UWE Bristol

NOT JUST NUMBERS, NARRATIVES

LEAD THE
FUTURE OF DATA

Are you ready to become a strategic leader in the data-driven world? UWE Bristol's online MSc Data Science programme equips you with the skills and knowledge to navigate the complexities of modern industries and impact on organisational efficiency and productivity as well as societal challenges.

MSc Data Science (online)

Prospectus 2024/25

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Who is this programme for?

This programme is designed for driven individuals who have a passion for data and solving complex problems.

Ambitious data scientists:
Looking to advance your career in this exciting and in-demand field? This programme will equip you with the skills and knowledge to progress to senior and leading data science-related roles.

Experienced professionals:
Get the opportunity to enhance your expertise and advance your career in data science; gain **advanced technical skills and insights** needed to tackle complex data challenges.

Career changers:
Transitioning from another technical field, you'll develop the **knowledge and practical experience** required to make a successful move into data science.

IoA Accredited

This programme is accredited by the Institute of Analytics, confirming that it meets recognised industry standards for analytics and data science education. Accreditation matters because it assures employers of the programme's quality and relevance, while also giving students access to professional recognition and a fast-track route to Institute of Analytics membership.
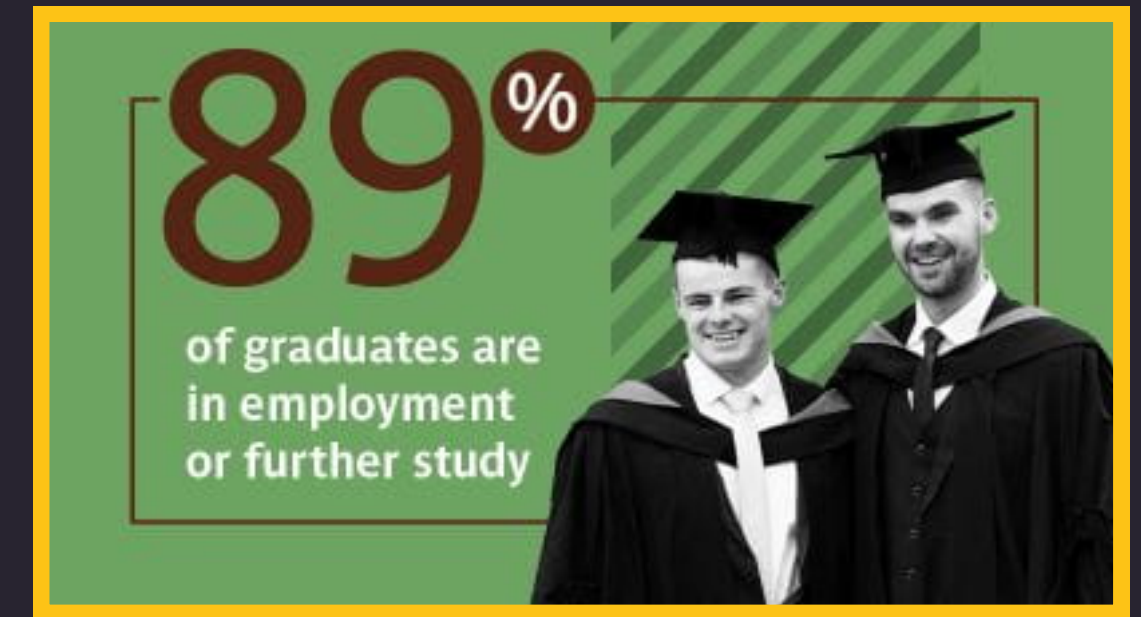
Why UWE Bristol?

UWE Bristol

Your launchpad for success

UWE Bristol is a thriving, modern university with a rich history of academic excellence and a strong reputation for producing highly employable graduates. We are proud to hold a **gold rating for student experience** in the Teaching Excellence Framework (TEF).

Our strong links with industry ensure that our programmes are relevant and up-to-date, reflecting the latest trends and challenges in the field of data science.

