### INTRODUCING IMPERIAL

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### STUDYING AT IMPERIAL

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Find out what life is like as an Imperial student from our team of student bloggers: [www.imperial.ac.uk/studentblogs](http://www.imperial.ac.uk/studentblogs)

Find out more about our new pilot admissions schemes for Home students from underrepresented groups: [www.imperial.ac.uk/selection/admissions-schemes](http://www.imperial.ac.uk/selection/admissions-schemes)
I still vividly remember the moment I decided to apply to medical school. It was not an easy decision for me. Despite my genuine interest and passion, there was always a doubt in my mind that I could ever be the 'ideal' medical student I thought a university like Imperial wanted. Now that I'm here, I've realised this is simply not the case.

I know many applicants worry about not fitting in because of their background, but I can reassure you: it doesn’t matter who you are or where you’re from, Imperial is a very welcoming place.”

Yasmin, MBB/BSc Medicine

Read Yasmin’s full story: bit.ly/student-stories-yasmin
Highlights

3RD IN EUROPE, 9TH IN THE WORLD
Times Higher Education World University Rankings 2019

Recognising that Imperial delivers consistently outstanding teaching, learning and outcomes for its students. Imperial’s TEF Gold rating was awarded in June 2017 and is valid until June 2021.

Most innovative university in the UK and second in Europe
Reuters’ Europe’s Most Innovative Universities 2018

For-credit modules in areas beyond your core subject
covering a huge range of humanities, science and business options, built into your course through I-Explore – see page 18.

370+ clubs, societies and projects for students – one of the largest ranges of any UK university, see page 38.

Guaranteed accommodation for first-year students in our halls of residence – see page 48 for terms and conditions.

Most international university
in the UK, with students from over 130 countries.
Times Higher Education World’s Most International Universities 2018

BASING IN THE WORLD’S BEST STUDENT CITY
QS Best Student Cities 2018

No.1
for graduate starting salaries
The Times/Sunday Times Good University Guide 2019

No.1
for graduate employability
The Guardian University Guide 2019

£60,000
Home students whose annual household income is below this level automatically qualify for an Imperial Bursary for every year that it remains below this level.

40%
of all Home students received an Imperial Bursary towards their living costs in 2018–19.

£5,000
The maximum annual Imperial Bursary award currently available for Home students.

Free money
Unlike student loans, you do not have to pay back the Imperial Bursary and it is paid on top of any government funding you are eligible for.

See page 63 for details.
## SUBJECT REQUIREMENTS

This table provides an overview of our fields of study and the subject requirements for students studying A-levels.

It's essential that you also check our course pages (pages 66–135) for the grades you need to achieve in each subject.

Subject requirements for students studying international qualifications, including the International Baccalaureate (IB), may differ – see our course pages for details.

A minimum English language requirement (standard or higher depending on the department) also applies for all applicants, even native English speakers – see page 13.

### SUBJECT AREA

| Aeronautics (page 71) | Mathematics |
| Aeronautics (page 141) | Mathematics |
| Biochemistry and biotechnology (page 70) | Mathematics, Chemistry |
| Biochemistry and biotechnology (page 70) | Chemistry, plus Biology, Mathematics or Physics |
| Biomedical engineering: Biomedical engineering (page 74) | Mathematics, Physics |
| Biomedical engineering: Molecular biotechnology (page 74) | Mathematics, Chemistry |
| Biological sciences (page 76) | Biology, plus Chemistry, Mathematics or Physics |
| Biological sciences: Medical biosciences (page 83) | Biology, plus Chemistry, Physics, Mathematics, or Further Mathematics |
| Chemical engineering (page 86) | Mathematics, Chemistry, plus Physics, Biology, Further Mathematics or Economics |
| Chemistry (page 90) | Mathematics, Economics, Physics |
| Civil and environmental engineering (page 94) | Mathematics, Physics |
| Computing (page 98) | Mathematics, Computer Science, Further Mathematics, Physics |
| Design engineering (page 104) | Mathematics |
| Earth science and engineering: Earth and planetary science (page 110) | Mathematics, Biology, Chemistry, Geography, Geology or Physics |
| Earth science and engineering: Geology (page 112) | Two of: Biology, Geography, Geology, Mathematics, Physics |
| Earth science and engineering: Geophysics (page 112) | Mathematics, Physics |
| Electrical and electronic engineering (page 104) | Mathematics, Physics |
| Electronics, Computer Science, Further Mathematics, Physics |
| Materials science and engineering (page 116) | Mathematics, Chemistry or Physics |
| Mathematics (page 120) | Further Mathematics, Physics |
| Mathematics and computer science (page 99) | Mathematics, Further Mathematics, Computer Science |
| Mechanical engineering (page 124) | Mathematics, Physics |
| Medicine (page 138) | Chemistry, Biology |
| Physics (page 132) | Further Mathematics, Chemistry |

* Each department makes its own interview arrangements – international students may be offered an interview via Skype.

† Recommended third subject, where available.

