



Online MSc Applied Data Science & Analytics

This totally online Masters programme is designed to upskill students to select, apply and evaluate data science and big data analytics techniques to discover knowledge that can add value to a company. Students gain both an in-depth theoretical understanding and practical hands-on experience, including implementing novel and emerging techniques. Participants are also kept abreast of current research and state of the art techniques in data science related topics.

Programme Overview

The MSc in Applied Data Science and Analytics is a 2 year part-time programme delivered entirely online by the Institute of Technology Blanchardstown in association with Technology Ireland ICT Skillnet.

Data Analytics is one of the fastest growing areas of IT, across a variety of organisations and industries, and remains mission critical for businesses as it turns information into an asset for deriving insight and making decisions. This reflects the need for companies to do business more smartly, enabled by business intelligence.

Increased user activity has resulted in significant growth in

data, both structured and unstructured. The value of this data is dependent on appropriate analysis of the data, and the subsequent application of analysis results. Consequently, data analytics has become a fundamental element for organisations that wish to compete through ever-evolving technology, productivity advancement, and innovation in research and development.

Both in Ireland and globally, there is a reported shortage of data analytics talent particularly individuals with the required 'deep analytical' skills. In Ireland, government policy in recent years has consistently identified data analytics as a key growth area with a medium-term goal to become a leading country in Europe for big data and analytics.

Listed as one of the worlds best online Masters in Data Science and Analytics



Who Should Apply

The programme is suitable for both entrants to the discipline that require a broader range of taught modules to familiarise themselves with the skills and knowledge of the discipline and for specialist employees who want to up-skill in their specialist areas and require a narrow range of taught modules and more emphasis on the research skills project of the programme.

The Award

The two year programme is delivered over four semesters and successful completion leads to the award of a MSc in Data Mining and Business Intelligence. There are two pathways to complete the programme:

- (a) Complete six taught modules (two per semester) and a one-semester, 30-credit research project.
- (b) If you already have experience in data analytics, you may consider completing just three taught modules, and a 60-credit research project.

Programme Delivery

All lectures are delivered live online, two-evenings a week, using the Adobe Connect online classroom environment. Students are not required to attend campus for any aspect of the course. Recordings of all lectures are made available immediately after the lecture. Students have access to lecture recordings for the duration of the course. This, coupled with other learning resources made available through Moodle (our virtual learning environment) provides a truly flexible learning environment for all participants. Modules are assessed through continuous assessment work only.

Assessment

Modules are assessed through continuous assessment work only. The course will focus on the knowledge and skills to select, apply and evaluate data science and big data analytics techniques to discover knowledge that can add value to a company. Students will gain both an in-depth theoretical understanding and practical hands-on experience, including implementing novel and emerging techniques.





Programme Content

CORE MODULES

Semester 1	Business Intelligence BI architecture, BI front-end, Data privacy and ethics; Business Intelligence and Data Mining methodologies, and the Business Intelligence life cycle.	Data Mining Algorithms Standard Data Mining algorithms for descriptive modeling, classification, clustering, prediction, sequence analysis and association analysis.
Semester 2	Data Pre-Processing and Exploration Data visualisation; Descriptive Statistics; Improving data quality; Transforming data in preparation for data mining;	Business Intelligence and Data Mining Applications Project module: complete an analysis task to meet a business objective.

ADDITIONAL ELECTIVES, STUDENTS CAN SELECT TWO ELECTIVES:

Semester 3	Web Content Mining and Text Mining Natural Language Processing techniques to extract data from unstructured text. Mining data from unstructured text. Programming for Big Data The algorithms and challenges for processing large datasets; students will need fundamental knowledge and skills in computer programming. Multimedia Mining Data Mining techniques and algorithms for mining digital media content	Geospatial Data Mining and Knowledge Discovery Data Mining techniques and algorithms for mining data from Geographic Information Systems. Statistics The learner will cover the fundamental ideas of probability and descriptive statistics, moving on to hypothesis testing and the design of experiments
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DISSERTATION:

Semester 4	Research Project which can be industry based
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Eligibility and How to Apply

The minimum entry requirement is a 2nd Class Honours Grade 2 (GPA 2.5 or equivalent) in an NFQ level 8 degree in Computing, Science, Engineering, Business with IT or equivalent.

Applicants not meeting this entry requirement may be admitted to the programme on the basis of extensive practical and/or professional experience which can be assessed by the Institute's APL/APEL process.

Further Information

For further information on this programme or to answer any queries not already addressed in the brochure please email info@ictskillnet.ie.

How To Apply

Click here to apply via our online application form (link is: <https://goo.gl/forms/7siwVdqWRFnGzIQh1>)



Technology Ireland ICT Skillnet is co-funded by Skillnet Ireland and member companies. Skillnet Ireland is funded from the National Training Fund through the Department of Education and Skills.



An Roinn Oideachais agus Scileanna
Department of Education and Skills

