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## Biochemistry (Molecular and Cellular) Course Information Sheet for entry in 2025

Biochemistry is the use of molecular methods to investigate, explain and manipulate biological processes.

The study of life at the molecular level continues to undergo dynamic expansion, leading to ever-increasing insights into topics as various as the origin of life, the nature of disease and the development of individual organisms.

Powerful new techniques, such as those of genome editing, super-resolution microscopy and CryoEM, enable us to analyse biological phenomena in more and more precise molecular terms.

These studies have led to extraordinary developments in our understanding of the molecular basis of life itself. We can also apply this new knowledge in an ever increasing variety of ways enabling rational drug design and synthesis, synthetic biology, environmental monitoring and a whole range of other areas. Furthermore, advances in biochemistry are largely responsible for the breakdown of traditional disciplinary boundaries between cell biology, medicine, physics and chemistry.

The Biochemistry Department at Oxford is one of the largest in Europe, and is subdivided into the following research areas:

- Cell biology, development and genetics
- Chromosomal and RNA biology
- Infection and disease processes
- Microbiology and systems biology
- Structural biology and molecular biophysics.

The department is highly active in research, with about 450 postgraduate students and research staff. The breadth and excellence of these activities are reflected in the scope of the undergraduate course and underpin the teaching.

The department has superb research, modern teaching facilities and excellent digital resources, which we use in an integrated way to teach.

### Research placements

An important aspect of the Oxford Biochemistry course is its fourth-year project, which occupies most of the 4th year.

The fourth year project provides an opportunity to pursue an in-depth research project under the supervision of an academic member of staff. You choose a project together, plan your research programme, design your experiments and present your results to other researchers in the field. The experience gained is much valued by employers.

We find that many of our students are inspired to pursue a research career as a result of their project year.

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A wide choice of fourth-year research projects is available both within the Biochemistry Department and in related departments throughout the university. These range from Physics, Statistics and Biology through to Clinical Medicine, Pharmacology and Pathology. This reflects the interdisciplinary nature of the subject.

It is also possible to carry out a self-organised project outside the University or the UK.

### A typical week (Year 1)

During year 1, your weekly timetable will be divided between lectures (typically eight to ten a week), tutorials and classes (1 to 3 a week) and practicals (averaging 1 full day a week). The remaining time will be spent on independent study and preparation for tutorials and classes.

Tutorials are usually 2-4 students and a tutor working through a topic together. For some topics classes are offered; class sizes may vary depending on the topic but are usually no more than 10-12 students. During practical sessions there is usually a ratio of demonstrators to students of about 1:12 for wet practicals and up to 1:25 for computer based practicals.

Most tutorials and lectures are delivered by academic staff, many of whom are world-leading experts with years of experience in teaching and research.

Some tutorials and lectures may be delivered by postdoctoral researchers, while tutorials are occasionally delivered by postgraduate students.

Departmental classes and practicals are supervised by a senior member of staff and supported by postdoctoral researchers or postgraduate students who are studying at doctoral level.

At the end of the first year you will sit exams, called prelims, one exam in each of the subjects covered. You are required to pass these to progress onto year 2, with the opportunity to resit over the summer.

### A typical week (Years 2-3)

In the 2nd and 3rd year you continue to be taught in lectures, practicals and tutorials. However, the course is organised into immersive blocks where all the teaching in a particular week is focussed on exploring a specific biochemical question.

A typical block would have up to 8 lectures and some form of practical or data analysis activity.

### A typical week (Year 4)

In your fourth year, you will choose and complete a project, lasting most of the year, which will allow you to explore in detail, both laboratory-based research and specific recent advances in biochemistry. This is supported by a skills training programme, which includes skills like communication and career planning.

Under the supervision of a research group leader, you will design your own experiments, learn to plan research programmes and present your results and ideas – orally and in written form – to other workers in the field. The research project is written up in a dissertation. A number of student projects form part of research publications from the university.

