

## Physics Information Sheet for entry in 2018

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.



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. An accepted student can also complete in three years with a BA. 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 jointly offer a new integrated master's 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 offers research-level training in: Particle physics, Condensed matter physics, Astrophysics, Plasma physics and Continuous media. For full details see [mmathphys.physics.ox.ac.uk](http://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

### Current courses

- Classical mechanics and special relativity
- Electromagnetism, circuit theory and optics
- Mathematical methods I
- Differential equations and waves

Short options, eg:

- Astronomy
- Complex analysis
- Quantum ideas

### Assessment

First University examinations: Four written papers; short option paper; satisfactory laboratory work

## 2nd year

### Current courses

- Thermal physics
- Electromagnetism and optics
- Quantum physics
- Mathematical methods II

Short options, eg:

- 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; individual presentation

### 3rd year

#### Current courses

- 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:

- Advanced quantum mechanics
- Classical mechanics
- Plasma physics

#### 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; mini project; group presentation; laboratory work; project report

### 4th year

#### Research

Project and two option courses:

- MPhys project

Current major options

- Astrophysics
- Laser science and quantum information processing
- Condensed matter
- Particle physics
- Atmospheres and oceans
- Theoretical physics
- Biological physics

*The options listed above are illustrative and may change. More information about current options is available on the [Physics website](#).*

#### Assessment

Final University examinations, Part C (MPhys):  
Project report; two major option papers

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**

Oxford University is committed to recruiting the best and brightest students from all backgrounds. We offer a generous package of financial support to Home/EU students from lower-income households. (UK nationals living in the UK are usually Home students.)

These annual fees are for full-time students who begin this undergraduate course here in 2018.

Fee Status	Tuition fee	College fee	Total annual fees
Home/EU	£9,250	£0	£9,250
Islands (Channel Islands & Isle of Man)	£9,250	£0	£9,250
Overseas	£23,885	£7,570	£31,455

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

### **Additional Fees and Charges Information for Physics**

There are no compulsory costs for this course beyond the fees shown above and your living costs.

## Living Costs

Your living costs will vary significantly dependent on your lifestyle. These are estimated to be between £1,014 and £1,556 per month in 2018-19. 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	£258	£361	£2,318	£3,245
Accommodation (including utilities)	£536	£677	£4,824	£6,093
Personal items	£118	£263	£1,066	£2,364
Social activities	£41	£123	£369	£1,105
Study costs	£39	£85	£348	£765
Other	£22	£47	£202	£419
<b>Total</b>	<b>£1,014</b>	<b>£1,556</b>	<b>£9,127</b>	<b>£13,991</b>

When planning your finances for future years of study at Oxford beyond 2018-19, you should allow for an estimated increase in living expenses of 3% each year.

10 November 2017