Course Summary: March 30, 2026

Data Science BSc Honours

- UCAS code: **G200**
- Full time
- 3 years

Combine your passion for mathematics and computer science with this practical Data Science BSc degree. This degree is delivered in partnership with the UK's National Innovation Centre for Data (NICD).

You are currently viewing course information for entry year: **2026**

Next start date:

- September 2026

Tuition fees (Year 1)

- Home: **£9,790**
- International: **£26,400**

Entry requirements and offers

- A-Level: **AAB**
- IB: **34 points**

UCAS Institution name and code:

- NEWC / N21

Undergraduate Open Day

Start your university journey. Find where you belong. Friday, June 26 (9:00-16:00) Saturday, June 27 (9:00-16:00)

Book your place now

Course overview

Data science is an interdisciplinary and emerging field. It combines mathematics and computing to analyse large and complex data sets.

Our degree will give you the skills to turn data into meaningful outcomes. You'll learn to use your analytical and computational skills to interpret, clean, and visualise data confidently.

We've worked with the National Innovation Centre for Data (NICD) to create our Data Science BSc degree. This Centre of Excellence is at the forefront of:

- data science
- AI application
- industry engagement

NICD has shaped our curriculum with their real-world and industry-focused approach. You'll graduate with expertise in the most relevant and innovative data science topics. You'll learn and work alongside leading practitioners in data science.

Through NICD, you'll have extensive access to real-world data, immersing yourself in real-world data science applications. NICD works with external organisations to transform their business using data science methods, tools and techniques.

You'll develop bespoke data science skills and build a strong foundation in mathematics and computer science, through:

- specialised modules
- masterclasses
- bootcamps

You'll have the option to take a **industry placement or study abroad year.**

By the end of your degree, you'll be ready for a career in this emerging and rewarding job sector.

Your course and study experience - disclaimers and terms and conditions
Please rest assured we make all reasonable efforts to provide you with the programmes, services and facilities described. However, it may be necessary to make changes due to significant disruption, for example in response to Covid-19.

View our Academic experience page, which gives information about your Newcastle University study experience for the academic year 2025-26.

See our terms and conditions and student complaints information, which gives details of circumstances that may lead to changes to programmes, modules or University services.

Quality and ranking

Professional accreditation and recognition

All professional accreditations are reviewed regularly by their professional body.

Modules and learning

Modules

The information below is intended to provide an example of what you will study.

Most degrees are divided into stages. Each stage lasts for one academic year, and you'll complete modules totalling 120 credits by the end of each stage.

Our teaching is informed by research. Course content may change periodically to reflect developments in the discipline, the requirements of external bodies and partners, and student feedback.

Optional module availability
Student demand for optional modules may affect availability.

Full details of the modules on offer will be published through the Programme Regulations and Specifications ahead of each academic year. This usually happens in May.

To find out more please see our terms and conditions

Our Foundations of Data Science module will introduce you to the world of data science. You'll study foundational topics in mathematics and computing. In Stages 2 and 3, you'll build on these subjects with more bespoke data science modules.

Mathematics topics include probability, statistics, algebra and calculus. In computing, you'll learn about the software engineering lifecycle and develop

your programming skills.

Modules

Compulsory Modules	Credits
Foundations of Data Science	20
Programming Portfolio 1	30
Real Analysis	10
Introductory Calculus	10
Introduction to Probability and Statistics	20
Number Systems	10
Introductory Algebra	10
Multivariable Calculus	10

You'll study specialised modules in mathematics and computer science, including:

- data visualisation
- regression
- security programming
- algorithm design and analysis

You'll also study a module delivered by NICD. You'll work as a team on real-world business challenges. You'll learn to solve problems and develop customer-oriented solutions.

Modules

Compulsory Modules	Credits
Security Programming	20
Algorithm Design and Analysis	10
Frontiers in Data Science A	10

Linear Algebra	10
Statistical Inference	10
Stochastic Processes	10
Data Visualisation	10
Probability	10
Regression	10
Optional Modules	**Credits**
Groups and Rings	10
Curves and Surfaces	10
Coding Theory	10
Numerical Methods with Python	10
Mathematical Biology	10

In Stage 3, you'll continue to take part in masterclasses run by NICD. You'll apply statistical, mathematical, programming and data science skills to a variety of problems. You'll also be free to explore your own interests with a range of optional mathematics and computer science modules.