TEF 2023 Teaching Excellence Framework

GOLD
Outstanding student experience

Rated Silver as an overall score for achieving very high-quality student outcomes

89% of graduates are in employment or further study

84% of our research impact is considered world leading or internationally excellent.*

*REF 2021

TOP 10
MODERN UNIVERSITY
Sunday Times Good University Guide, 2026.

Unlock your potential with online study

Balance your studies with your work and personal commitments, without sacrificing the quality of your education.

UWE Bristol

Flexibility

Our **100% online format** gives you the freedom to study at your own pace. You can design your own study schedule that suits you. Tuition is also paid on a **per-module basis** allowing payments to be spread out across your programme.

Mobility

Your programme is in your pocket. Your course travels with you as you **study a-synchronously** from the device of your choice from anywhere in the world. **Enjoy 24/7 access to class** through your Virtual Learning Environment and online library.

Expert Faculty

Our programmes are **designed by on-campus faculty** members. Learn from experienced data science professionals and academics who are **passionate about making a difference.** Benefit from their insights, guidance, and support.

Support

Develop your knowledge with 24/7 access to the **UWE Bristol online library service**. When needed, you can also get 24/7 support from the **mental health helpline**.

Community

Connect with a **diverse network of learners** and experts from around the world through engaging discussion forums and get opportunities to participate beyond the course in wider discussions/debates.

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"Information is the **oil of the 21st century**, and analytics is the combustion engine."

Peter Sondergaard, former Executive Vice President at Gartner

Programme structure

Your pathway to data science expertise

The UWE Bristol MSc Data Science (online) is a two-year, part-time course designed to fit seamlessly into your professional life. Through a blend of theoretical grounding, technical skills and hands-on experience, you'll gain the expertise to navigate the complexities of the data-driven world.

Core Modules: Building your skills toolkit

Each of the eight compulsory modules is 15 credits and is carefully crafted to build upon your existing knowledge and skills, ensuring a logical progression throughout the programme.

Master's Project: Your final project

This final project blends your technical expertise with research insights, focusing on ethics, human factors, and professional values. Produce a practical outcome like software, data analysis, or a predictive model, and showcase it in your final work.

CORE MODULES

Explore your online modules designed for in-demand skills

The programme has a total of 180 credits. You take eight core modules; each is worth 15 credits and is an average of eight weeks in duration. Your journey culminates with your 60 credit Master's Project.

Core Module

MSc Data Science (online)
15 Credits

Big Data

Understand the concepts and applications of Big Data, exploring its impact on business decision-making. Master both traditional (SQL) and alternative (NoSQL) storage approaches, gain hands-on experience with Big Data tools, and address the challenges of data quality.
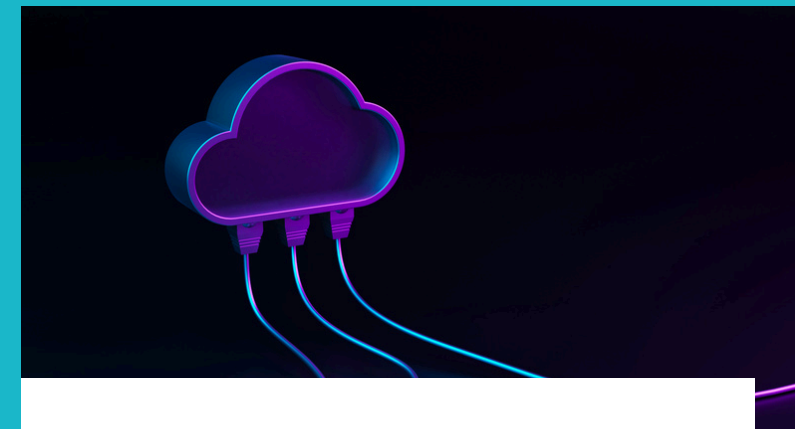

Core Module

MSc Data Science (online)
15 Credits

Business Intelligence and Data Visualisation

Master the art of transforming data into actionable insights. Develop expertise in Business Intelligence tools, data visualisation techniques, and communication strategies to support effective decision-making and problem-solving in a business context.

