Mathematics Information Sheet for entry in 2016

Mathematicians have always been fascinated by numbers. One of the most famous problems is Fermat's Last Theorem: ie if $n \geq 3$, the equation $x^n+y^n=z^n$ has no solutions with x, y, z all nonzero integers. An older problem is to show that one cannot construct a line of length $\sqrt[3]{2}$ with ruler and compass, starting with just a unit length.

Often the solution to a problem will require you to think outside its original framing. This is true here, and you will see the second problem solved in your course; the first is far too deep and was famously solved by Andrew Wiles.

Mathematics at Oxford

In applied mathematics we use mathematics to explain phenomena that occur in the real world. You can learn how a leopard gets its spots, explore quantum theory and relativity, or study the mathematics of stock markets.

We will encourage you to ask questions and find solutions for yourself. You will need to think mathematically and we begin by teaching you careful definitions so that you can construct theorems and proofs. Above all, mathematics is a logical subject, so you will need to argue clearly and concisely as you solve problems. For some of you, this way of thinking or solving problems will be your goal. Others will want to see what further can be discovered. Either way, it is a subject we want you to enjoy.

The course

There are two Mathematics degrees, the three-year BA and the four-year MMath. You will not be asked to choose between these until your third year.

The first year consists of core courses in pure and applied mathematics (including statistics). Options start in the second year, with the third and fourth years offering a large variety of courses, including options from outside mathematics.

New MMathPhys Fourth Year

From 2015/16, the Physics and Mathematics Departments in Oxford will jointly offer a new integrated masters level course in Mathematical and Theoretical Physics. Mathematics students will be able to apply for transfer to a fourth year studying entirely mathematical and theoretical physics, completing the degree with an MMathPhys. The course features research-level training in Particle Physics, Condensed Matter Physics, Astrophysics, Plasma Physics and Continuous Media. Read more about this fourth year at mmathphys.physics.ox.ac.uk.

A typical weekly timetable

- Years 1 and 2: around 10 lectures a week, 2-3 tutorials or classes a week
- Additional practicals in computing (first year) and numerical analysis (if taken)
- Years 3 and 4: 8 lectures a week, with 2-4 classes a week, depending on options taken

<table>
<tr><td colspan="2">1st year</td></tr>
<tr><td>Courses
Compulsory first year includes:
• Algebra
• Analysis
• Probability and statistics
• Geometry and dynamics
• Multivariate calculus and mathematical models</td><td>Assessment
First University examinations:
Five compulsory papers</td></tr>
<tr><td colspan="2">2nd year</td></tr>
<tr><td>Courses
• Compulsory core of Algebra, Complex analysis, Metric spaces, Differential equations
• Selection from topics including Algebra; Number theory; Analysis; Applied analysis; Geometry; Topology; Fluid dynamics; Probability; Statistics; Numerical analysis; Graph theory; Special relativity; Quantum theory</td><td>Assessment
Final University examinations, Part A:
Two core papers and six optional papers</td></tr>
<tr><td colspan="2">3rd and 4th years</td></tr>
<tr><td>Courses
Large variety, which may vary from year to year, ranging across: Algebra; Analysis; Applied analysis; Geometry; Topology; Logic; Number theory; Applied probability; Statistics; Theoretical mechanics; Mathematical physics; Mathematical biology; Information theory; Mathematical finance; Actuarial mathematics; Undergraduate Ambassadors Scheme; Dissertation; Mathematical philosophy; Computer Science options; History of Mathematics</td><td>Assessment
3rd year: Final University Examinations, Part B: Eight papers or equivalent
4th year: Final University Examinations, Part C: Eight papers or equivalent
Classification on Parts A and B. Upper second required to progress to Part C. Separate classification on Part C</td></tr>
</table>

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	£16,280	£7,135	£23,415

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

19 November 2015