

## Physics Information Sheet for entry in 2021

Physics is concerned with the study of the universe from the smallest to the largest scale: it is about unravelling its complexities to discover the way it is and how it works. Discoveries in physics have formed the foundation of countless technological advances and play an important role in many scientific areas. 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. The contributions of physics to solving global problems such as energy production, environmental protection, global warming and public health are essential and have an enormous impact on our society.

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. There are two undergraduate courses, an MPhys and the BA. All applicants apply for the four-year MPhys in the first instance. 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

In the third year, all students carry out a short project in the teaching laboratories. Students on both the BA and MPhys have the opportunity to do industry projects investigating a real physics problem. There is further flexibility to undertake computational and experimental projects. A wide choice of fourth-year MPhys projects is available across all six physics sub-departments.

### A typical week

In the first year, your time will be equally divided between mathematics and physics, with about ten lectures and two tutorials plus one day a week working on experimental physics in the practical laboratories. 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 will take two major options and the MPhys project.

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Tutorials are usually 2-4 students and a tutor. Class sizes may vary depending on the options you choose. There would usually be no more than around 20 students though classes for some of the more popular papers may be up to 40 students.

Most tutorials, classes, and lectures are delivered by staff who are tutors in their subject. Many are world-leading experts with years of experience in teaching and research. Some teaching may also be delivered by postgraduate students who are usually studying at doctorate level.

To find out more about how our teaching year is structured, visit our [Academic Year](#) page.

### Course structure

YEAR 1	
<b>COURSES</b> <ul style="list-style-type: none"><li>• Classical mechanics and special relativity</li><li>• Electromagnetism, circuit theory and optics</li><li>• Mathematical methods I</li><li>• Differential equations and waves</li></ul> Short options, for example: <ul style="list-style-type: none"><li>• Astronomy</li><li>• Complex analysis</li><li>• Quantum ideas</li></ul>	<b>ASSESSMENT</b> <p>First University examinations: four written papers; short option paper; satisfactory laboratory work</p>
YEAR 2	
<b>COURSES</b> <ul style="list-style-type: none"><li>• Thermal physics</li><li>• Electromagnetism and optics</li><li>• Quantum physics</li><li>• Mathematical methods II</li></ul> Short options, for example: <ul style="list-style-type: none"><li>• Classical mechanics</li><li>• Climate physics</li><li>• Introduction to biological physics</li></ul>	<b>ASSESSMENT</b> <p>Final University examinations, Part A (BA and MPhys): three written papers; short option paper; laboratory work; individual presentation</p>
YEAR 3	
<b>COURSES</b> <ul style="list-style-type: none"><li>• Fluids</li><li>• Symmetry and relativity</li><li>• Atomic and laser physics</li><li>• Nuclear and particle physics</li><li>• General relativity</li></ul>	<b>ASSESSMENT</b> <p>Final University examinations, Part B: MPhys: Part A plus up to five written papers, short option paper, mini project, laboratory work; BA: Part A plus up to four written papers, short option paper, mini</p>



<ul style="list-style-type: none"> <li>• Condensed-matter physics</li> <li>• Computational and experimental projects</li> </ul> <p>Short options, for example:</p> <ul style="list-style-type: none"> <li>• Advanced quantum mechanics</li> <li>• Classical mechanics</li> <li>• Plasma physics</li> </ul>	<p>project, laboratory work, project report, optional industrial project</p>
<b>YEAR 4</b>	
<p><b>RESEARCH</b></p> <p>Project and two option courses:</p> <ul style="list-style-type: none"> <li>• MPhys project</li> </ul> <p>Current major options:</p> <ul style="list-style-type: none"> <li>• Astrophysics</li> <li>• Laser science and quantum information processing</li> <li>• Condensed matter</li> <li>• Particle physics</li> <li>• Atmospheres and oceans</li> <li>• Theoretical physics</li> <li>• Biological physics</li> </ul>	<p><b>ASSESSMENT</b></p> <p>Final University examinations, Part C (MPhys): project report; two major option papers</p>

### MMathPhys Year 4

The Physics and Mathematics Departments jointly offer an integrated master’s level course in Mathematical and Theoretical Physics. Physics students are able to apply for transfer to a fourth year studying entirely mathematical and theoretical physics, completing their degree with an MMathPhys. The course offers research-level training in: Particle physics, Condensed matter physics, Astrophysics, Plasma physics and Continuous media.

