University College Dublin
Ireland's Global University

MSc/Professional Diploma Data Analytics
(Three Years/ Nine Months Part Time) (Online)

The MSc and Professional Diploma in Data Analytics from the UCD School of Mathematical Sciences will help you to analyse and understand the large data sets that are being created via the huge growth in online information. The value of these data sets is being increasingly recognised in business circles, with many companies seeking to recruit individuals with skills in data analytics to extract the valuable insights contained therein. Data Analytics is at the crossroads between statistics and computer science, and our courses contain elements of both. We will give you the tools to apply advanced skills from these fields to maximum effect in any work-related, "big data", environment.

There are no lectures to attend as the courses are delivered completely online-students will be given videos, demonstrations, and interactive games to enhance their learning, with regular feedback and interaction with lecturers. This provides flexibility to students who can learn wherever and whenever they like, as well as at a pace that suits them.

Key Fact

The UCD School of Mathematical Sciences has a strong research track record through its interdisciplinary approach to research with academics involved in UCD Complex Adaptive Systems Laboratory (CASL) and the Claude Shannon Institute for Coding, Cryptography and Discrete Mathematics. Members of the School are also heavily involved in the Insight Consulting Unit for Data Analytics, which was created in 2013 with a combined €88m of government and industry funding.

Why study at UCD?

Tradition
Established 1854, with 160 years of teaching & research excellence

Global profile
UCD is ranked in the top 1% of higher education institutions worldwide

Global community
Over 6,000 international students from over 120 countries study at UCD

Global careers
Degrees with high employability; dedicated careers support; 1 year stay-back visa

Safety
Modern parkland campus with 24 hour security, minutes from Dublin city centre

Course Content and Structure

90 credits taught masters (online) – all taught modules	20 credits professional diploma (online) – all taught modules

This first year of both programmes is designed to introduce you to statistical and mathematical concepts in Data Analytics and Data Mining, and to start you on statistical programming with data. The second year of the MSc is split between understanding the theory behind statistical models for data via predictive analytics, and dealing with data sets at scale using multivariate techniques. The final year of the MSc covers some advanced statistical modelling methods. A provisional list of topics is as follows:

Statistics modules:
Data Mining
Predictive Analytics
Multivariate Analysis
Time Series Analysis
Stochastic models
Bayesian Analysis

Computing modules:
Monte Carlo
R
C
Java
Python
SAS

Modules and topics shown are subject to change and are not guaranteed by UCD.

Career Opportunities

Data Analysts are in strong demand from industry; those who are successful in completing the course are highly employable in fields as diverse as: pharmaceuticals, finance and insurance, as well as cloud computing. Prospective employers include any company that requires detailed, robust analysis of data sets; some examples include:

- ICT companies (e.g. Google, eBay, Facebook, Amazon, Paddy Power),
- The pharmaceutical industry (e.g. Jansen, Merck, GSK),
- The financial services industry (e.g. Bank of Ireland, AXA, EY, Accenture, Deloitte)

Fees

Tuition fee information is available on
www.ucd.ie/fees

Related Masters Programmes of Interest

- MSc Mathematics
- MSc Mathematical Science
- MSc Statistics

Apply Now

This programme receives significant interest so please apply early online at www.ucd.ie/apply

Entry Requirements

- This programme is intended for applicants with a degree in a numerate subject. An upper second class honours or international equivalent is required.
- Those without this requirement, but with equivalent experience in industry, will also be considered on a case-by-case basis.
- Applicants whose first language is not English must also demonstrate English language proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent.

Graduate Profile

Mr Ben Deans FIA, Manager – Pricing and Actuarial Business Support, AXA

I originally registered for the course as I was keen to develop my understanding of certain analytical techniques including classification trees and clustering techniques. I developed the skills to implement these techniques and many more in my day-to-day work environment. A further advantage of this course is that it is taught completely online – having a busy home and work life, this enabled me to tailor my study to the times that suited my schedule. Overall I found the course challenging and most enjoyable and would happily recommend it.

Staff Profile

Dr James Sweeney, UCD School of Mathematical Sciences

Several of our course lecturers have extensive applied industrial experience in the area of Data Analytics. My background is in the exploration of solutions to complex, computationally challenging statistical modelling problems, chiefly involving large multivariate datasets. I am particularly interested in statistical algorithms for dimension reduction and the identification of clusters of individuals in large complex datasets.

My expertise in these areas has been applied to problems in fraud detection and pattern identification in high throughput financial transaction data.

EU Enquiries

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Non-EU Enquiries

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