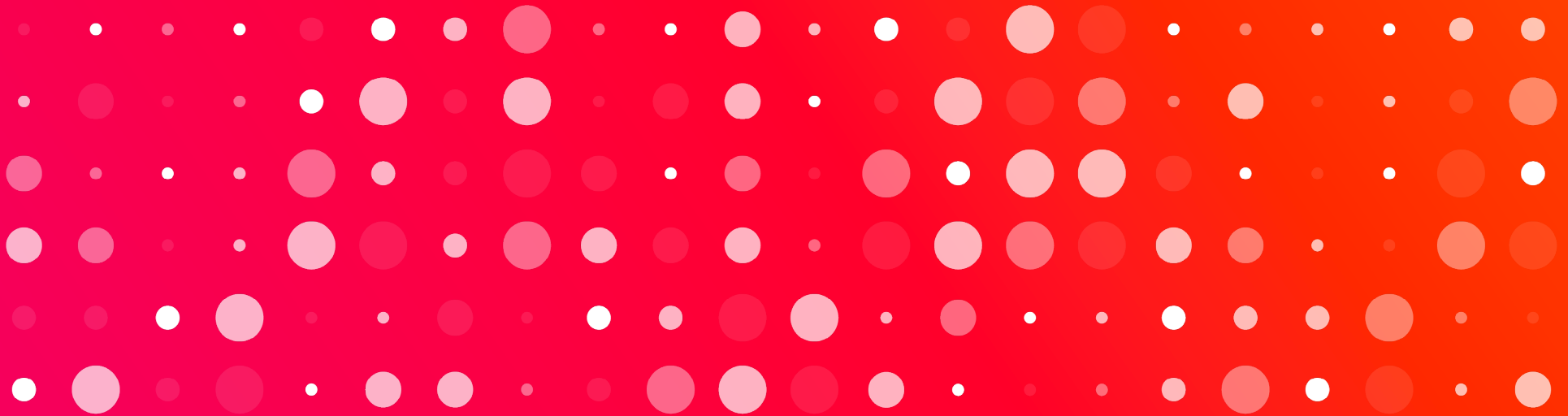


Data Masterclass for Senior Leaders



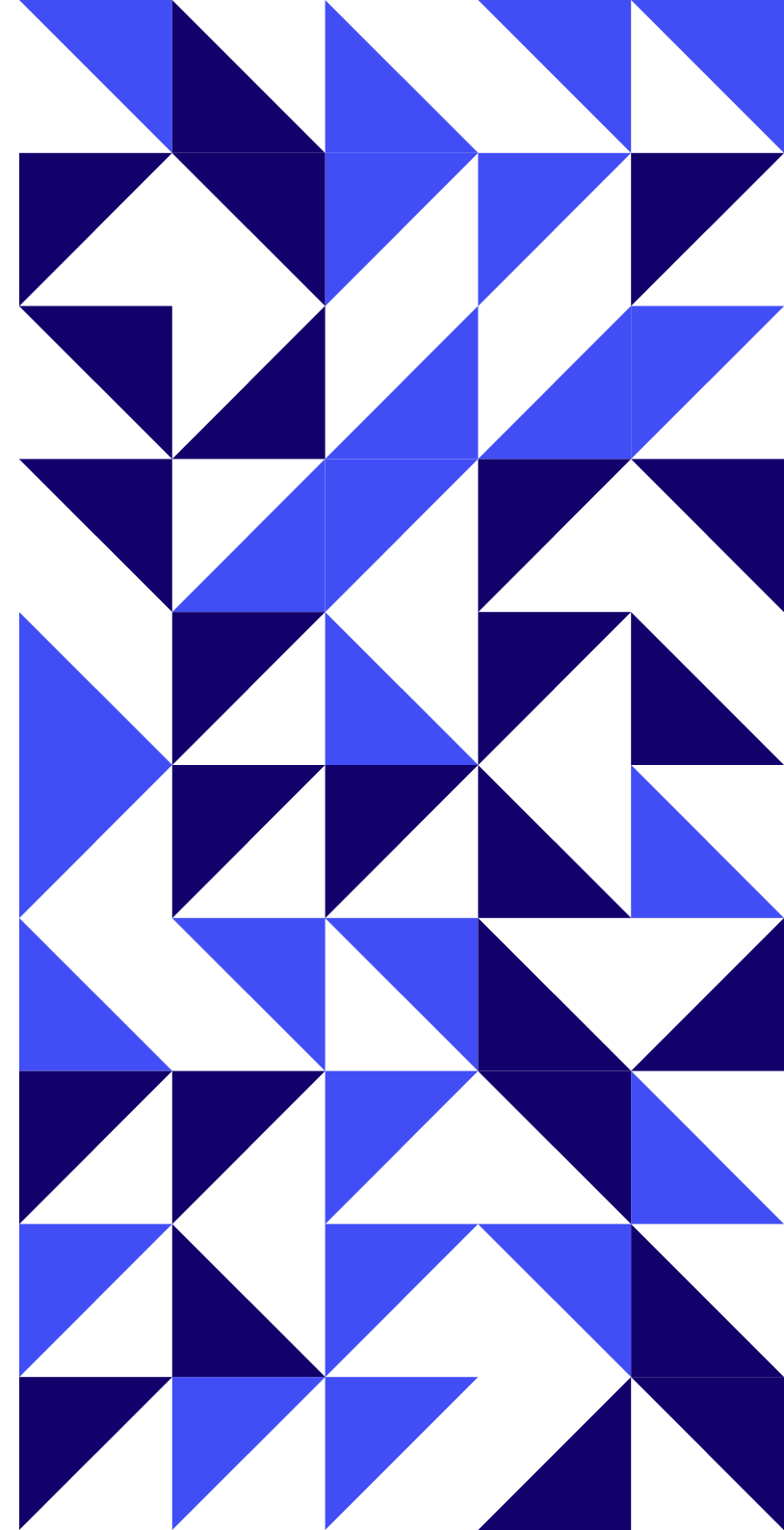
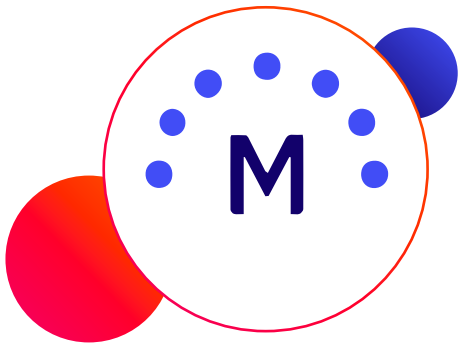
DATA MASTERCLASS

In his 2020 Ditchley lecture, the Rt Hon Michael Gove stated:

► “It is imperative that we learn the hugely valuable lessons that lie buried in our data.”

He also committed to ensuring government has the skills to make better use of data.

The Data Masterclass helps senior leaders across UK government, the public sector and devolved administrations put data and evidence at the heart of their organisation.



What does the Data Masterclass offer?

The Data Masterclass equips UK government and public sector leaders with the skills to create and support a data culture in their organisation.

It helps them understand how they can use data to improve the way they make decisions, craft policy, communicate compelling narratives, and identify opportunities to apply cutting edge data science techniques.

The Data Masterclass is delivered as an accessible and engaging online course and has the keen support of ministers and Senior Civil Service.

By the end of the Data Masterclass, participants will be able to:

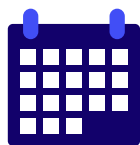
- consult appropriate data throughout the decision-making process from prioritising which areas to focus on, to designing an intervention and then evaluating it
- understand how evaluation techniques can be used to test potential solutions to identify which one works best
- work effectively with analysts to support organisational goals and understand how early engagement with analysts in the decision-making or design process can maximise the value that can be derived from data
- understand how data visualisation techniques can translate numbers into clear & compelling communications, whilst being aware of the potential for misleading and inappropriate use of these techniques
- understand the meaning of common data science terms & how to differentiate them, for example Artificial Intelligence (AI), Machine Learning, Natural Language Processing (NLP) and automation
- explain how data science techniques can enable teams to complete some labour intensive tasks better, faster & cheaper and explore how these techniques can unlock novel solutions to their challenges

Who is the Data Masterclass for?

