School of Computing

Overview

The School of Computing is a stimulating environment for research, particularly in the areas of localization, data analytics, software engineering, scientific computing and cloud computing. It currently has 75 postgraduate research students and a wide range of funded projects at national and international level.

This document details the structured doctoral pathway for the School of Computing in DCU. While the main focus for each research candidate is to complete a piece of original research presented in thesis format, students are also supported in developing a range of skills and competencies through taught modules and other learning opportunities.

Selection and Registration

During their registration, all research students may take a mix of credit-bearing modules (Graduate Training Elements or GTEs), and other non-accredited education opportunities such as workshops, seminars and short courses. These opportunities provide both discipline-specific and transferable skills and knowledge to support students in their research and enhance their research qualification. Engagement in these activities is an important aspect of the graduate researcher experience.

Students following the structured pathway must attain a minimum of 20 credits in accordance with university structured PhD requirements. Students should take at least one module each from the discipline-specific, and transferable skills lists of modules.

Progression

The structured pathway for each PhD student should be discussed and agreed in the first instance with the supervisor and progress recorded on the annual PGR2 form. Students should register for their approved GTE modules during the online registration process.

Induction and Training

Students are encouraged to take advantage of the additional training opportunities offered by the Graduate Studies Office (GSO) and by the School as appropriate. All students are required to attend the orientation and induction sessions organised by GSO during year one. GSO communicates details of their training schedule to each student at the beginning of each semester. First-year students are also required to take the Online Research Integrity Training module during year one of their studies.

Structured Doctoral Pathway 2022-23

Core Discipline Specific Modules

(7.5 ECTS unless otherwise stated)

- Systems Software - **CA644** (Sem 1)
- Cryptography and Number Theory - **CA642** (Sem 1)
- Secure Programming - **CA647** (Sem 1)
- Formal Programming - **CA648** (Sem 2)
- Software Process Quality - **CA650** (Sem 2)
- Network Security - **CA645** (Sem 2)
- Mathematical Methods /Computational Science - **CA659** (Sem 2)
- Statistical Data Analysis - **CA660** (Sem 1)
- Data Management and Visualisation - **CA682** (Sem 1)
- Data Analytics and Data Mining - **CA683** (Sem 2)
- Machine Learning - **CA684** (Sem 2)
- AI, Information and Info Seeking - **CA652** (Sem 2)
- Data Analysis and Machine Leaning - **EE514** (Sem 1)
- Computer Vision - **EE544** (Sem 2)
- Advanced Topics in ML - **EE613** (Sem 2)
- Foundations of Artificial Intelligence - **CA686** (Sem 1)

Core Transferable Skills Modules

(7.5 ECTS unless otherwise stated)

- Professional Research Practice - **CA640** (Sem1)
- Postgraduate Tutoring Principles & Practice **GS602/A** - 5 ECTS (Sem 1 or 2)
- Research Ethics - **TP602** - 5 ECTS (Sem 2)
- Enterprise Experience for Graduate Research Students – **EE611/A** - 10 ECTS (Sem 1 or 2)
- Data Governance **CA691** - 10 ECTS (Sem 2)
- Advanced Scientific Communication Skills - **CA637**- 5 ECTS (Year Long)
- Entrepreneurship for Engineers - **EE507** (Sem 2)
- English for Academic Purposes - **LC600** 5 ECTS (Year Long)

Non-accredited Training, Workshops and Masterclasses

- Graduate Studies Office Orientation Programme
- Online Research Integrity Training Module (Engineering and Computing stream) (non - accredited)
- Students are also encouraged to engage with centrally and locally offered workshops and seminars that align with their development needs