Core Module

MSc Data Science (online)
15 Credits

Cloud Computing

Explore fundamentals of cloud computing, business applications, and security concerns. Master cloud models, enabling technologies, virtualisation, and sustainability impacts, preparing you to address challenges and leverage opportunities in this evolving field.

Core Module

MSc Data Science (online)
15 Credits

Data Management Fundamentals

Master the essential concepts and techniques for effective data management. Explore relational modelling, data querying, cleansing, NoSQL stores, architectures, and address security, environmental, and ethical considerations in data-driven environments.

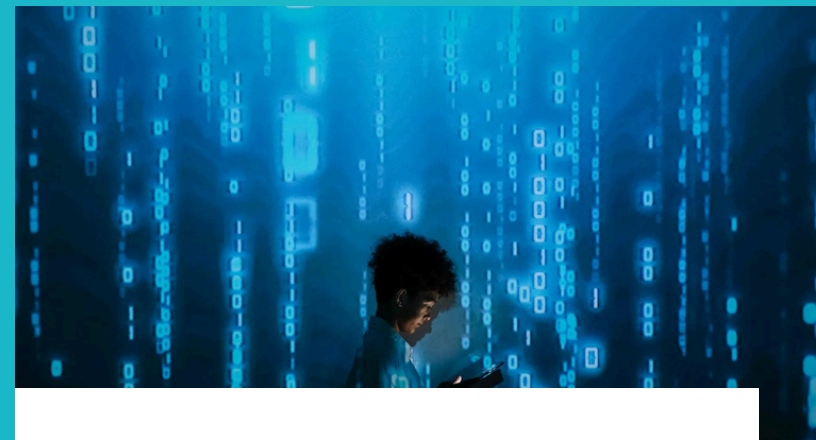UWE Bristol

CORE MODULES
Continued

Core Module

MSc Data Science (online)
15 Credits

Machine Learning and Predictive Analytics

This module equips you to mine business insights from data, using techniques like regression and random forests. Learn to visualise results, evaluate models, and navigate future trends in this software-driven field.
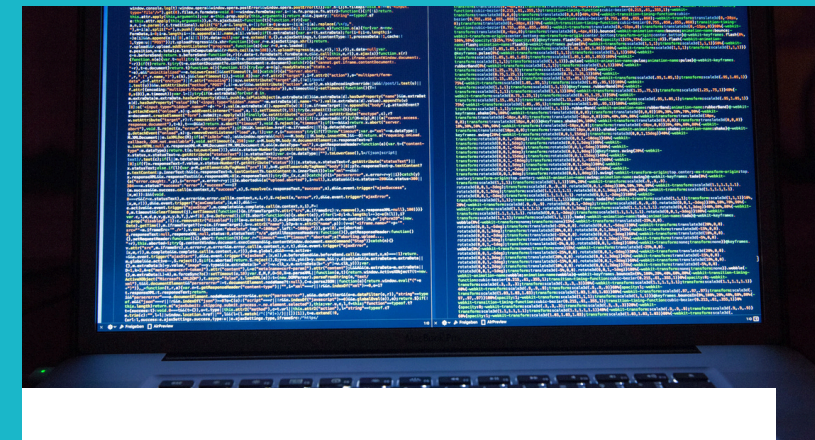

Core Module

MSc Data Science (online)
15 Credits

Process and Practice in Data Science

Develop the skills and ethical framework essential for successful data science projects. Master project management methodologies, explore innovation strategies, cultivate critical thinking, and address ethical considerations in a dynamic data-driven landscape.

Core Module

MSc Data Science (online)
15 Credits

Programming for Data Science

Master the fundamentals of programming in Python for data science. Learn essential concepts, data structures, and develop skills in data analysis and visualisation – ideal for both beginners and those looking to enhance their programming abilities.

