

# BSc in Data Science

## Change the world with data, algorithms and mathematics

Do you like the rigour and puzzle solving fun of Mathematics but also want to impact the real world? Do you want to bring data and algorithms together to harness the power of computers? The data deluge our societies are experiencing poses ethical and technical challenges, but also offers immense opportunities to change and improve the world.

Our bespoke degrees have been developed with the needs of data scientists in mind. They will equip you with the right balance of skills and knowledge across mathematics, statistical science and computer science. You will learn the sophisticated mathematical theories underpinning machine learning and the computing skills to deploy algorithms in the real world, to extract knowledge from data.

We have developed links with industrial partners to support students on our programme and offer a version of the degree involving a Year in Industry.

Employability prospects in Data Science are extremely strong.

**Join us in Bristol and take part  
in the data revolution!**



**“Data Engineering stands out as the skill cluster with the highest annual median salary and growth in demand at the level of employability prospects in data science” \***



## Statistical Science and Computing

Over half of the first two years units are exclusive to these degrees with others drawn from our established high quality provision on mathematics.

## Single Honours

### **BSc in Data Science (G1G5, 3 years)**

Our BSc degree combines the study of rigorous mathematics and advanced computational skills relevant to a data scientist, offering numerous career opportunities.

### **BSc in Data Science with a Year in Industry (G1G6, 4 years)**

In addition to the above you will spend your third year gaining work experience as a data scientist in a real workplace environment.

## Why study at Bristol?

The Institute for Statistical Science is part of one of the strongest mathematics schools in Europe in terms of research, as well as one of the top 5 mathematics departments in the UK (REF 2014). According to the Shanghai Ranking's Global Ranking of Academic Subjects (2020), Statistical Science in Bristol was ranked 5th in the UK, 9th outside the US and 34th in the world.

Units on the BSc in Data Science are taught by world experts in Data Science and computational statistics. They are developed in collaboration with BriSC (Bristol Scientific Computing), which brings together computing experts across the Faculty of Science.

To support students on this course we have developed links with industrial partners, local and international, who endorse our degree. Some of our partners are:



The iconic Fry building, at the heart of the campus, is home to the School of Mathematics in Bristol and was recently fully refurbished, providing excellent facilities for studies, research and socialising.



## Typical standard offer for BSc in Data Science

A\*AA including A\* in Mathematics and A in Further Maths or another mathematics-related subject

IB: 38 points overall with 18 at Higher Level, including 7 at Higher Level in Mathematics and 6 at Higher Level in another mathematics-related subject \*

For information on contextual offers visit (home students only): [bristol.ac.uk/study/undergraduate/2021/maths/bsc-data-science/](https://bristol.ac.uk/study/undergraduate/2021/maths/bsc-data-science/)

For international qualifications visit: [bristol.ac.uk/international/countries](https://bristol.ac.uk/international/countries)

## What will you study?

### Year 1

- Analysis
- Probability and Statistics 1
- Matrix Algebra and Linear Models
- Mathematical tools for DS
- Introduction to Scientific computing
- Algorithms and Programming in R and C.

### Year 2

- Statistics 2
- Probability 2
- Advanced Linear Modelling & Classification
- Perspectives in Mathematics
- Intermediate Scientific Computing
- Algorithms and Machine Learning

### Year 3 or 4, choose from over 15 units, including

- Group project
- Bayesian Modelling
- Time Series Analysis
- Theory of Inference
- Financial Risk Management
- Linear and Generalized Linear Models

[bristol.ac.uk/study/undergraduate/2021/maths/bsc-data-science](https://bristol.ac.uk/study/undergraduate/2021/maths/bsc-data-science)

\* Djumaliev J and Sleeman C. 2018 Making Sense of Skills. See [data-viz.nesta.org.uk/skills-taxonomy/index.html](https://data-viz.nesta.org.uk/skills-taxonomy/index.html)

Royal Society's report 'Dynamics of data science skills' 2019: [royalsociety.org/topics-policy/projects/dynamics-of-data-science](https://royalsociety.org/topics-policy/projects/dynamics-of-data-science)