Mathematics
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At Sussex we recognise that mathematics is the foundation of the natural sciences. It plays a major role in disciplines such as finance, economics, physics, computer science and life sciences.

OUR COURSES
We offer a range of courses for all levels, from foundation year to the four year MMath, and a number of courses with a minor subject, such as Finance or Economics.

Our degrees provide you with a foundation of core mathematical and statistical knowledge to ensure you are numerate, computer literate and able to think logically and quantitatively; while the range of courses we offer allows you to enhance your degree in different ways. All degrees have a common framework of organisation and assessment, and each module taken is assessed in the same term. This allows flexibility in your choice of modules and enables you to transfer between degree courses.

WE OFFER THE FOLLOWING COURSES:

- Mathematics degree (with a foundation year) BSc
- Mathematics BSc
- Mathematics MMath
- Mathematics with Economics BSc
- Mathematics with Economics MMath
- Mathematics with Finance BSc
- Mathematics with Finance MMath
- Mathematics with Research Placement MMath

ACCREDITATION:
All our courses are accredited by the Institute of Mathematics and its Applications (IMA). The MMath courses are accredited to meet the educational requirements of the Chartered Mathematician designation awarded by the IMA.
The popular MMath is an integrated Master’s degree allowing you to study mathematics in greater depth. This is invaluable if you want to pursue postgraduate research or a career in which technical skills are important, such as mathematical modelling in finance or industry. It also enables you to obtain a Master’s degree whilst being eligible for undergraduate financial support.

Our Placement Program gives students the opportunity to intermit their degree and seek employment in various areas. Recent employers include HEFCE (Higher Education Funding Council), NATS (National Air Traffic Control) and Rolls Royce. Students can apply some of their mathematical knowledge to optimise systems and processes, and learn a number of transferable skills ranging from presentations and team work to becoming more independent.

This course provides a unique opportunity to learn about research methods and practices at the same time as developing your knowledge and understanding of mathematics. You will spend your summer vacations working with a member of faculty on a paid research project. During the placement, you will explore research methods, learn to understand and use scientific literature, and develop practical and mathematical skills. The research placement can be done with the same faculty member, or with a different member in different years. This is an exciting opportunity for students interested in a career in research. Research placement students have the option to do their summer placement abroad.

You will learn through a combination of lectures and small group workshops. The year consists of two 12 week teaching terms: Autumn term (mid September – mid December) and Spring term (end January – mid May). A typical week for one module consists of three hours of lectures (typically in the form of one 2 hour lecture (with 10 minute break) and one 1 hour lecture. There are also 1 hour workshops which take the form of small group teaching (around 25 students) with one or two PhD students. All lecturers have two 1 hour office hours where they are available to answer any questions on the material in their modules. There are also weekly drop-in sessions during term time, where higher level students are available to meet on a one-to-one basis. A complete set of lecture notes, and solutions to weekly exercise sheets and past exam papers are available on-line for all modules. You will do a final-year project for all our MMath courses, and you have the option to do a project in all our BSc courses.

A typical module is assessed by an exam, a mid-term test and exercise sheets.

Studying abroad makes you stand out from other students when entering the job market. Students on our MMath and BSc courses have the option of spending some of their degree studying abroad. Our exchange partners include world leading universities such as Eötvös Loránd University in Hungary, Uppsala University in Sweden, Hong Kong University and Hong Kong University of Science and Technology, Waseda and Kyoto Universities in Japan and Nanyang Technological University in Singapore. Exchanges with North American universities will also be available.
# Course structure

## Autumn Term

### Year Taken by Students
- Statistics and Decision Mathematics
- Foundation Mathematics A/Foundation Mechanics/Foundation Programming
- Further Mathematics

### Project
- Foundation Mathematics
- Further Mathematics

### Year 1

- Introduction to Pure Mathematics • Calculus • Geometry
- *Mathematics in Everyday Life

- Calculus of Several Variables • Analysis 2 • Introduction to Probability • *Algebra

