

## Course Information Sheet for entry in 2024-25: Engineering Biology (DPhil)



### Course facts

Mode of study	Full Time Only
Expected length	4 years

### About the course

Engineering Biology applies engineering principles to biology and aims to exploit our synthetic biology knowledge to drive the bioeconomy. The Engineering Biology training programme will provide bespoke cohort-based training with a focus on how synthetic biology concepts and technologies can be translated into products with real-world impact.

This course is run jointly with the University of Bristol.

After training in the fundamentals of mathematics, biology, engineering and computing and team-based problem solving projects, you will complete two short research projects, one of which will develop into your substantive DPhil project. Throughout the course, you will undertake bespoke training in translational aspects.

Throughout the four years of the programme, there will be bespoke innovation and commercialisation training, responsible innovation, EDI and bioethics training, and career development programmes.

Each year, a summer school will take place in June/July which will include talks from engineering biology leaders, pitches from the innovation in engineering biology projects, and outreach projects.

### Course structure

The first year of the course will be divided into three segments.

The first segment will begin with a series of inductions as part of the department's welcome weeks in Oxford. This will include meeting tutors, potential supervisors, the management team, and students from other cohorts.

You will then receive around four weeks of foundation training. The student cohort will be split into two groups, based on background. Those students with a background in life sciences will receive foundation training in engineering and computational principles, and for those with engineering/physical sciences backgrounds, foundation training in biology will be provided.

This will be followed by around six weeks of specialised training in engineering biology topics, techniques and challenges. This training will take place at the University of Bristol for all students. It will typically include interdisciplinary training in engineering biology design across scales (from biomolecules to cells), as well as advanced engineering biology topics and techniques such as:

- Modelling and control theory
- Artificial intelligence and machine learning
- Gene circuit design
- Protein design and engineering
- Tissue engineering.

At the end of this first segment, you will typically attend a retreat for innovation in engineering biology group projects. This may be attended by students from earlier cohorts, Synthetic Biology graduates, industrial partners, and supervisors, who will provide input and case studies.

During the first four weeks of your second segment, you will work on your innovation in engineering biology group projects and write a report in the style of a scientific publication and make (where possible) data and code available to students of future cohorts to offer the opportunity to build on the research performed (eg via GitHub). This will be followed by the first of two individual short research projects.

Segment three will comprise the second of these research projects and a summer school. Research will aim to align with four major focus areas:

1. Robust methods for bioengineering;
2. Rational biomolecular & biosystems design;
3. Evolution-guided biodesign; or
4. Digital cells & AI.

Potential collaborative research projects will also be offered by the University of Bristol and can be found on the institution's website.

One of the two short research projects will typically develop into the substantive DPhil project that you will work on throughout years two to four.

You will also take advanced units in AI and robotics for engineering biology and in current engineering biology applications for industry alongside the rest of the course cohort.

## Supervision

The allocation of graduate supervision for this course is the responsibility of the Department of Engineering Science and it is not always possible to accommodate the preferences of incoming graduate students to work with a particular member of staff. A supervisor is often found outside the Department of Engineering Science.

Students will meet with course directors on a termly basis during the training year. During their DPhil studies they will meet according to the stipulations of their host department.

## Assessment

During the training year there will be formative and summative assessment (eg essays, presentations).

You will also complete two short research projects during this first year, one of which you will develop into your substantive DPhil. Projects will be assessed via written reports and oral presentations.

All students will be initially admitted to the status of Probationer Research Student (PRS). Within a maximum of six terms as a PRS student you will be expected to apply for transfer of status from Probationer Research Student to DPhil status.

If you cannot complete transfer to DPhil status in Oxford, exit awards (from the University of Bristol, regardless of home institution) will be made depending on the credit points (CPs) gained (MRes with 180 CPs, or different for lower CPs, following the University of Bristol Credit Framework).

A successful transfer of status from PRS to DPhil status will require submission of work and interview according to the local rules of your host department. Students who are successful at transfer will subsequently be expected to apply for and gain confirmation of DPhil status within 10 terms of admission, to show that your work continues to be on track.

You will be expected to submit a substantial, original thesis after four years from the date of admission. To be successfully awarded a DPhil you will need to defend your thesis orally (viva voce) in front of two appointed examiners.

## 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>). We expect that the majority of applicants who are offered a place on this course will also be offered a fully-funded scholarship specific to this course, covering course fees for the duration of their course and a living stipend.

## Costs

### Annual fees for entry in 2024-25

Fee status	Annual Course fees
Home	£9,500
Overseas	£31,480

### 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.

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 2024-25 is £628, 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 £600. Please contact your college for more details, including information about whether your college's continuation charge is applied at a different rate for part-time study.

### 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 2024-25 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
<b>Food</b>	£315	£495
<b>Accommodation</b>	£745	£925
<b>Personal items</b>	£190	£320
<b>Social activities</b>	£40	£95
<b>Study costs</b>	£35	£85
<b>Other</b>	£20	£35
<b>Total</b>	£1,345	£1,955

### Likely living costs for nine months

	Lower range	Upper range
<b>Food</b>	£2,835	£4,445
<b>Accommodation</b>	£6,705	£8,325
<b>Personal items</b>	£1,710	£2,880
<b>Social activities</b>	£360	£855
<b>Study costs</b>	£315	£765
<b>Other</b>	£180	£315
<b>Total</b>	£12,105	£17,595

### Likely living costs for twelve months

	Lower range	Upper range
<b>Food</b>	£3,780	£5,940
<b>Accommodation</b>	£8,940	£11,100
<b>Personal items</b>	£2,280	£3,840
<b>Social activities</b>	£480	£1,140
<b>Study costs</b>	£420	£1,020
<b>Other</b>	£240	£420
<b>Total</b>	£16,140	£23,460

When planning your finances for any future years of study at Oxford beyond 2024-25, it is suggested that you allow for potential increases in living expenses of 5% or more 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](http://www.graduate.ox.ac.uk/livingcosts).

## Document accessibility

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

Please consult the University of Bristol website for further information about living costs while studying at that institution.