Core Module

MSc Data Science (online)
15 Credits

Statistical Inference

Develop expertise in statistical inference and data analysis using R. Master reproducible research practices, data visualisation, hypothesis testing, and model building to extract valuable insights and drive evidence-based decision-making.

Meet the programme leader

MSc Data Science (online)

Dr Ben Derrick

Qualifications: DPhil, MSc, BSc(Hons)
Position: Senior Lecturer - Programme Lead
Department: FET - Computer Science and Creative Technologies

Dr. Ben Derrick is a Senior Lecturer at UWE Bristol, specializing in statistics and data science. His research focuses on artificial intelligence in education, statistical simulation methods, and disclosure control. He leads the MSc Data Science (online) programme, designing a flexible curriculum that prepares students for the evolving demands of the field. Dr. Derrick also coordinates placement opportunities, connecting students with practical industry experience.

His research has been published in leading journals, and he has supervised numerous student projects that have led to publications. Dr. Derrick's dedication to teaching and research ensures that students receive a comprehensive and contemporary education in data science.

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MSc Data Science (online)

Skills development

Real-world application

These skills are not just theoretical concepts; they are practical tools you can immediately apply in your workplace. Whether you're analysing complex datasets, building predictive models, or designing data-driven solutions, the skills you gain in this programme will empower you to make a real impact.

Personal and professional growth

The UWE Bristol online MSc Data Science programme goes beyond technical skills. It also fosters personal growth and ethical awareness, helping you develop critical thinking, problem-solving, and ethical data skills that are essential for success in any data science role.

By the end of this programme, you'll be equipped with a powerful combination of skills that are in high demand across industries. You'll be ready to take on the challenges of the data-driven world and drive innovation in your organisation.

Key skills you'll develop

Empower your data science expertise

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Data Analysis and Modeling

Uncover hidden patterns and insights within complex datasets, using statistical methods and machine learning algorithms to build predictive models and inform data-driven decision-making.

Data Visualisation

Communicate complex data findings effectively through compelling visualisations, dashboards, and presentations, enabling stakeholders to understand and act upon insights.

Machine Learning and AI

Understand the principles of machine learning and artificial intelligence, apply various algorithms to real-world problems, and explore the ethical implications of AI in decision-making.

Coding

Use scripting languages and good coding practice together with relational and NoSQL data querying to design, prototype and develop data science solutions

Critical Thinking

Develop a structured approach to problem-solving, apply critical thinking skills to analyse data challenges, and devise creative solutions that leverage data insights.

The Virtual Learning Environment (VLE)

Your digital campus, your global classroom

At UWE Bristol, we've created a dynamic and engaging virtual learning environment (VLE) that brings the classroom to you, wherever you are in the world. Our VLE, powered by Blackboard Ultra, is designed to facilitate seamless online learning, collaboration, and connection.

Blackboard Ultra: Your learning hub

Blackboard Ultra is more than just a platform; it's your personalised learning hub. Access course materials, engage in discussions, submit assignments, and connect with your peers and instructors, all in one convenient location. With features like:

Interactive content: Engage with multimedia learning materials, including videos and quizzes.

Discussion forums: Share ideas, ask questions, and collaborate with your peers in a vibrant online community.

24/7 Access: Study at your own pace, anytime and anywhere, from any device.

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Blackboard
LEARN ULTRA

Collaborative learning:

Building a community of data science professionals

We believe that learning is a social activity. That's why we've designed our programme to foster collaboration and interaction among students and faculty. Through group projects, peer feedback, and online discussions, you'll build relationships with fellow data science professionals from around the world, expanding your network and gaining valuable insights from diverse perspectives.

Case study approach: Bridging theory and practice

Our programme emphasises the practical application of data science theory and concepts. Through engaging case studies based on real-world scenarios, you'll develop the skills to analyse complex data challenges, propose solutions, and make informed decisions. This approach bridges the gap between academia and industry, preparing you for the real-world demands of a data science career. Your learning journey is our priority. At UWE Bristol, we're committed to providing you with a supportive and engaging online learning experience that empowers you to achieve your goals.

