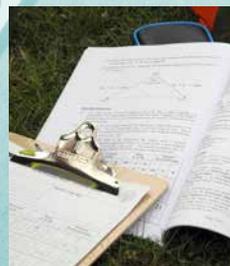




Engineering Science offers an excellent opportunity to combine technical understanding, creativity, team working and project management skills to allow you to rise to the challenge of working in an industry where the one thing you can count on is change.

MEng in Engineering Science 2017



www.eng.ox.ac.uk

About Engineering

Engineering is *the application of science and mathematics to benefit society*. It encompasses a vast range of subjects on which the modern world depends for its capacity to *maintain and improve the quality of life*. It is also concerned with tackling problems of pollution and sustainability that can result from technological development. Professional graduate engineers are the people who make effective engineering happen; their qualities include *technical competence, imagination, strength of purpose, common sense* – and a *social conscience*.



Why Study Engineering Science at Oxford?



The Department of Engineering Science at Oxford is a unified department, covering all major engineering disciplines. It has a top-level rating for teaching and an international reputation for research. In keeping with other top-ranking engineering departments, we aim to provide professional training with a sound theoretical foundation.

We admit approximately 165 undergraduates per year onto the four-year programme in Engineering Science, leading to the degree of Master of Engineering. All our undergraduates are members of an Oxford college, as well as the wider University.

Accreditation

To ensure a consistently high standard of teaching, our course is subject to a strict quality review every four years by:

Institution of Civil Engineers (www.ice.org.uk)

Institution of Structural Engineers (www.istructe.org.uk)

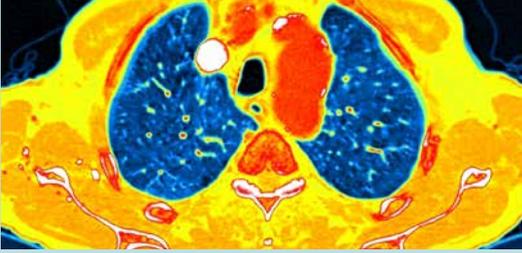
Institution of Engineering & Technology (www.theiet.org)

Institution of Mechanical Engineers (www.imeche.org)

Institute of Measurement & Control (www.instmc.org.uk)

Institution of Chemical Engineers (www.icheme.org)





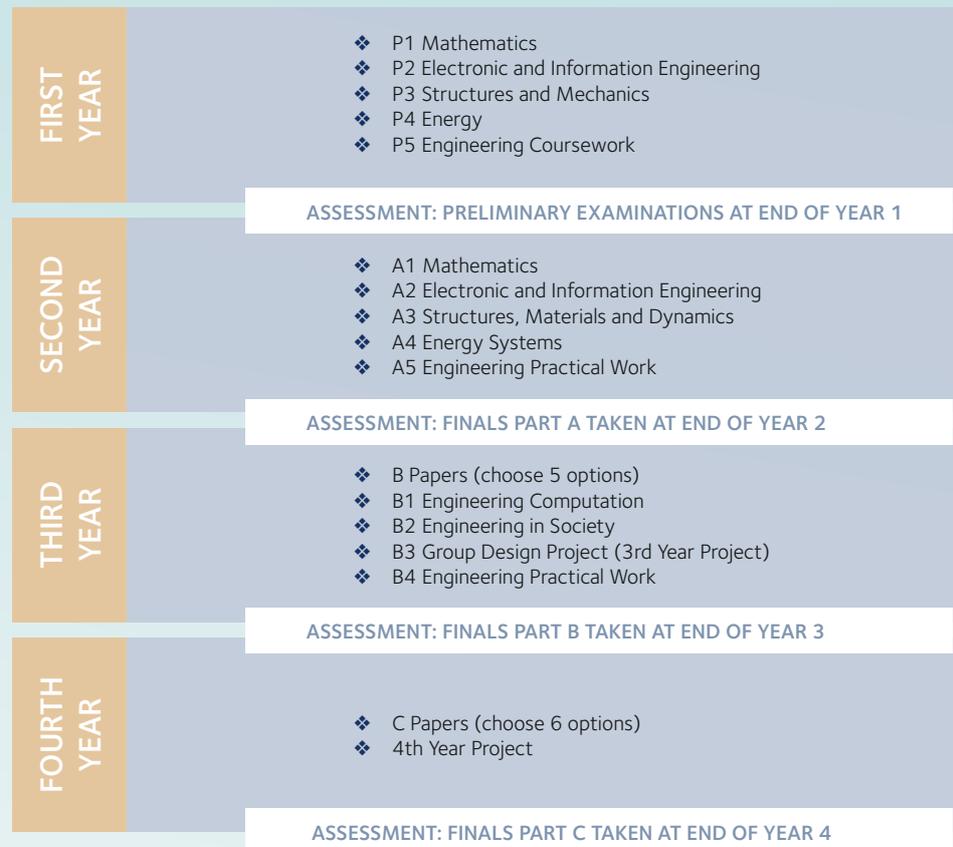
'The engineering degree gave me a strong theoretical background, taught me practical skills, and trained me to be comfortable with the confusion involved in tackling difficult and unfamiliar problems. This has proved invaluable. I loved my final year project: I modelled cooling the brain to investigate hypothermia as a method of protecting it after a stroke. The project led me to my current research, modelling blood flow in the arteries supplying the brain.'