Put your learning into practice during your Group Project module. During this project, you'll:

- work with real-world data sets
- identify and unpick problems
- work in a team to solve business challenges

Modules

Compulsory Modules	**Credits**
Computer Vision & AI	20
Foundations of Machine Learning	10
Statistical Modelling	10

You also undertake the following compulsory modules:

Compulsory modules	Credits
Data Innovation Bootcamp	10
Frontiers in Data Science B	10
Data Science Group Project	10
Optional Modules	**Credits**
Biomedical Data Analytics and AI	20
Human Computer Interaction: Interaction Design	20
Data Visualization and Visual Analytics	10
Clinical Trials	10
Decision Modelling for Health Data Science	10
Topics in Medical Statistics and Health Data Science	10
Curves and Surfaces	10
Coding Theory	10
Numerical Methods with Python	10
Group Theory	10
Linear Analysis	10
Matrix Analysis	10
Metric Spaces and Topology	10
Number Theory and Cryptography	20
Measure Theory	10
Stochastic Financial Modelling	10
Experimental Design	10
Extreme Value Theory	10
Time Series	10

Survival Analysis	10
Statistical Genetics	10
Mathematical Statistics	10
Bayesian Statistics and Decision Theory	10
Mathematical Biology	10
Variational Methods and Lagrangian Dynamics	10

Teaching and assessment

Teaching methods

You'll learn through a combination of different methods including:

- lectures
- small group seminars
- hands-on labs and practicals

Modules taught by NICD will take an experiential learning approach. This means you'll learn by doing. You'll use ideation and the innovation process to solve real-world problems. Approaches include:

- flipped learning
- bootcamps

During flipped learning, you'll research a topic and report back to subject experts.

Throughout the course, you'll develop an open-source portfolio. You'll use it to track and showcase your skills and expertise to future employers.

Assessment methods

You'll be assessed through a combination of:

- Coursework
- Examinations – practical or online
- Group work
- Portfolio submission
- Presentations
- Projects
- Seminar tasks/exercises

Skills and experience

Practical skills

The field of data science presents new and unique problems. We'll teach you how to use your knowledge and skills to tackle these challenges and find solutions.

This degree will give you the skills employers, across the globe, are looking for.

You'll take part in bootcamps at NICD, developing your research and presentation skills. You'll work alongside technical experts and industry professionals.

You'll also develop experimental, analytical, and research skills through computational and project-based modules.

You'll have access to our state-of-the-art facilities, including:

- our computing labs in the Urban Sciences Building
- the Catalyst at Newcastle Helix

The Catalyst hosts a dynamic community of businesses and research specialists. It's also the home of NICD.

Business skills

This hands-on degree will give you the skills to start a career in data science after graduation.

NICD will lead part of your teaching in Stages 2 and 3. You'll work alongside businesses, using their data to solve real problems. This will help you learn the language of business. This is a great opportunity to improve your portfolio and CV with examples of industry collaborations.

In Stage 3, you'll take part in an industry-focused group project. You'll develop your teamwork and practical skills, preparing you for the world of work. You'll explore the ethics of data and the modern application of data science in the real world. The group project will help you develop communication skills and confidence in explaining technical concepts to non-experts.

Research skills

Your teaching will be research-led, informed by the latest research findings from the:

- School of Mathematics, Statistics and Physics
- School of Computing
- National Innovation Centre for Data (NICD)

The course is delivered in collaboration with NICD. You'll have access to a Centre of Excellence at the forefront of data science, AI and industrial engagement. Your learning will be informed by real-world applications of data science.

You'll develop research skills during the Group Project in Stage 3. As part of this module, you'll need to:

- survey the current landscape
- assess problems and find coherent solutions
- explain your research

Student stories

My Personal Tutor was always helpful, not only with any academic queries but also with any mental health concerns, which I really appreciated.

Read about Antonia's experience studying Mathematics BSc

Opportunities

Study abroad

Experience life in another country by choosing to study abroad as part of your degree. You'll be encouraged to embrace fun and challenging experiences, make connections with new communities and graduate as a globally aware professional, ready for your future.

You can choose to spend up to a year studying at a partner institution overseas.

If you choose to study abroad, it will extend your degree by a year.

Find out more about study abroad

Work placement

Apply your practical skills, increase your confidence and gain real-life work experience to accelerate your career. Take a 9-12-month industrial placement in the UK or abroad. Work placements usually take place in stage 3 of your studies and extend your degree by one year.

Find out more about work placements.

Facilities and environment

Facilities

You'll join the School of Mathematics, Statistics and Physics based in the Herschel Building.