Apart from the project, you will have the task of writing a review article, covering current research in

an area of biochemical interest.

You will need to be in Oxford for a 12 week extended first term. You will continue your project over the entire second term and first few weeks of the third term, submitting your project dissertation thereafter. You will also deliver an oral presentation on your project.

### Assessment and final degree award

The final degree class is derived from a combination of marks from assessments taken in the second and third years, the final exams at the end of year 3, the assessment of the research project and the review article in the fourth year.

The significant research element in your final year means that you will graduate with an MBiochem – an integrated master's degree – as well as invaluable research experience and skills that will be excellent preparation for further study or a range of careers.

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

### Course structure

YEAR 1	
<b>COURSES</b> Five courses are taken: <ul style="list-style-type: none"><li>• Cellular biochemistry</li><li>• Molecular biochemistry</li><li>• Mechanistic biochemistry</li><li>• Physical biochemistry</li><li>• Quantitative biochemistry</li></ul>	<b>ASSESSMENT</b> First University examinations: five written papers; satisfactory practical record

YEARS 2 AND 3	
<b>COURSES</b> <ul style="list-style-type: none"><li>• Teaching delivered in one week blocks, each sitting within one of five threads:</li><li>• Tool boxes for biochemistry</li></ul>	<b>ASSESSMENT</b> Summative assessments (four, two-hour assessments in years 2 and 3). Final University examinations, Part I: seven written papers (at the end of year 3); satisfactory practical record

### YEARS 2 AND 3

- Information transfer in biological systems
- Molecular processes in the cell
- Cellular chemistry
- The cell in time and space

### YEAR 4 (extended first term)

#### COURSES

##### Research project:

This provides the opportunity to be embedded in a research group and carry out an in-depth research project. This is supported by an advanced skills training programme.

##### Coursework:

Review article on current research in an area of biochemistry of your choice.

#### ASSESSMENT

Research project: Written dissertation and an oral presentation.

Review article: Written review article.

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. 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 2025.

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

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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)	£9,535
Overseas (including most EU students – see Note below)	£51,880

**Note:** Irish nationals living in the UK or Ireland, EU, other EEA, and Swiss nationals who have been granted settled or pre-settled status in the UK under the EU settlement scheme are eligible for 'Home fee' status and student loan support, subject to meeting residency requirements. We will contact you directly if we need further information from you to determine your fee status.

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

### Living costs

Living costs for the academic year starting in 2025 are estimated to be between £1,425 and £2,035 for each month you are in Oxford. Our academic year is made up of three eight-week terms, so you would not usually need to be in Oxford for much more than six months of the year but may wish to budget over a nine-month period to ensure you also have sufficient funds during the holidays to meet essential costs. For further details please visit our [living costs webpage](#).

### Living costs breakdown

	Per month		Total for 9 months	
	Lower range	Upper range	Lower range	Upper range
Food	£330	£515	£2,970	£4,635
Accommodation	£790	£955	£7,110	£8,595
Personal items	£200	£335	£1,800	£3,015
Social activities	£45	£100	£405	£900
Study costs	£40	£90	£360	£810
Other	£20	£40	£180	£360
<b>Total</b>	<b>£1,425</b>	<b>£2,035</b>	<b>£12,825</b>	<b>£18,315</b>

In order to provide these likely living costs (which are rounded to the nearest £5), the University and the Oxford SU 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 current economic climate and high national rate of inflation make it very hard to estimate potential changes to the cost of living over the next few years. When planning your finances for any future years of study in Oxford beyond 2025-26, it is suggested that you allow for potential increases in living expenses of around 4% each year – although this rate may vary depending on the national economic situation.



### [Additional Fees and Charges Information for Biochemistry \(Molecular and Cellular\)](#)

In the final year of the Biochemistry course, students work an extended first term to begin their research project. You will need to be in Oxford for 12 weeks in the first term.

The extended terms mean that you will need to budget for higher living costs in the final year, as you will be required to be in Oxford for longer than the standard terms.