Mathematics and Computer Science Information Sheet for entry in 2016

This joint degree offers the opportunity to combine an appreciation of mathematical reasoning with an understanding of computing. Mathematics is a fundamental intellectual tool in computing, but computing is increasingly used as a key component in mathematical problem-solving.

Mathematics and Computer Science at Oxford

The course concentrates on areas where mathematics and computing are most relevant to each other, emphasising the bridges between theory and practice. It offers opportunities for potential computer scientists both to develop a deeper understanding of the mathematical foundations of their subject, and to acquire a familiarity with the mathematics of application areas where computers can solve otherwise intractable problems. It also gives mathematicians access to both a practical understanding of the use of computers and a deeper understanding of the limits on the use of computers in their own subject.

The first year and part of the second year of the course are spent acquiring a firm grounding in the core topics from both subjects; students are then free to choose options from a wide range of Mathematics and Computer Science subjects. In the second year students take part in an industry-sponsored group design practical.

The course

Mathematics and Computer Science can be studied for three years, leading to the award of a BA degree, or for four years, leading to the award of Master of Mathematics and Computer Science. The fourth year of the Mathematics and Computer Science degree provides the opportunity to study advanced topics and undertake a more in-depth research project. Everyone applies for the four-year course and chooses their exit point at the beginning of the third year.

A typical weekly timetable

The typical week for a student in Mathematics and Computer Science is similar to that for Computer Science or Mathematics.

1st year	
Courses Core Mathematics (50%) • Analysis • Continuous maths • Groups and group actions • Introduction to complex numbers	**Assessment** Five written papers, plus practicals

• Introduction to pure maths • Linear algebra • Probability Core Computer Science (50%) • Design and analysis of algorithms • Functional programming • Imperative programming	
2nd year	
Courses Computer Science (50%) • Concurrent programming • Logic and proof • Models of computation • Object-oriented programming Core Mathematics (25%) Three of • Algebra • Complex analysis • Metric spaces • Differential equations Options in Mathematics (25%)	**Assessment** Four written papers plus practicals (including a group design practical)
3rd year	
Courses Mathematics Options including:	**Assessment** Four written papers, plus practicals

• Number theory • Communication theory Computer Science Options including: • Computer security • Computational learning theory • Intelligent systems • Computational complexity • Lambda calculus and types	
4th year	
Research Mathematics Advanced options Computer Science Advanced options including: • Computer animation • Machine learning • Computational linguistics • Theory of data and knowledge bases • Automata, logic and games • Quantum computer science • Categories proofs and processes • Concurrent algorithms and data structures	**Assessment** At least five written papers plus practicals, and either a Mathematics dissertation or a Computer Science project

Lists of options offered in the 2nd, 3rd and 4th years are illustrative only, and may change from time to time. Further information about all of our courses:www.cs.ox.ac.uk/ugadmissions

The University will seek to deliver each course in accordance with the descriptions set out above. However, there may be situations in which it is desirable or necessary for the University to make changes in course provision, either before or after registration. For further information, please see the University's Terms and Conditions.

Fees

These annual fees are for full-time students who begin this undergraduate course here in 2016.

Fee Status	Tuition fee	College fee	Total annual fees
Home/EU	£9,000	£0	£9,000
Islands (Channel Islands & Isle of Man)	£9,000	£0	£9,000
Overseas	£22,515	£7,135	£29,650

Information about how much fees and other costs may increase is set out in the University's Terms and Conditions.

Living Costs

Your living costs will vary significantly dependent on your lifestyle. These are estimated to be between £970 and £1,433 per month in 2016-17. Undergraduate courses usually consist of three terms of eight weeks each, but as a guide you may wish to budget over a nine-month period to ensure you also have sufficient funds during the holidays to meet essential costs.

Living costs breakdown

	Per month		Total for 9 months	
	Lower range	Upper range	Lower range	Upper range
Food	£265	£298	£2,384	£2,673
Accommodation (including utilities)	£469	£667	£4,221	£6,002
Personal items	£119	£244	£1,073	£2,187
Social activities	£60	£107	£539	£960
Study costs	£36	£73	£314	£661
Other	£19	£44	£197	£410
Total	£970	£1,433	£8,727	£12,894

30 October 2015