



Data Analytics for Government

Postgraduate standalone modules for CPD

For UK public sector employees

We are pleased to offer four core modules from the MSc Data Analytics for Government (MDataGov), available to study on a standalone basis for continuing professional development (CPD).

These modules are suitable for those working in public sector bodies in the UK who want to upskill or further their career, and who are happy to study alongside full-programme MSc students at the University. Modules are worth 10 credits each.

The MDataGov aims to build data science capability across government by equipping civil servants with a key set of skills required from a modern government data analyst.

Taught by experts in statistics, operational research and computer science, this programme equips students with a range of in-demand skills for extracting and handling 'big data', discovering and communicating meaningful patterns from the data, and applying modelling tools to help businesses and government organisations make better decisions.

This programme is only open to employees of the Office of National Statistics (ONS) and public sector bodies in the UK.

- You must have a 1st or upper 2nd class UK honours degree or equivalent in a numerate subject, such as mathematics, operational research, statistics, computer science, management science, economics, engineering or a suitable science degree, or equivalent professional experience
- Applicants whose first language is not English must meet the University's English Language requirements
- You must provide us with certificates and transcripts relating to previous qualifications, a personal statement, and (where applicable) proof of your English language proficiency.

Further details can be found online at the module page, or email admissions@cardiff.ac.uk.

Data Science Foundations

This module will introduce core data science concepts, including understanding of the different types of data sources available (administrative data, survey data, open data, big data, etc.); how to collect data, including innovative data collection methods, eg web scraping; understanding the challenges with unstructured data; how to treat different data types; how to undertake basic data analysis (structured and unstructured data); and how to present data through basic data visualisations.

On completion of the module a student should be able to

- Use the Python programming language to complete a range of programming tasks
- Critically analyse & discuss methods of data collection
- Extract textual and numeric data from a range of sources, including online
- Reflect upon the legal, ethical and social issues relating to data science and its applications.

Price
£550

Dates
Starts Autumn semester
(double semester)

Statistical Programming

This will be a practical module, which will consider programming with structured and unstructured data and statistical analysis of this data. Students will learn how to analyse both numeric and textual data using a range of computational programming languages.

On completion of the module a student should be able to

- Use code to extract, store and analyse textual and numeric data
- Carry out data analysis and statistical testing using code
- Critically analyse and discuss methods of data collection, management and storage
- Analyse and visualise textual and numeric data from a range of sources, including online.

Price
£550

Dates
Starts Autumn semester
(double semester)

Survey Fundamentals

In this module we cover the fundamentals of survey statistics. In particular:

- Standard methods of drawing samples from finite populations
- How to make inferences about population characteristics
- Survey-based estimation of population totals and related quantities
- Regression estimation for modelling relationships between variables
- The principles and methods used to compensate for non-response following survey data collection
- Calibration methods for household surveys
- Index numbers.

On completion of the module a student should be able to

- Estimate means, totals, proportions, and ratios of population variables from data collected using standard sampling methods
- Adjust estimates to compensate for the effects of unit non-response
- Use calibration to improve estimates from household surveys
- Assess the suitability of a survey for a given estimation problem.

Price
£550

Dates
Autumn semester

Statistics in Government

This module provides an overview of issues and ideas concerning the scope and organisation of Official Statistics, as well as its processes and products.

The module provides a general foundation for the more detailed study of these elements and identifies links with other relevant disciplines.

On completion of the module a student should be able to

- Critically evaluate Legal and Administrative Frameworks of UK Statistics
- Show clear understanding of Quality Control, Dissemination and Ethical issues relevant to the production and management of Official Statistics.

Price
£550

Dates
Spring semester

How to apply

You can find full module information and application details on our website.

When you apply, we will ask you to complete a short application form that details your previous qualifications and/or experience.

We welcome applications from those who may not have the traditional entry requirements, but who can demonstrate relevant work experience or prior learning.

If you have any questions or queries about the application process, please contact the admissions team at admissions@cardiff.ac.uk.

Please note:

Applications for all the modules in this programme are open from June 2020.

It will be assumed that you will be taking the assessment for each module. We are currently working on a process for those who do not want to wish to take the assessment, and we will provide further details shortly.

Module dates and prices are subject to change; prices shown are for the 2020-2021 academic year. Exact module dates and timings will be confirmed closer to the start of term.

Why choose a standalone module?

Our standalone modules give you the flexibility to study at postgraduate level whilst also managing your existing work and life commitments.

Instead of signing up for a full postgraduate degree (which amounts to 180 credits), you can take one or more 10-credit modules.


The University is working towards a system that will enable you to accumulate credits towards a postgraduate qualification over a period of time, should you wish*.

- Access flexible and affordable study at a prestigious Russell Group university
- Further your career whilst also balancing work and life commitments
- Test out your appetite for a full postgraduate degree
- Put the credits you've gained towards a postgraduate qualification*
- Establish wider links with Cardiff University.

*Eligibility and timescales for transferring credits will vary from one qualification to another.

Contact us


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