

Course Information Sheet for entry in 2025-26: MSc in Mathematical and Theoretical Physics



Course facts

Mode of study	Full Time Only
Expected length	9 months

About the course

The MSc in Mathematical and Theoretical Physics provides a high-level, internationally competitive training in mathematical and theoretical physics, right up to the level of modern research.

The course concentrates on the main areas of modern mathematical and theoretical physics:

- elementary-particle theory, including string theory
- condensed matter theory (both quantum and soft matter)
- theoretical astrophysics
- plasma physics and the physics of continuous media (including fluid dynamics and related areas usually associated with courses in applied mathematics in the UK system)
- mathematical structures underlying physical theory.

If you are a physics student with a strong interest in theoretical physics or a mathematics student keen to apply high-level mathematics to physical systems and their underpinning mathematics, both pure and applied, this is a course for you.

The course offers considerable flexibility and choice; you will be able to choose a path reflecting your intellectual tastes or career choices. This arrangement caters to you if you prefer a broad theoretical education across subject areas or if you have already firmly set your sights on one of the subject areas, although you are encouraged to explore across sub-field boundaries.

The MSc offers a substantial opportunity for independent study and research in the form of an optional dissertation which may be worth a single or double unit depending on the amount of work involved.

Pattern of learning and teaching

You will have to attend at least ten units' worth of courses, where one unit corresponds to a 16-hour lecture course or equivalent.

Depending on how many courses you take in total, and how they split between terms, you can expect to attend two, three or four (or, in exceptional cases, five) lecture courses per term. Each lecture course has roughly two one-hour lectures per week supplemented by roughly four 90-minute classes per term.

The remainder of your study time should be spent on self-study, consolidating on the material covered in lectures, working through the problem sheets set for each class and working independently on your dissertation, if you have chosen to undertake one.

Dissertation

You can opt to offer a dissertation as part of your ten units.

The dissertation is undertaken under the guidance of a supervisor and will typically involve investigating and writing in a particular area of mathematics or physics, without the requirement (while not excluding the possibility) of obtaining original results. A dissertation gives students the opportunity to develop broader transferable skills in the processes of organising, communicating, and presenting their work, and will equip students well for further research or for a wide variety of other careers.

For single unit dissertations you can roughly expect a one-hour meeting with your dissertation supervisor at the end of the first term, followed by a further one hour meeting in the second term. Double unit dissertations would have roughly twice this number of meetings.

Attendance

The course is full-time and requires attendance in Oxford. Full-time students are subject to the University's Residence requirements.

Resources to support your study

As a graduate student, you will have access to the University's wide range of world-class resources including libraries, museums, galleries, digital resources and IT services.

The Bodleian Libraries is the largest library system in the UK. It includes the main Bodleian Library and libraries across Oxford, including major research libraries and faculty, department and institute libraries. Together, the Libraries hold more than 13 million printed items, provide access to e-journals, and contain outstanding special collections including rare books and manuscripts, classical papyri, maps, music, art and printed ephemera.

The University's IT Services is available to all students to support with core university IT systems and tools, as well as many other services and facilities. IT Services also offers a range of IT learning courses for students, to support with learning and research.

The Mathematical Institute's home is the purpose-built Andrew Wiles Building, opened in 2013. This provides ample teaching facilities for lectures, classes and seminars. The Mathematical Institute provides IT support. The mezzanine level is home to six lecture theatres and six classrooms, as well as a café and study spaces. There is also a student workroom located on this level which contains a number of computers and desks to facilitate quiet study. The Mathematical Institute has Wi-Fi available throughout the building and offers IT support for students.

The Department of Physics provides teaching space in the Denys Wilkinson building and the Clarendon Laboratory, use of the canteens in either building and IT support.

Supervision

The allocation of graduate supervision for this course is the responsibility of the Mathematical Institute and Department of Physics and it is not always possible to accommodate the preferences of incoming graduate students to work with a particular member of staff. Under exceptional circumstances a supervisor may be found outside the Mathematical Institute and Department of Physics.

