

Physics Information Sheet for entry in 2016

Physics is concerned with the study of the universe from the smallest to the largest scale, why it is the way it is and how it works. Such knowledge is basic to scientific progress. The language of physics is mathematics: formulating physical theories sometimes requires new mathematical structures. Physics is a fundamental science and a practical subject. Many techniques used in medical imaging, nanotechnology and quantum computing are derived from physics instrumentation. Even the World Wide Web was a spin-off from the information processing and communications requirements of high-energy particle physics.



Physics at Oxford

Oxford has one of the largest university physics departments in the UK, with an outstanding and very diverse research programme in six sub-departments:

- Astrophysics
- Atmospheric, Oceanic and Planetary Physics
- Atomic and Laser Physics
- Condensed Matter Physics (including Biophysics)
- Particle Physics
- Theoretical Physics

Physics at Oxford is challenging and mathematical with a strong emphasis on fundamental concepts such as optics and relativity. The fourth year MPhys option courses bring you to the threshold of current research, and can lead to subject specialism. The department is equipped with state-of-the-art lecture facilities and teaching laboratories. Tutorials give students direct and regular access to physicists actively involved in research and provide an opportunity to explore scientific ideas with experts in the field.

Project work/international opportunities

A wide choice of fourth-year MPhys projects is available across all six physics sub-departments. Third-year MPhys students carry out a short project in the teaching laboratories. Those taking the three-year BA course do a group project investigating a real industrial physics problem.

New MMathPhys 4th 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. Physics 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. For full details see mmathphys.physics.ox.ac.uk.

A typical weekly timetable

In the first year, time is equally divided between mathematics and physics, with about ten lectures and two tutorials plus one day in the practical laboratories a week. In the second and third years the core and mainstream physics topics are covered in tutorials and small group classes. Practical work is also done during the year. In the fourth year you take two major options and the MPhys project.

1st year	
Courses Foundation courses: <ul style="list-style-type: none">• Classical mechanics and special relativity• Electromagnetism, circuit theory and optics• Mathematical methods I• Differential equations and waves Short options, eg: <ul style="list-style-type: none">• Astronomy• Complex analysis• Quantum ideas	Assessment First University examinations: Four written papers; short option paper; satisfactory laboratory work
2nd year	
Courses Core courses: <ul style="list-style-type: none">• Thermal physics• Electromagnetism and optics• Quantum physics• Mathematical methods II Short options: eg <ul style="list-style-type: none">• Classical mechanics• Climate physics• Introduction to biological physics	Assessment Final University examinations, Part A (BA and MPhys): Three written papers; short option paper; laboratory work
3rd year	
Courses Mainstream courses: <ul style="list-style-type: none">• Flows, fluctuations and complexity• Symmetry and relativity• Quantum, atomic and molecular physics• Sub-atomic physics• General relativity and cosmology• Condensed-matter physics Short options: eg <ul style="list-style-type: none">• Advanced Quantum Mechanics	Assessment Final University examinations, Part B (MPhys): Six written papers; short option paper; mini-project; laboratory work Final University examinations, Part B (BA): Four written papers; short option paper; group project; laboratory work; project report

<ul style="list-style-type: none"> • Classical mechanics • Plasma physics 	
4th year	
<p>Courses</p> <p>Project and two option courses:</p> <ul style="list-style-type: none"> • MPhys project <p>Major options</p> <ul style="list-style-type: none"> • Astrophysics • Laser science and quantum information processing • Condensed matter • Particle physics • Atmospheres and oceans • Theoretical physics • Biological physics 	<p>Assessment</p> <p>Final University examinations, Part C (MPhys): Project report; Two major option papers</p>

Exams are taken in June at the end of each year of the courses. Most written papers are of 2.5 or 3 hours duration. Short options are shared across years 1–3 and are examined by a 1.5 hour paper; the titles shown are illustrative and may change from year to year of the course.

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

18 November 2015