A state-of-the-art learning environment will support your studies and you'll have access to extensive IT facilities for teaching and self-study, including:

- computer-based exercises with instant review of model solutions
- problem-solving video tutorials
- recording system for video capture of lectures, which you can download and watch again to help with your revision

The Herschel Building also has dedicated study and social spaces, and a computing area.

Support

We take your health and wellbeing seriously and are committed to supporting you throughout your studies so you can fulfil your potential at university. This support includes:

- a personal tutor who is an academic member of staff who can help you with academic and personal issues throughout your degree
- a peer mentor scheme which pairs you with a current student from your course to help you navigate your first year at university
- a student-staff committee, to give you an opportunity to have a say in how your degree works
- Student Wellbeing Advisors who can offer comprehensive listening and support and signpost you to other University support services or external support agencies

Transition Officer

A dedicated staff member is here to support you in transitioning from school to university study.

The Transition Officer works with Stage 1 undergraduates to provide:

- Stage 1 pastoral and academic support
- attendance and academic performance monitoring
- Stage 1 induction

- weekly drop-ins

You'll also benefit from our:

- induction programme, including social events, to help you settle in quickly
- activities and events run by our student-run society, MathSoc
- homework classes to help with assignments

Your future

Data science graduates report earning an average salary of £32,000 on graduation.

Possible job roles for data science graduates include:

- data scientist
- AI data scientist
- data analyst
- statistician
- data engineer
- risk analyst
- market research analyst

- analytics manager
- machine learning engineer

You'll work closely, and network, with researchers and businesses at NICD. NICD is a research centre on Newcastle University's Helix campus.

Benefit from strong industry links

We've partnered with NICD to deliver this Data Science BSc degree. Through their industry connections, you'll grow your network in business and data science. NICD's customers include organisations and businesses across a range of expertise. These include:

- Red Hat Inc
- Proctor and Gamble
- Newcastle Building Society
- Engie
- Kinewell
- iamproperty
- PolyBox Solutions
- NCEA Trust
- NHS
- West End Food Bank

We're also partners with The Alan Turing Institute, the UK's national institute for AI and data science.

You'll also benefit from industry links from the School of Computing and the School of Mathematics, Statistics and Physics.

The schools have a dedicated employability facilitator. They'll organise industry talks, visits and opportunities to network throughout the programme.

Employability at Newcastle

96% of Newcastle University graduates progressed to employment or further study within six months of graduating, with 85.5% in graduate-level employment or further study.

Statistics are based on what graduates were doing on a specific date, approximately six months after graduation (Destinations of (undergraduate and postgraduate UK domiciled) Leavers from Higher Education Survey 2016/17).

Careers support

The School of Mathematics, Statistics and Physics is supported by Careers Service and the Learning Partnerships team to support your career readiness from the moment you arrive.

You'll benefit from:

- guest lectures from alumni and industry built into the modules
- career-planning sessions from award-winning Careers service team employers regularly visiting campus and the School

There is also a Maths, Stats and Physics Employability resource which brings you the latest opportunities, adverts and news.

There is also the popular optional Stage 3 module in Career Development if you wish to further enhance your employability.

Our Careers Service is one of the largest and best in the country, and we have strong links with employers. We provide an extensive range of opportunities to all students through our ncl+ initiative.

Visit our Careers Service website

Recognition of professional qualifications outside of the UK

If you're studying an **accredited degree** and thinking about working in Europe after you graduate, the best place to find current information is the UK Government's guidance on recognition of UK professional qualifications in EU member states. This official resource explains whether your profession is regulated in another country, what steps you need to take, and which organisation you should contact.

Find out more...

- Go online for information about our full range of degrees: **www.ncl.ac.uk/undergraduate**
- Watch videos about student life in Newcastle by visiting our YouTube channel at **www.youtube.com/@newcastleuni**
- Watch a virtual tour of our campus at **https://youtu.be/vJUfHcqB7l8?si=8IUrf7kTxXbgdfr1**
- Book for an Open Day to come and see us in person **www.ncl.ac.uk/openday**
- Contact us online at **www.ncl.ac.uk/enquiries** or phone +44 (0)191 208 3333

This brochure is created from web content and is up to date at the time of creation (see the first page for creation date). If you are on screen you are able to use the live links that are highlighted in blue. If reading in print, the URLs provided above will help you to navigate back online. Full details of the University's terms and conditions, including reference to all relevant policies, procedures, regulations and information provision, are available at: **https://www.ncl.ac.uk/student-welcome/student-contract/**