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Assessment methods

The MSc Data Science (online) programme uses a variety of assessment methods to gauge your understanding and ability to apply the course material.

Modules will focus on real-world problems and datasets, with a requirement for students to demonstrate the ability to research, apply and share relevant techniques as they would in the workplace.

You'll be assessed on **good ethical and legal practice.**

Oral assessment will sometimes be used to assess **communication of technical analyses.**

Elements of group working and continuous enhancement are built into assessment in the process and practice module.

Master's Project: you get the opportunity to bring together new skills in statistics, data management and technical development, where there will the option to focus on a business problem from your own organisation or from those suggested by industrial partners or academic staff.

MSc Data Science (online)
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Formative and summative assessment

Throughout the programme, you'll receive both formative and summative assessments.

Formative assessments: These are ongoing assessments designed to provide feedback and guide your learning. They may include quizzes, discussions, or short assignments.

Summative assessments: These occur at the end of modules or courses and evaluate your overall understanding of the material. They contribute to your final grade and determine your successful completion of the programme.

Alignment with learning outcomes

Each assessment is carefully aligned with the specific learning outcomes of the programme. This ensures that the assessments accurately measure your achievement of the programme's goals and prepare you for success in your future data science career.

The assessments are designed to develop the critical thinking, problem-solving, and communication skills that are highly valued by employers in the field of data science.

Tuition fees

The fee for this programme is £7,950. You pay £795 per module and £1,590 for the final project.

Fees are paid on a modular basis over the duration of the two-year course. The balance for the current module needs to be paid before being able to register for the next module. For your convenience, invoices will be issued as near as possible to the start of each module. UK students pay by credit or debit and international students through our official online payment partner, Flywire.

UK (home) students may be eligible for UK postgraduate student loan assistance. Students who receive this funding need to complete the course within two years, otherwise payments will be interrupted or stopped. Find out more about postgraduate funding.

Scholarships and financial aid

We are committed to supporting individuals in pursuing their studies. Please consult with the Student Success Team for the latest information on tuition fees.