The Data Masterclass is for non-analyst senior leaders and future senior leaders in UK government, devolved administrations and the public sector. It is pitched for someone with GSCE-level mathematics knowledge, but with no specific data or analytical skills. It can also be a useful refresher for those who are more 'data-fluent'.



The Masterclass is designed to be **completed flexibly** around a busy schedule and can be accessed online from **any device**.



It can be approached in bitesize pieces, with **each module** and case study taking around **15 minutes** to complete and each **weekly topic** approximately **2-3 hours**. **In total**, the Masterclass takes around **7-9 hours** over three weeks.



Overview of the Data Masterclass content

The Masterclass centres around a series of 10 keynote talks delivered by world-leading experts including:

Dr Hannah Fry

Sir David Spiegelhalter

Sir Ian Diamond

Azeem Azhar

These are supported by powerful case studies from government and the public sector, as well as supplementary materials to support learning and encourage cross-department discussion on these important topics.



Dr Hannah Fry



Azeem Azhar

Week 1

Data-driven decision-making and policy-making

Week 2

Communicating compelling narratives through data

Week 3

Data science and new frontiers



Week 1 – Data-driven decision-making and policy-making

Dr Hannah Fry talks about why data matters in government, explains how it is critical in a diverse range of scenarios and considers what happens when we get it wrong.

Sir Andrew Dilnot discusses why the approach to any problem needs to start with data emphasising the importance of knowing your organisation's data and thinking about how these relate to the challenge you're trying to address. Finally he highlights the need for self-awareness of our misconceptions about the numbers behind every day issues.

These points are illustrated through some excellent case studies from NHS Improvement and the Food Standards Agency.

The module continues with an in depth look at the importance of evaluation. Dr Rachel Glennerster and Dr David Halpern consider how pre-existing data can be used to help design effective interventions to solve a diagnosed problem and how the evaluating the interventions can include testing different solutions. Ministry of Housing, Communities and Local Government's (MHCLG) Troubled Families programme provides a detailed case study exploring these areas.

The module concludes with a look at some of the practical considerations of leading a data project and invaluable insights from senior leaders and analysts on how they work together to put data at the heart of their decision-making.





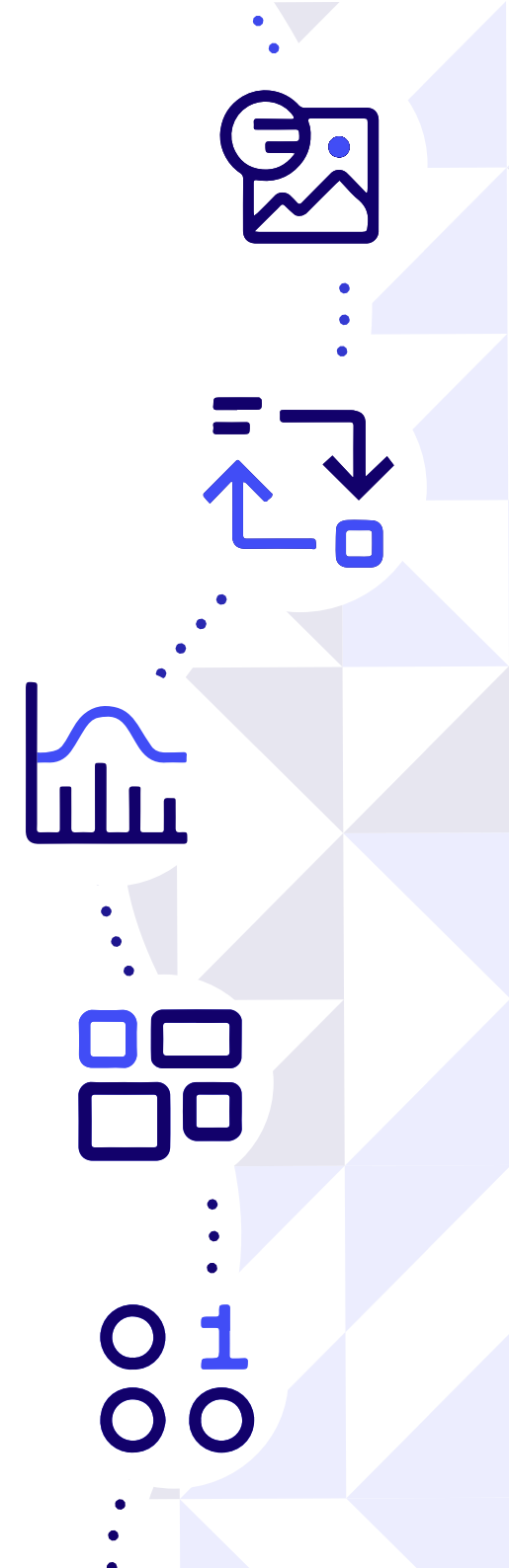
Week 2 – Communicating compelling narratives through data