Flora Kennedy (St John's College 2012)
DPhil at University of Oxford

How is the Course Structured?

The first two years are devoted to topics which we believe all our Engineering undergraduates should study to gain a full understanding of the major engineering disciplines.

In the third and fourth years there is scope for specialisation into one of six branches of engineering: Biomedical, Chemical, Civil, Electrical, Information, and Mechanical. You do not need to decide on which area to specialise in until the end of your second year. Your specialism may also include options based on Management and Innovation, which will provide you with real-life business skills that are attractive to graduate recruiters.



Study Abroad

You may have the opportunity to study overseas in your final year as a part of an exchange. Exchange agreements are currently in place with Princeton University, USA and the National University of Singapore (NUS). For current information about our exchanges, go to www.eng.ox.ac.uk/study-here/undergraduate/engineering-science/Year-Abroad.



How is the Course Taught?

At school you are taught, but at university it is up to you to learn. Oxford terms are short, so there is less time to cover each subject in the classroom. You will be expected to spend much of your time in independent study to supplement the information you are taught. Information is made available to you using several methods:

- ❖ **University lectures** introduce you to the material to be studied. Lecturers will introduce the topics which make up the syllabus and will cover how you ought to approach the subject.
 - ❖ **College tutorials** are organised to complement lectures. Undergraduates, normally in pairs, usually have two one-hour sessions with one of their college tutors per week. In the fourth year, tutorials are replaced by classes, which take place in the department, rather than in college. The tutorial system means that you are likely to receive much more personal tuition and greater pastoral support than other universities are able to offer.
 - ❖ **Practicals** are an essential part of the training of an engineer. Practical work is compulsory and supplements lectures. Practical work may range from computer programming to testing reinforced concrete columns, to exercises in multivariable control.
 - ❖ **Coursework modules** are intensive modules which integrate practical work with theory and are taken at the end of your second year. Modules are offered in a variety of engineering disciplines and you may choose which ones to take. Coursework modules are an excellent way to try out different engineering disciplines before you choose your third year options.
 - ❖ **Projects** provide an opportunity to gain experience in the process of design, from drawing up a specification through to analysis, assembly and evaluation. Projects may be taken individually, or in groups.
- Third Year** – You will work in a small design team to produce a report in the form of a detailed design proposal which could be used either by a manufacturer as the basis for a marketable product, or as a design for a proposed engineering project. Visiting Professors of Engineering Design provide guidance and technical advice drawn from their industrial experience.
- Fourth Year** – Each student works on a major project chosen from over a hundred topics offered by supervisors in the department. It is sometimes possible to work on an idea of your own, or one suggested by a sponsoring firm, provided that you can find a member of academic staff to supervise it. A strong element of engineering design is required.
- The **Radcliffe Science Library** will offer you support in finding information for your third and fourth year projects. Our Engineering Subject Librarian produces an online library guide especially to help you with your projects, and also provides advice by email or in person should you need it.



'My research is about the use of polymer self-assembly to create something called an optical "metamaterial", an artificially engineered material with properties unlike anything found in nature. The project is highly interdisciplinary, covering fields as disparate as polymer physics and plasmonics. However, the combined breadth and depth of the general engineering course at Oxford has ensured that I am extremely well equipped to work in such an environment and to rapidly acquire new knowledge from a range of disciplines as and when I need it.'

