

Course Information Sheet for entry in 2021-22: MSc by Research in Physical and Theoretical Chemistry



About the course

This is a research degree leading to the award of an MSc by Research in Physical and Theoretical Chemistry. Many training opportunities are available throughout the course, including seminar series throughout the Department of Chemistry and the annual Hinshelwood Lectures, but the focus of the course is the research project.

The breadth of research interests in the Physical and Theoretical Chemistry Laboratory (PTCL) is a particular strength and is arguably unmatched anywhere else.

Current areas of research

Theory and modelling of complex systems

Provides a key interface with physics, materials science and biology, with research including: quantum condensed matter theory, chemical reaction dynamics and mechanism, and the electronic and optical properties of macromolecular systems.

Kinetics, dynamics and mechanism

Research areas include: interfacial kinetics, reaction dynamics, photochemical and radical processes, computation of reaction pathways, atmospheric chemistry and modelling.

Chemistry at the interface with biology and medicine

Cutting-edge work includes research into: single molecule sensing, protein chemistry and molecular imaging.

Advanced functional materials and interfaces

Key areas are: molecular nanotechnology & nanolubrication (opening up new opportunities in the molecular- scale engineering of electronic, optoelectronic and photonic devices), quantum theory of strongly correlated materials, complex reaction pathways.

Innovative measurement and photon science

Current research areas include: electrochemistry, reaction dynamics, imaging, interface measurements, magnetic resonance, sensors and instrumentation.

The nature of each student's working week depends on their project, but students would typically carry out their research in one of the department's buildings, engaged in full-time experimental or theoretical/computational work (or a mixture of the two).

During the first year, in addition to starting work on their research, students are encouraged to follow training courses chosen from the vast number offered by the department and the Mathematical, Physical and Life Sciences (MPLS) Division Graduate School, and it is recommended that they attend at least three of these. A quarterly report on each student's progress is submitted by their supervisor throughout the course.

Supervision

The allocation of graduate supervision for this course is the responsibility of the Department of Chemistry 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 Department of Chemistry.

Research students join a research group supervised by one or more members of the department, sometimes in collaboration with other departments. All students have frequent meetings with their research supervisors; these would normally occur either weekly or fortnightly as deemed appropriate by the supervisor.

In the case of students who require specific help to adjust to an academic programme or to a new range of skills, the supervisor will work with them to ensure that they have additional support.

Assessment

Students are admitted as Probationary Research Students. At the end of the first year, they undergo a Transfer of Status assessment, which is to ensure that they have the potential to gain the degree. This assessment is made on the basis of a report

and oral examination.

Research proceeds with quarterly reporting until the project is complete. The degree is examined by thesis and oral examination by two examiners, one of whom is normally from Oxford and one from elsewhere. Most MSc by Research students submit their thesis within two years.

Changes to courses

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 registration. These may include significant changes made necessary by a pandemic (including Covid-19), 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>).

Expected length of course

| | Full Time Only |
|-----------------|----------------|
| Expected length | 2 to 3 years |

Costs

Annual fees for entry in 2021-22

| Fee status | Annual Course fees |
|---|--------------------|
| Home (UK, Republic of Ireland, Channel Islands & Isle of Man) | £8,290 |
| Overseas (including EU) | £27,460 |

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.

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.

Graduate students who have reached the end of their standard period of fee liability may be required to pay a termly University and/or a college continuation charge.

The University continuation charge, per term for entry in 2021-22 is £528, please be aware that this will increase annually. For part-time students, the termly charge will be half of the termly rate payable by full-time students.

If a college continuation charge applies (not applicable for non-matriculated courses) it is likely to be in the region of £100 to £400 per term. Please contact your college for more details.

Additional cost information

There are no compulsory elements of this course that entail additional costs beyond fees (or, after fee liability ends, continuation charges) and living costs. However, please note that, depending on your choice of research 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, 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 2021-22 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 2021-22

| | Likely living costs for 1 month | | Likely living costs for 9 months | | Likely living costs for 12 months | |
|--------------------------|---------------------------------|-------------|----------------------------------|-------------|-----------------------------------|-------------|
| | Lower range | Upper range | Lower range | Upper range | Lower range | Upper range |
| Food | £280 | £400 | £2,520 | £3,600 | £3,360 | £4,800 |
| Accommodation | £655 | £790 | £5,895 | £7,110 | £7,860 | £9,480 |
| Personal items | £130 | £250 | £1,170 | £2,250 | £1,560 | £3,000 |
| Social activities | £45 | £115 | £405 | £1,035 | £540 | £1,380 |
| Study costs | £45 | £100 | £405 | £900 | £540 | £1,200 |
| Other | £20 | £55 | £180 | £495 | £240 | £660 |
| Total | £1,175 | £1,710 | £10,575 | £15,390 | £14,100 | £20,520 |

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

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

Document accessibility

If you require an accessible version of the 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>).