Postgraduate Diploma in Science in Data Analytics

(Blended delivery) All classes in Semester 1 due to Covid 19 Restrictions will be delivered online.

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

Location: Online and IFSC Campus

Start Date: The course is expected to start in the week commencing 28th of September 2020.

Indicative Schedule: Monday and Wednesdays 18.00 - 22.00 and a number of saturdays 09.00 - 18.00.

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

Duration: 1 year, 3 semesters. September to December 2020, January to May 2021 and late May to August 2021.

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 20th November 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

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 have hired 2019 graduates from this course include: Google (Investigations Analyst, Trust & Safety), Bank of Ireland (Risk Analytics Intern), An Pobal (QA Analyst), Electric Ireland (Pricing Analyst), Storm Technology Ltd. (Financial Reporting Consultant), Dunnhumby (Applied Data Scientist), St. Vincent's Hospital (Data Analyst), Real World Analytics (Trainee Data Analyst), ESB (Lead Data Scientist), Version 1 (Managed Services Consultant), City Wonders (Revenue Analyst).

50% of graduates who were in employment successfully transitioned during or following the course. 5 graduates who were unemployed attained graduate level employment. 5 graduates went on to do the Masters in Data Analytics.

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 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. 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 the student to ensure their laptop is functioning correctly and that they have full administrator rights to the machine. NCI IT cannot provide support to 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

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*

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.