James Dolan (Magdalen College 2012)

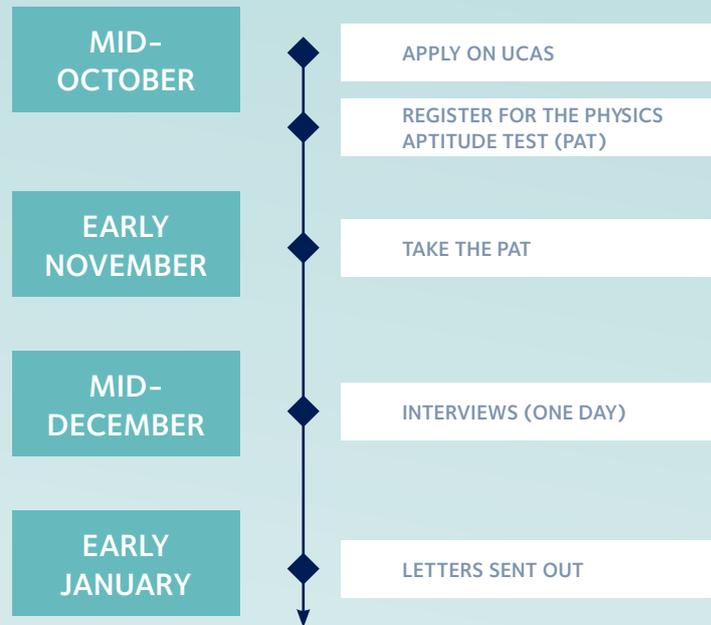
Postgraduate at University of Cambridge



How do I apply for Engineering Science at Oxford?

The application process for a place on course begins nearly a year earlier than your intended year of entry. To be considered, you must apply via UCAS, and register and take the Physics Aptitude Test (PAT). If your application is successful, you will be offered an interview and will find out if you have been offered a place in early January the following year.

The timeline for applications looks like this:



Entry Requirements: A*A*A to include Mathematics and Physics. The A*s must be in Mathematics, Physics or Further Mathematics if taken.

For additional details on applying, applying with alternative qualifications, and information on extenuating circumstances, visit: www.ox.ac.uk/admissions/undergraduate/courses-listing/engineering-science.

Open Days

There's no better way to find out what Oxford is really like than to visit us. Many colleges and departments welcome arranged visits throughout the year but our University open days remain the most popular time to visit. Explore colleges and departments and to talk directly to tutors and students to help you make your decisions.

For details, please see: www.admissions.ox.ac.uk/opendays



'I have been privileged to work on a number of exciting and high profile projects during my time at Atkins. These have included Crossrail, the Olympic Park re-development, Thames Tideway Tunnel and an iconic design for the Dubai Expo Metro Station roof. I am grateful to have gained many practical skills from my Engineering degree at Oxford; I use my experience in writing reports, using 3D design software and problem solving every day. Having an understanding of other fields, such as electrical and mechanical engineering, has also been invaluable when working in multidisciplinary teams.'

Francesca Golding (Brasenose College 2013)
Graduate Structural Engineer at Atkins



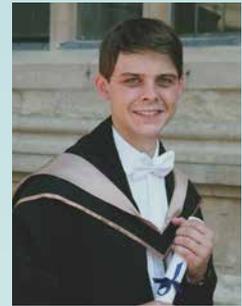
What can I do after I finish my degree?

Oxford Engineering Science alumni work in many different sectors such as banking & investment, consultancy, accountancy, IT & computing, energy & the environment. However, as you may expect, most of our alumni go on to work in the engineering & manufacturing sector. Some of our alumni decide to continue studying at Oxford, or elsewhere, by studying for a doctorate.

For more information on applying to Oxford, please visit www.admissions.ox.ac.uk. The University's Admissions Office can help answer questions about applying to undergraduate or graduate degrees offered by Oxford. Please contact: +44 (0) 1865 288000 or study@ox.ac.uk.

'My work involves applying mathematical techniques to a variety of engineering problems related to Formula One cars. One recent example has been with race strategy, where we try to choose the optimum times to pit the car throughout a race and the best tyres to put on. I believe the reputation of the Oxford engineering degree was an important factor in securing a job in Formula One.'

Mark Pullin (Hertford College 2014)
Race Strategy Modeller at Ferrari



Get in touch...

The department's website provides more information on the course and advice on applying. If you have any questions about the course please do get in touch.

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