Engineering Mathematics
Undergraduate study
Courses

**Single Honours**

**BEng Engineering Mathematics**
three years G162

**MEng Engineering Mathematics**
four years G161

**MEng Engineering Mathematics with Study Abroad**
four years G160

**MEng Engineering Mathematics with a Year in Industry†**
five years

*Entry by transfer, subject to eligibility criteria.

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**Why study engineering mathematics at Bristol?**

Engineering mathematics is the art of applying mathematics and technical engineering principles to complex, real-world problems, ranging from robotics, space systems and social media to medicine, sustainability and environmental modelling.

Our engineering mathematics courses meet the increasing demand from industry for mathematically skilled engineers who can drive high-tech innovation. These skills can only be learned from hands-on experience and we teach using case studies taken from a wide range of engineering, scientific, industrial and business applications.

The Faculty of Engineering has some of the best facilities in the world. Our pioneering research means that you will learn about the latest mathematical techniques at the heart of modern engineering from internationally recognised experts. Our curriculum offers a diverse range of mathematical topics such as nonlinear dynamics and artificial intelligence, which are beyond the scope of conventional mathematics degree courses.

During your degree you will gain many important transferable skills, including teamwork, report writing, giving presentations and problem solving. These skills are highly valued by employers and are often central to career success. We have a superb graduate employment record and our students go on to have successful careers in a wide range of exciting industries.

Our continuing investment in facilities forms part of the exceptional student experience at Bristol. The Engineering Growth Project is a £14 million investment that will equip the Faculty of Engineering well into the 21st century. From autumn 2017 this major expansion of our facilities will include state-of-the-art equipment and large, flexible teaching, design, study and workshops spaces, enabling interactive teaching and learning for our students. Our new atrium will act as a social learning and meeting place and there are future plans for a new cafe and bookable project and study rooms.

100 per cent of MEng Engineering Mathematics students are satisfied with the quality of the course.

National Student Survey 2016

bristol.ac.uk/ug-study
What will you study?

Engineering mathematics is built on four core themes which cover theoretical and practical aspects of the application of mathematics, together with a wide range of options.

Mathematical and data modelling
This is the unique selling point of all our engineering mathematics degrees. Students apply their skills to create mathematical models and solve real problems from research, industry and business. The aim of this theme is to prepare you for work at the highest level in the most challenging and rewarding careers in engineering, mathematics and science.

Mathematics
Core mathematics is an inherent part of our engineering mathematics courses; the type of mathematics you will study is incredibly varied, from decision mathematics to mechanics, artificial intelligence to chaos theory. You will be learning new mathematics, but also why you need it to solve real problems.

Unit profile – Mathematical and Data Modelling*
Mathematical modelling is crucial to our understanding of the real world. Through formal mathematical methods, we can capture the essence of interactions as complex and varied as those in biological, physical, chemical and social systems.

Mathematical modelling is a core stream that runs through the degree, in which you must use your mathematical skills to investigate real-world problems posed by guest experts from a wide variety of fields. Working in small teams, you will develop the abilities to interact and communicate with teammates, learn to think outside normal convention and to be creative with mathematics. The problems are extremely varied and exciting, including modelling disease epidemics, profiling internet users by their behaviours, developing ultrasound location systems for autonomous machines, and maximising the efficiency of energy harvesting systems. No two projects are the same and their variety, challenging and open-ended nature prepares students for professional life after graduation. This unit is assessed through a combination of technical reports, presentations and peer review feedback.

*Please see bristol.ac.uk/ug-study for the most up-to-date unit information for 2018/19.

‘I really enjoy the course. I wasn’t sure what to study at university but Engineering Mathematics involves everything I could want, combining programming, mathematics, physics to solve real-world problems with mathematical models.’
Laura (MEng Engineering Mathematics with Study Abroad)

bristol.ac.uk/ug-study
Careers and graduate destinations

From designing next generation Formula One cars and space systems, to biomedicine and the development of renewable energy technologies, our graduates go on to a wide range of careers. Their unique mixture of computational, technical, problem-solving and teamwork skills are valued highly by employers and our graduates find rewarding and exciting careers.

As well as the support offered by the University’s Careers Service, our engineering students benefit from a dedicated Industrial Liaison Office, which develops engineering-specific industrial links for students. Its work includes running special internship and mentoring schemes for engineering students, organising industry-specific ‘Inside Track’ lectures, and establishing industrial scholarships, prizes and projects.

Our many connections with industry mean that our courses are professionally relevant, and that we are well placed to recommend the best graduate employers. Recent examples include Airbus, Arup, BAE Systems, DCA Design, Garrad Hassan, Logica, PricewaterhouseCoopers, Red Bull Racing, Sun Microsystems, SunTech Medical, Atkins, Auracell, Deutsche Bank, EY, Motorola, OC Robotics, Renishaw, Stirling Dynamics, Swarm Systems, and Transport for London.

Making your application

Typical offer for BEng Engineering Mathematics*

Visit bristol.ac.uk/ug18-engmaths for Joint Honours and other qualifications.

A-levels AAA (contextual ABB†) including A in Mathematics, or A*AB including A in Mathematics.

IB Diploma 36 points overall (contextual 32†) with 18 at Higher Level (contextual 16†), including 6 at Higher Level in Mathematics.

English Language profile E††

GCSEs Mathematics and English at grade C or above.

†For information on contextual offers, visit bristol.ac.uk/ug-apply/#typical-contextual-offers.

††For details of English language profiles, visit bristol.ac.uk/ug-language-requirements.

Selection UCAS or Common Application.

Deferred entry Welcomed.

We carefully consider the personal statement and reference for each applicant. Evidence of potential to successfully complete the course may include:

• your interest in and commitment to mathematics and engineering;
• strong mathematical, analytical and technical skills;
• relevant reading, research or experience beyond your current syllabus;
• the suitability of the course to your interests and aspirations;
• non-academic achievement, work experience, positions of responsibility or teamwork;
• standard of written English.

It is possible to gain sponsorship for your studies; instead of direct sponsorship many employers are now using the ‘Year in Industry’ scheme as a route to finding future employees. More information is available at: www.etrust.org.uk/the-year-in-industry.

Further information
Find out more about the Department of Engineering Mathematics: bristol.ac.uk/engmaths.

The University of Bristol has one of the best employment records in the UK. We are rated sixth in the UK in the QS Graduate Employability Rankings 2016/17 and are the third most targeted university by top UK employers (High Fliers Research, 2017).
If you have any questions about courses, applications or any aspect of being a UK or international student at Bristol please contact the Enquiries Team.

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University guide to the city of Bristol
bristol.ac.uk/citybristol

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