Assessment

Your performance will be assessed by one or several of the following means:

- invigilated written exams
- course work marked on a pass/fail basis
- take-home exams
- mini-projects due shortly after the end of the lecture course.

The modes of assessment for a given course are decided by the course lecturer and will be published at the beginning of each academic year. As a general rule, foundational courses will be offered with an invigilated exam while some of the more advanced courses will typically be relying on the other assessment methods mentioned above. At least four of the ten units must be assessed by an invigilated exam and, therefore, have to be taken from lecture courses which provide this type of assessment. A further three units must be assessed by invigilated written exam, take-home exam or mini-project. Apart from these restrictions, you are free to choose from the available programme of lecture courses.

Changes to this course

The University will seek to deliver this course in accordance with the description 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 you commence your course. These might include significant changes made necessary by any pandemic, epidemic or local health emergency. For further information, please see the University's Terms and Conditions (<http://www.graduate.ox.ac.uk/terms>) and our page on changes to courses (<http://www.graduate.ox.ac.uk/coursechanges>).

Costs

Annual fees for entry in 2025-26

Fee status	Annual Course fees
Home	£15,300
Overseas	£41,250

Information about course fees

Course fees are payable each year, for the duration of your fee liability (your fee liability is the length of time for which you are required to pay course fees). For courses lasting longer than one year, please be aware that fees will usually increase annually. Information about how much fees and other costs may increase is set out in the University's Terms and Conditions (<http://www.graduate.ox.ac.uk/terms>).

Course fees cover your teaching as well as other academic services and facilities provided to support your studies. Unless specified in the additional cost information (below), course fees do not cover your accommodation, residential costs or other living costs. They also don't cover any additional costs and charges that are outlined in the additional cost information.

Additional cost information

There are no compulsory elements of this course that entail additional costs beyond fees and living costs. However, as part of your course requirements, you may need to choose a dissertation, a project or a thesis topic. Please note that, depending on your choice of topic and the research required to complete it, you may incur additional expenses, such as travel expenses, research expenses, and field trips. You will need to meet these additional costs, although you may be able to apply for small grants from your department and/or college to help you cover some of these expenses.

Living costs

In addition to your course fees and any additional course-specific costs, you will need to ensure that you have adequate funds to support your living costs for the duration of your course.

The likely living costs for the 2025-26 academic year are published below. These costs are based on a single, full-time graduate student, with no dependants, living in Oxford. We provide the cost per month so you can multiply up by the number of months you expect to live in Oxford.

Likely living costs for one month

	Lower range	Upper range
Food	£330	£515
Accommodation	£790	£955
Personal items	£200	£335
Social activities	£45	£100
Study costs	£40	£90
Other	£20	£40
Total	£1,425	£2,035

Likely living costs for nine months

	Lower range	Upper range
Food	£2,970	£4,635
Accommodation	£7,110	£8,595
Personal items	£1,800	£3,015
Social activities	£405	£900
Study costs	£360	£810
Other	£180	£360
Total	£12,825	£18,315

Likely living costs for twelve months

	Lower range	Upper range
Food	£3,960	£6,180
Accommodation	£9,480	£11,460
Personal items	£2,400	£4,020
Social activities	£540	£1,200
Study costs	£480	£1,080
Other	£240	£480
Total	£17,100	£24,420

When planning your finances for any future years of study at Oxford beyond the 2025-26 academic year, it is suggested that you allow for potential increases in living expenses of 4% each year – although this rate may vary depending on the national economic situation.

More information about how these figures have been calculated is available at www.graduate.ox.ac.uk/livingcosts.

Document accessibility

If you require a more accessible version of this document please contact Graduate Admissions and Recruitment by email (graduate.admissions@admin.ox.ac.uk) or via the online form (<http://www.graduate.ox.ac.uk/ask/form>).