UK-based students may be entitled to a Postgraduate Master's Loan:
gov.uk/masters-loan.
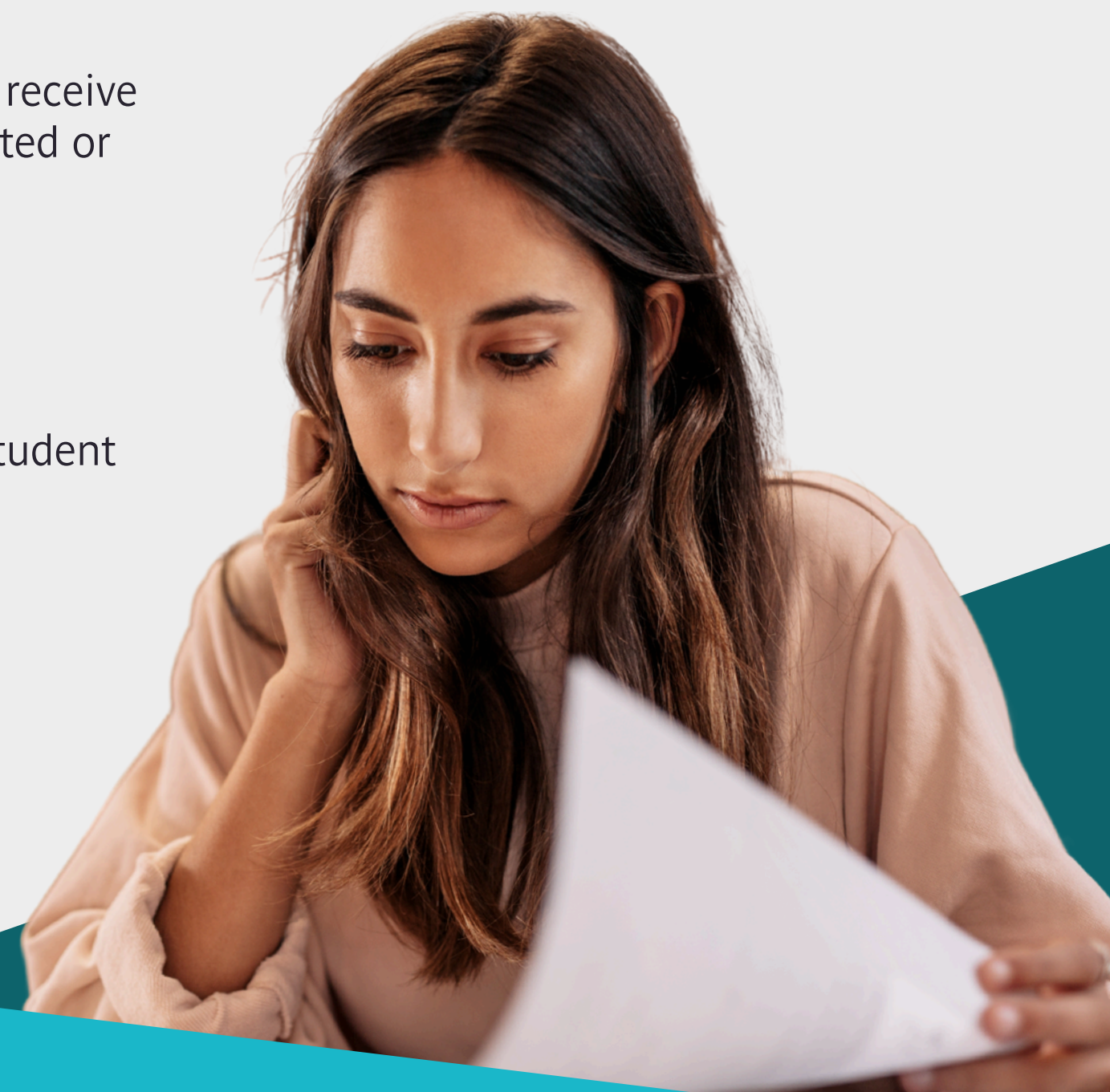
Entry requirements

To be considered for the MSc Data Science (online) programme, you should have:

- A minimum of a 2:2 Honours degree or equivalent in a relevant subject.
- **Relevant subjects include:** Computer Science, IT or other computing subjects, Maths, Statistics, any Engineering subject, any quantitative subject such as Physics, Chemistry, Business, Marketing, Economics, Psychology and Social Sciences. Experience with quantitative methods and/or coding is highly recommended.

If you do not meet the above requirements but **have at least 12-months relevant professional experience** and/ or equivalent qualifications, we will consider your application on a case-by-case basis.

English language requirement
International and EU applicants are required to have a minimum overall IELTS (Academic) score of 6.5 with no component below 5.5 (or approved equivalent*).

*The university accepts a large number of UK and International qualifications in place of IELTS. To find details of acceptable tests and the required grades, please visit our English Language Requirements pages.

Exemption from the English language requirement
A Proof of English Language Proficiency (POE) exemption may be offered to you if you meet one of the following criteria:

- Completed at least 3 years of high school in an English-speaking country.
- Completed an International Baccalaureate (IB) Diploma in English.
- Completed an IB diploma in a different language if they obtained a grade of 5 or higher for one of the English courses.
- Completed a higher educational or professional qualification in English.
- Working in an English-speaking environment and demonstrably working in English.

Tips for a strong application

By following these tips and submitting a well-prepared application, you'll increase your chances of being accepted into the programme.

Personal statement: Craft a compelling 300-500 word personal statement or 4-5 minute video presentation that highlights your passion for data science, relevant experience, and career aspirations.

References: Choose referees who can speak to your academic abilities, professional experience and potential for success in the programme.

CV/resume: Ensure your CV/resume or LinkedIn profile is up-to-date and showcases your skills and experience.

Got questions?

✉ **Send us an email**

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