

Postgraduate Diploma in Science in Data Analytics



(Blended/Online Directed E-Learning) (1 Year)

This is a blended/online learning course that features Directed E-Learning activities such as live online classroom sessions and tutorials/videos on the College's e-learning system. This allows for online class time to be interactive, practical, and focused, with theory-based content being covered outside of class time with self-paced tutorials/videos, and practical content being covered in live online classes with support from lecturers and lab assistants. At certain limited and pre-scheduled times there will be opportunities for on-campus sessions. These on-campus sessions will also be dual delivered so students who do not wish to attend campus for these sessions will have the option of attending them online.

Location: Online (with limited classroom sessions)

Duration: January to May 2024, May to August 2024 and September to December 2024.

Start Date: The course is expected to start in the week commencing 22nd January 2024

Applications: Apply online at www.springboardcourses.ie

Indicative Schedule: Tuesday and Thursday 18.00 - 22.00.

Fees: A student contribution fee of €650 is applicable if you are in employment. No fees applicable if you are unemployed. The scheme does not cover any allowance for books and materials.

There will also be four hours self-paced learning per week on NCI's Learning Platform weekly. This will not appear on your timetable.

If a student contribution fee is applicable this must be paid in full no later than 8th March 2024.

Career Bridge classes will be delivered one day per week in Semester 2 from 17.00 to 18.00. Day to be confirmed.

Course Description

This course aims to produce technically competent, innovative graduates that will become leading practitioners in the field of data analytics. Upon completion, graduates will be able to:

- Conduct independent research and analysis in the field of data analytics
- Demonstrate expert knowledge of data analysis and statistics, and the tools, techniques and technologies of data analytics utilised in both technical and business contexts
- Critically assess and evaluate business and technical strategies for data analytics
- Develop and implement effective business and technical solutions for data analytics
- Critically appreciate ethical and data governance issues relevant to data analytics

The course is designed to accommodate those with specific interests in data analytics, whether that may be of a more technically focused or a more business focused nature. All learners will also gain exposure to pertinent legal issues and ethical issues associated with the data analytics field.

Students will gain exposure to product commercialisation issues associated with data analytics. The course is delivered by faculty and practitioners using academic research, industry-defined practical problems, and case studies.

Students undertaking this course will be exposed to a variety of programming languages/tools that may include R, Python, SPSS, Excel, Weka and RapidMiner.

Career Prospects

This course is designed to meet the ever-growing need for deep skills in Big Data/Analytics to fill a skills shortage in Ireland.

Companies who hired from 2022 graduates include: DTSQUARED (Data Management Consultant) Valeo (Data Management Lead), ESB (Data Analyst) SectoGMC (QA Manager), TedCastles Oil Products (Senior Business Analyst), Fidelity Investments (Senior Systems Analyst), MetLife Production (Management Analyst) Pernod Ricard (Marketing Analytics), DXC Technology (Data Analyst), Deloitte (Artificial Intelligence Consultant)

Who is the course for?

This course is for graduates who have substantial technical, especially programming, and mathematical/statistical skills. Graduates from non-STEM disciplines (Science, Technology, Engineering, and Mathematics) that have not developed these skills will need to be able to demonstrate an aptitude for technical (programming) and mathematical problem solving.

Academic Entry Requirements

Applicants are normally required to hold a minimum of a level 8 honours qualification (2.2 or higher) or equivalent on the NFQ in a cognate discipline. Candidates will be required to demonstrate technical or mathematical problem solving in previous learning. Graduates from programmes without embedded technical or mathematical problem solving will need to demonstrate these skills in addition to level 8 qualifications (via certifications, qualifications, certified experience and assessment tests). All applicants must evidence prior programming experience (e.g., via academic transcripts or recognised certification). Standard applicants are holders of technical, numerate degrees who are likely to gain a higher ranking in order of merit for admission to this programme. Normally, these would be applicants

who have gained a minimum of a Level 8 qualification in a numerate discipline, typically Computing or Informatics. Such applicants with a level 8 qualification (2.2 or higher) or equivalent are eligible for direct entry. Following computing graduates, we next assign priority to candidates with a background in engineering, mathematics, physics and chemistry. Consideration of these applications is by detailed examination of the content, assessments and syllabi of applicants' primary degrees. Such candidates may also be assessed by interview.

Additionally, applications will be considered for those with a minimum of a Level 8 qualification in a programme with a significant IT and/or numerate component which could include Management Information Systems, Accounting, Economics, Marketing Management, Sociology and Biology. Programmes in this category may vary greatly in mathematical and information technology content and applications would be assessed by detailed examination of programme content, assessments and syllabi. Candidates with qualifications in this category will be assessed by interview.

Laptop Requirements

This programme has a BYOD (Bring Your Own Device) policy. Specifically, students are expected to successfully participate in lectures, laboratories and projects using a laptop computer with a substantial hardware configuration. A suitable configuration is 8GB of RAM (16GB are recommended); a modern 64-bit x86 processor (Intel i5 or superior); 250+ GB of available space in hard disk; WiFi card; and a recent version of Ubuntu, macOS or Windows. It is the responsibility of the student to ensure their laptop is functioning correctly and that they have full administrator rights to the machine. NCI IT does not provide support for personal devices.

This course requires internet access. You will be required to ensure you have sufficient broadband speed and reliable connectivity from your place of study.

Free Laptop loan for eligible students on this course:

Students who are eligible for HEA funding for this course may also be eligible for a free laptop provided on a loan basis for the duration of the programme. This will be a suitable specification machine for completion of the programme but must be returned once you have finished your course. Overall numbers of laptops available are subject to maximum numbers and no other alternatives can be offered.

Check <https://www.ncirl.ie/Students/Student-Services/Support-Services/Student-Laptop-Fund> for updates on the next opening date for applications.

Assessment

The course will be assessed with a blend of project work and exams. This varies between modules but typically assessment is 50% continuous assessment and 50% exam. Please note that in some instances exams may take place in the daytime, evenings and at weekends.

Award and Progression

Graduates of the Postgraduate Diploma in Science in Data Analytics are awarded an NFQ Level 9 qualification. You can optionally complete the additional 30 credits required to upgrade their qualification to the MSc in Data Analytics (Not included under Springboard+ - additional fee would apply).

Course Content
(Blended/Online Delivery)
(1 Year)

Semester 1

- Statistics for Data Analytics
- Database and Analytics Programming

Semester 2

- Data Mining and Machine Learning I
- Modelling, Simulation, and Optimization
- Business Intelligence and Business Analytics - *Elective Modules Group 1*
- Data Intensive Architectures - *Elective Modules Group 2*
- Career Bridge

Semester 3

- Data Mining and Machine Learning II
- Data Governance and Ethics
- Domain Applications of Predictive Analytics - *Elective Modules Group 1*
- Scalable Systems Programming - *Elective Modules Group 2*

Note: Electives are designed to allow students gain specialised knowledge in Data Analytics related areas. Electives may have dependencies, by picking a particular elective in Semester 2, students may restrict themselves to a single choice of elective in Semester 3. For the current suite of electives, dependencies are:

- *Elective Modules Group 1:*
Business Intelligence and Business Analytics -> Domain Applications of Predictive Analytics
- *Elective Modules Group 2:*
Data Intensive Architectures -> Scalable Systems Programming

Electives will run subject to learner demand. Learners will be asked to choose their specialisation before programme commencement.

Springboard Careers Advisors will proactively support you to find relevant employment during the course or following completion of the course.

Note that all modules count towards the final award classification.

