

Postgraduate Diploma in Science in Data Analytics

(Classroom delivery)

Location: IFSC Campus

Start Date: The course is expected to start in the week commencing 20th January 2020.

Indicative Schedule: Tuesday, Thursday 18.00 - 22.00 and every Saturday 09.00 - 18.00.

Career Bridge classes will be delivered one day per week 17.00 start – day to be confirmed.

Duration: 1 year, 3 semesters. January to May, late May to August and September to December 2020.

Applications: Apply online at www.springboardcourses.ie

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.

If a student contribution fee is applicable this must be paid in full no later than Friday 13th March 2020.

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

According to the World Economic Forum, Data Analysts are expected to be in the Top Ten Jobs in Demand by 2020. Coupled with this there is a current skills shortage in this profession in Ireland and a growth rate of over 8 per cent; Ireland needs to create 21,000 jobs in data by 2020. Graduates from this course have taken advantage of this demand and secured roles such as Business and Technology Project Lead, Associate Analyst, Data Analyst, Technology Solutions Professional, Product Owner

IVR EMEA, Business Operations Manager, Senior Actuarial Analyst, Head of Data Science, Analytics Analyst.

Companies who hired NCI graduates in 2017/2018 included: CSO (Graduate Programme), Ulster Bank (Treasury Consultant), KBC Bank (Business and Technology Project Lead), Infosys BPO (Associate Analyst), Greenval Insurance (Data Analyst), Microsoft (Technology Solutions Professional), PayPal (Product Owner IVR EMEA), Prudential Insurance (Senior Actuarial Analyst), Infosys (Analytics Analyst).

Who is the course for?

This course is for graduates who have substantial technical and mathematical 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 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 provide evidence of 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 portable computer (laptop/notebook) with a substantial hardware configuration. Its minimal suitable configuration is 8GB of RAM (16GB are recommended); a modern 64-bit x86 multi-core 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 each student to ensure her/his computer is functioning correctly and that she/he has full administrator rights. NCI IT cannot provide support for these personal devices

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 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

Year 1 / Semester 1

- Statistics for Data Analytics
- Database and Analytics Programming
- Career Bridge

Year 1 / 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

Year 1 / 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*
- Career Bridge

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

Relevant Employment / Placement can be undertaken within the course timeline, generally 2nd or 3rd semester, or commenced within 3 months of course completion.

Note that all modules count towards the final award classification.

