National College *of* Ireland

Technology Ireland ICT

Skillnet

**Level 9 NFQ
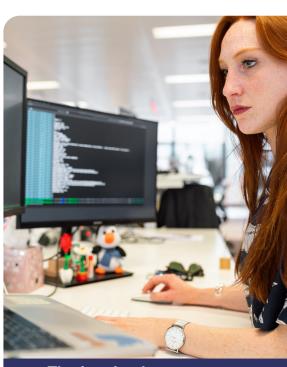90 ECTS**

Master of Science in
DATA ANALYTICS

Online Part-time
Duration: 2 years (4 semesters)

WHY STUDY THIS PROGRAMME?

The MSc in Data Analytics programme will equip learners with up-to-date knowledge and practical skills in the domain of data analytics. These skills are increasingly sought after in a wide range of organisations and industries as they help businesses derive insights, improve decision-making, and turn information into assets. The programme is led by expert faculty and is delivered using industry-defined problems and case studies and academic research.

The programme is taught over 2 years and it is delivered fully online through both synchronous and asynchronous directed e-learning activities using state-of-the-art technologies and teaching techniques to support the virtual classroom. Asynchronous directed activities consist of short videos, recommended reading, and tutorial exercises. Learners are expected to engage with this content each week before their live class to build an understanding and to prompt questions.

The part-time element of the course helps busy professionals to study and work at the same time and as the programme is designed from an applied perspective, all learnings can immediately be incorporated into the work environment.

The fees for this programme are part-funded by Technology Ireland ICT Skillnet

ELIGIBILITY REQUIREMENTS

Learners must have an honours (level 8) primary degree in Computing or a cognate area with a 2.2 award or higher. Cognate area means a STEM (Science, Technology, Engineering, and Mathematics) degree. All applicants must evidence prior programming and mathematics experience (e.g., via academic transcripts or recognised certification). Standard applicants for the programme are those holding computing or numerate degrees.

For learners who do not have the minimum entry requirements, National College of Ireland operates a Recognition of Prior Experiential Learning (RPEL) scheme meaning applicants who do not meet the normal academic requirements may be considered based on relevant work and other professional experience.

Learners must be working in private or commercial semi-state organisations in the Republic of Ireland to avail of the part-funded fee.

LAPTOP REQUIREMENTS

This programme is delivered fully online and as such, learners are expected to successfully participate in lectures, laboratories, and projects using a laptop computer with a substantial hardware configuration.

The 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. Learners must also ensure they have sufficient broadband speed and reliable connectivity from their place of study.

It is the responsibility of each learner to ensure their laptop computer is functioning correctly and that they have full administrator rights. NCI IT cannot provide support for these personal devices.

PROGRAMME OUTLINE

The online MSc in Data Analytics is a 2-year 90-ECTS course. Learners are required to complete 20-ECTS during each of the taught semesters and then a final 6-month semester completing the Research Practicum/Internship. The course offers a choice of two electives.

Year 1
Semester 1
- Statistics & Optimisation
- Analytics Programming & Data Visualisation
- Data Governance, Ethics & Sustainability

Semester 2
- Business Intelligence & Business Analytics
- Data Mining & Machine Learning

Year 2
Semester 1
- Deep Learning & Generative AI
- Data Intensive Scalable Systems   * Elective
- Modelling & Simulation   * Elective
- Domain Applications   * Elective

Semester 2
Research Elective
- Research Practicum Part 1 & Part 2
- Internship Part 1 & Part 2

*Electives will run based on demand and students must choose 2 of the 3 electives listed.
*Students must notify the college in advance if they want to complete Internship.

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.

DURATION

Year 1: Semester 1 – January 2025 to May 2025
Semester 2 – September 2025 to January 2026

Year 2: Semester 1 – January 2026 to May 2026
Semester 2 – May 2026 to January 2027

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