- (*Students on Mathematics with Economics replace this module with: Introduction to Economics)
- (*Students on Mathematics with Finance replace this module with: Principles of Finance)

- MMath Mathematics with Research Placement – 4 week summer placement

### Year 2

- Differential Equations • **Probability and Statistics
- • ***Complex Analysis • Numerical Analysis 2

- (*Students on Mathematics with Economics replace this module with: Europe in the International Economic Order)
- (*Students on Mathematics with Finance replace this module with: Financial Derivatives)

- Quantum Mechanics 1)

- MMath Mathematics with Research Placement – 8 week summer placement

### Year 3

- Probability Models • Partial Differential Equations • Linear Statistical Models

- (Students on Mathematics with Economics take Understanding Global Markets plus 2 options from a range)
- (*Students on Mathematics with Finance take 3 options from a range)

- MMath Mathematics with Research Placement – 4 week summer placement (optional)

### Year 4 MMath Students

- Financial Mathematics • Mathematical Fluid Mechanics • Cryptography

- (Students on MMath Mathematics with Economics take MMath Project, Accounting for Decision Makers and 2 options)
- (*Students on MMath Mathematics with Finance take MMath Project, Financial Mathematics and 2 options)

- Random Processes • Financial Portfolio Analysis • Monte Carlo Simulations

- (Students on MMath Mathematics with Economics take MMath Project, Globalisation and Integration and 2 options)
- (*Students on MMath Mathematics with Finance take MMath Project, Financial Portfolio Analysis, Mathematical Models in Finance and Industry, and 1 option)
Regardless of which career you choose, your Sussex Mathematics degree will serve you well. If you study with us, you will be equipped with skills that are highly sought after by employers. You will not only get a first rate mathematics education, you will also have access to all the resources you need to successfully enter the graduate job market or secure a place for postgraduate study. Our close partnerships with local organisations give you invaluable industry insights, the chance to meet potential future employers and secure placement opportunities, and the opportunity to hone your practical and professional skills.

OUR ALUMNI HAVE GONE ON TO CAREERS:

IN FINANCIAL SERVICES
Alpha FMC • American Express • Bank of England
• Clydesdale Bank • Deloitte LLP • KPMG • Lloyds Banking Group • Nomura International PLC • PwC
• Thomson Reuters

IN INFORMATION TECHNOLOGY
Cable & Wireless • Fujitsu Services Ltd • GE • HBOS
• IBM UK • Siemens IT Solutions & Services Ltd

IN TEACHING
Cardinal Newman Catholic School, Hove • Cavendish School, Eastbourne • Kingsbridge Community College • PGCE Cambridge • PGCE Sussex

We work closely with the University careers service to provide mathematics specific careers activities and to embed transferable skills into your degree. In the second year you will take an assessed careers module to help you to make successful applications, identify your skills and experience, research potential career options, and develop a personalised plan to reach your chosen vocational goal.

“It’s important that our employees are able to handle vast amounts of data. Studying Maths at Sussex meant that I was familiar with this and confident enough to be able to take resulting insights to our clients based on my analysis.”

HARRIETT HAYDEN, MATHEMATICS WITH ECONOMICS BSc GRADUATE, HEAD OF BUSINESS OPERATIONS (NORTH AMERICA), DC STORM LIMITED
APPLICANT VISIT DAYS

All applicants who receive an offer and meet the advisory UCAS applications deadline are invited to attend an Applicant Visit Day. You will get a first-hand impression of what it is like to study here, a fuller picture of your chosen degree course, and an idea of what life is like as a student at the University of Sussex. There will be general and departmental talks, tours of the campus, accommodation and Brighton, and plenty of opportunities to meet lecturers and current students.

MORE QUESTIONS?

See our online prospectus at www.sussex.ac.uk/study/ug for more information, including the latest on:

- entry requirements
- how to apply
- fees, scholarships, bursaries and other financial support
- how to arrange to visit us.

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“There is a lovely sense of community amongst staff and students and the support is fantastic so you never feel alone.”

CLAIRE BLACKMAN, MATHEMATICS BSc