FSH GTE module you MUST first email the module coordinator listed to check that you are eligible to register for this module, then email **science@dcu.ie** providing:

- confirmation and proof of approval from module coordinator
- module code and title
- student id number
- qualification code

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Discipline Specific Skills

Tutoring Modules

- GS602: Postgraduate Tutoring Principles and Practice (5 ECTS)

Analytical Science Training

- BE536: Precision Medicine II (7.5 ECTS)
- BE516: Bioseparations (5 ECTS)

Bio-based Training

- BE517: Recombinant DNA Technology (5 ECTS)
- BE533: Gene Cloning and Gene Expression 2 (5 ECTS)
- BE570: Computational Science (5 ECTS)

Physical Science Training

- MM600: Labview, Data Acquisition, Analysis & Control (7.5 ECTS)
- PS522: Microfluidics 2 (5 ECTS)
- PS523: Applied Spectroscopy 2 (5 ECTS)

Transferable Skills

- TP602: Research Ethics (5 ECTS)
- GS606/A: Enterprise Experience for Graduate Research Students (10 ECTS)
- CS608BS: Strategies for Academic Writing (5 ECTS)
- Research Integrity Online Training Module (Natural and Physical Sciences stream) (non-credit) (obligatory in Year 1)

Students are encouraged to take additional training opportunities offered by the School and GSO as appropriate throughout their PhD.