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](#).

### Teaching delivery

At the time of writing course information sheets for 2021/22 entry, the COVID-19 pandemic was still impacting the University. A range of measures have been put in place to comply with Government legislation and guidance in response to the pandemic, and to help keep students, staff and the wider community safe.

Inevitably, some changes have been necessary to teaching and student services during the pandemic (for example, a greater amount of online teaching and examinations, and restrictions on numbers allowed to access facilities at one time).

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Whatever the circumstances in the 2021/22 academic year, the University will deliver core services and learning outcomes for each course, even though the modes of delivery may change.

All course information sheets should be read in that context, and we will keep offer holders and students regularly informed if circumstances change. Further details are available on our [website](#) and within the [Student Terms and Conditions](#).

### Fees

These annual fees are for full-time students who begin this undergraduate course here in 2021. Information about how much fees and other costs may increase is set out in the University's Terms and Conditions.

Please note that while the University sets out its annual fees as a single figure, this is a combined figure for both your University and college fees. More information is provided in your [Terms and Conditions](#).

Fee status	Annual Course fees
Home (UK, Republic of Ireland, Channel Islands & Isle of Man)	£9,250
Overseas (including most EU students– see Note below)	£37,510

**Note:** Following the UK's departure from the EU, most EU students starting a course in 2021/22 will no longer be eligible to pay fees at the 'Home' rate and will instead be charged the higher 'Overseas' rate. This change will not apply to Irish nationals living in the UK or Ireland, who will continue to be charged fees at the 'Home' rate for the duration of their course.

The government has issued guidance stating that EU, other EEA, and Swiss nationals who have been granted settled or pre-settled status in the UK under the EU settlement scheme may be eligible for 'Home fee' status and student loan support, subject to meeting residency requirements. However, until the government formally updates its fee status regulations the University is unable to confirm fee statuses for students who may qualify on this basis. We will contact you directly if we need further information from you to determine your fee status.

Please refer to the [Undergraduate fee status](#) and the [Oxford and the EU](#) pages for more information.

### Living costs

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Your living costs will vary significantly dependent on your lifestyle. These are estimated to be between £1,175 and £1,710 per month in 2021-22. Each year of an undergraduate course usually consists of three terms of eight weeks each but you may need to be in Oxford for longer. 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	£280	£400	£2,520	£3,600
Accommodation (including utilities)	£655	£790	£5,895	£7,110
Personal items	£130	£250	£1,170	£2,250
Social activities	£45	£115	£405	£1,035
Study costs	£45	£100	£405	£900
Other	£20	£55	£180	£495
<b>Total</b>	<b>£1,175</b>	<b>£1,710</b>	<b>£10,575</b>	<b>£15,390</b>

In order to provide these likely living costs, the University and the Oxford University Students' Union conducted a living costs survey to complement existing student expenditure data from a variety of sources including the UK government's Student Income and Expenditure Survey and the National Union of Students (NUS). The likely lower and upper ranges above are based on a single student with no dependants living in college accommodation (including utility bills) and are provided for information only.

When planning your finances for future years of study at Oxford beyond 2021-22, you should allow for an estimated increase in living expenses of 3% each year.

### Document accessibility

If you require an accessible version of the document, please contact Undergraduate Admissions by email ([uao.comms@admin.ox.ac.uk](mailto:uao.comms@admin.ox.ac.uk)) or via the online form (<http://www.ox.ac.uk/ask>).

*Please note, at the time of publishing the CIS, further details regarding the availability and eligibility of financial support for some EU students with settled or pre-settled status remained outstanding. Confirmation about funding arrangements for the year abroad were*

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*also outstanding. Any updates impacting students will be published on the Oxford and the EU webpage.*