A case study from the Department for Work and Pensions (DWP), outlines why appropriate use and format of data in communications is critical to convey a message with clarity and building trust.

Sir David Spiegelhalter then explains how to get to the bottom of the numbers behind the headline, assess the accuracy of claims, and how to demonstrate trustworthiness in communications.

Building on this, Professor Jen Rogers discusses using data for storytelling and the importance of data visualization. She covers how to be punchy and get your point across in an effective way.

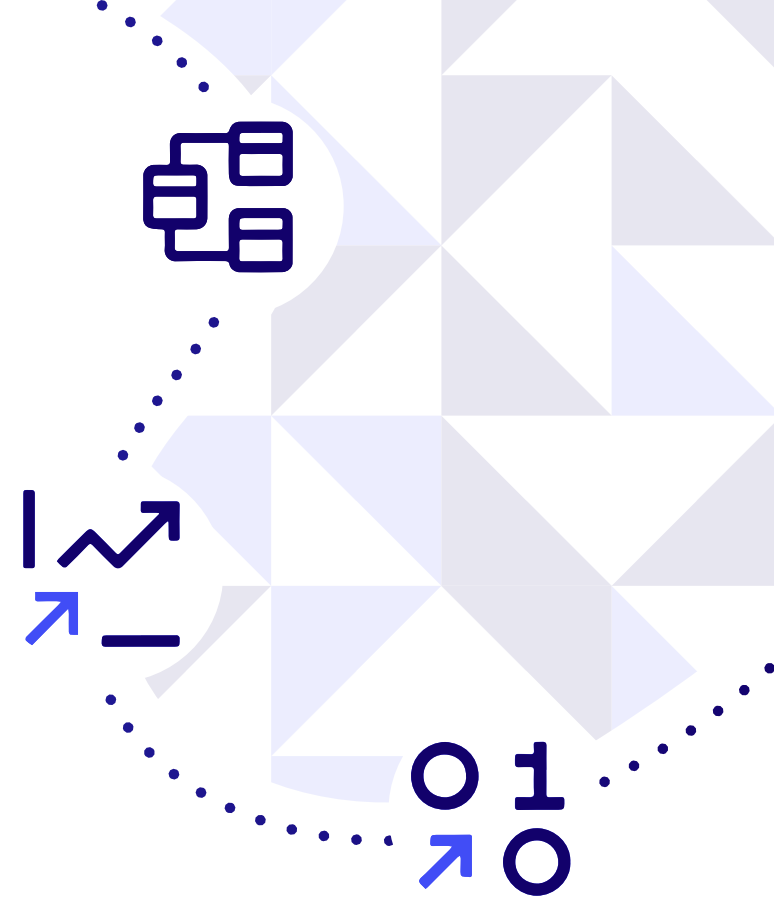
Sir Ian Diamond gives an entertaining talk about the rise of the dashboard since the COVID-19 outbreak began and gives tips for how to communicate data in the public sector. Some excellent case studies are used to apply these tips to real-life situations.





Week 3 – Data science and new frontiers

In the final week of the Data Masterclass for Senior Leaders, Azeem Azhar talks about harnessing the power of data science techniques and how we can learn from private companies at the cutting edge of the latest technological revolution. DeepMind Director of Robotic Research, Dr Raia Hadsell, explains why it's important that we create machines that can learn, how you can spot good opportunities to apply data science techniques to solve real challenges, and how you can be an effective leader when it comes to fostering data science projects within your department.



These sessions are illustrated with fascinating and diverse case studies from the Ministry of Justice (MoJ), Office for National Statistics (ONS) and the Department for Business, Energy and Industrial Strategy (BEIS). ONS Data Science Campus Managing Director Tom Smith also outlines different data science projects within Her Majesty's Government and lessons learnt.

What people say:

"A really fabulous course. Accessible and relevant – you managed to bring what could have been quite a dry issue to life, and make it not too complicated for the data-challenged"

Corin Robertson

HM's Ambassador to Mexico

"This is leaps ahead of any other HMG online training I've done: I feel I've learnt something rather than ticked a box"


Sian MacLeod

HM's Ambassador to Serbia

"Your course is really excellent [...] I really do think this is a great achievement"

Professor Philip Bond

PM's council for Science and Technology



"I've already started using the learnings in my job – including rehauling some maps we are using in a presentation for the PM and asking lots of questions of the analysts I work with."

Sarah Redwood

Director Renewable Energy Deployment, BEIS

Delivering the Data Masterclass in your organisation

A department or organisation can adopt the Masterclass to roll out to their senior leaders. This involves promoting the Masterclass, recruiting and enrolling participants and facilitating the discussion on the course.

The host organisation will:

- assign one-to-two people to organise and deliver the programme. The total estimated time commitment would be 0.1 to 0.2 full time equivalent (FTE) for three months
- assign a 'Masterclass Champion', a member of their analytical team who will carry out the following activities:
 - Upload learners onto the course platform, Futurelearn, with guidance from the Data Science Campus team.
 - Stimulate and facilitate discussion on the course.

- promote the programme, recruit and enrol the learners in their organisation or department
- be committed to taking part in evaluation for the course
- be the main point of contact for the programme organisers, for future evaluation etc.
- organisations also have the option to add a step to the Data Masterclass with a case study from their own department. Please mention this to us when you get in touch about running the course in your department

The Data Science Campus will provide:

- the licences for the online platform
- a Masterclass toolkit, including guidelines for the promotion and delivery of the programme, including templates and resources
- guidance for the Masterclass evaluation framework

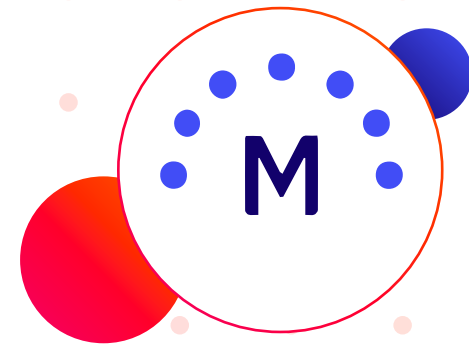
Register your interest

If you would like to roll out the Masterclass in your organisation, please complete the [expression of interest form](#) and a member of the Data Science Campus team will get in touch to discuss arrangements.

If you don't have a 'Masterclass Champion', that's OK. Please specify this on the expression of interest form and we will get in touch to discuss alternative ways to deliver the Masterclass in your organisation.

If you would like more information, please contact:

data.masterclass@ons.gov.uk



Delivered by the ONS Data Science Campus
in partnership with the 10 Downing Street Data Science Team.