For students who demonstrate sufficient potential on their application:

Interview

| Aeronautics (page 71) | Mathematics |
| Aeronautics (page 141) | Mathematics |
| Biochemistry and biotechnology (page 70) | Mathematics, Chemistry |
| Biochemistry and biotechnology (page 70) | Chemistry, plus Biology, Mathematics or Physics |
| Biomedical engineering: Biomedical engineering (page 74) | Mathematics, Physics |
| Biomedical engineering: Molecular biotechnology (page 74) | Mathematics, Chemistry |
| Biological sciences (page 76) | Biology, plus Chemistry, Mathematics or Physics |
| Biological sciences: Medical biosciences (page 83) | Biology, plus Chemistry, Physics, Mathematics, or Further Mathematics |
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| Computing (page 98) | Mathematics, Computer Science, Further Mathematics, Physics |
| Design engineering (page 104) | Mathematics |
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| Earth science and engineering: Geophysics (page 112) | Mathematics, Physics |
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| Medicine (page 138) | Chemistry, Biology |
| Physics (page 132) | Further Mathematics, Chemistry |

† Recommended third subject, where available.
Choosing your course

The majority of undergraduate students at Imperial study single-honours degrees focusing on one core subject.

While there is usually flexibility within the curriculum to take a certain number of modules from outside your department, your course will mainly focus on topics within your core subject, which increase in depth as the course progresses.

Below are some top tips for finding an Imperial course that's right for you.

UNDERSTAND WHAT MOTIVATES YOU
Think about which subjects you will enjoy studying for the next three or more years. Learning about things you enjoy will be a much better motivator than anything else.

DON’T LIMIT YOURSELF
As qualifications in science and mathematics are the key to most of our courses, we encourage you to explore the full range of options for applying your knowledge. This includes areas you may not have considered before or which are different from your current or previous study.

MAKE SURE YOU’RE QUALIFIED
Our courses are very competitive so it’s important to make sure you’re studying the right subjects at the right level before applying*. See pages 66–135 for A-level and IB requirements and our Study website for information on the international qualifications we accept. Also take note of additional entry requirements like admissions tests.

USE YOUR UCAS CHOICES WISELY
Individual departments usually do not make more than one offer to the same applicant, regardless of how many of their courses they apply for. If you’re interested in more than one course within the same department, we recommend contacting them for advice before applying. This does not apply if you’re applying for multiple courses in different departments.

7.5:1 applications per place on average (2018–19 entry)

ASK QUESTIONS
There are lots of ways to find out more about Imperial before you apply, including coming to an Open Day, reading our student blogs and attending a summer school.

Take a look at our frequently asked questions on pages 136–137.

I first visited Imperial as part of a science summer school. It was the first time I’d been to a university and I didn’t know what to expect. I soon realised that the students and mentors I spoke to all had such a scientific way of thinking; they were just like me.

By the end of the summer school, I couldn’t see another university exciting me as much as Imperial so when it came to applying, it was at the top of my list.”

Hafiza, BSc Biochemistry

Read Hafiza’s full story: bit.ly/student-stories-hafiza

at A-level (or equivalent) is the minimum level at which we make offers – most departments make offers above this

Department of Life Sciences students on a biology field trip at our Silwood Park Campus.
How to apply

Submit your application using the online Universities and Colleges Admissions Service (UCAS) system, which handles undergraduate applications for all UK universities.

INTERNATIONAL STUDENTS

Applying for a study visa
If you are from a country that’s not in the European Economic Area (EEA) or Switzerland, you will require a Tier 4 (general) student visa to study at Imperial – unless you already hold a different type of visa that allows you to study for the full length of your course.

Visa advice and guidance
In a referendum held in June 2016, the UK voted to leave the European Union. Your right to study in the UK won’t change as a result of Brexit. At the time of going to press (January 2019), the visa arrangements for students post-Brexit have not been confirmed. Trained visa advisers within our International Student Support team can provide expert advice on a range of visa and immigration issues, even before you arrive. They will be updating their advice as information about Brexit is confirmed by the UK government.

Confirmation of acceptance of studies
If we offer you a place and you meet all your offer conditions, we will send you a reference number called a confirmation for acceptance of studies (CAS) to enter on your visa application. The earliest you can apply for a visa is three months before your course starts.

ATAS certificate
You may need to apply for an Academic Technology Approval Scheme (ATAS) certificate from the UK government before you can study certain Imperial courses. If this is required, we will include it as a condition in your offer. You can apply for a certificate up to nine months before your course starts.

www.imperial.ac.uk/study/visas
www.imperial.ac.uk/study/ug/apply/after-you-apply/cas
www.gov.uk/academic-technology-approval-scheme
Our admissions process

Whether you’re applying for direct or deferred entry, the admissions process is the same. Learn more about the process and the criteria we use to select our students.

WHAT IS A TYPICAL OFFER?
Each department can, and often will, make offers above their minimum entry standard. We try to be as transparent as possible about this so in this prospectus each department has set out its typical offer alongside its minimum entry standard. In all departments, except the School of Medicine (see page 129), these are based on offers they made to at least 80% of 2017–18 applicants who studied A-levels or the International Baccalaureate. Some applicants may be set lower offers and some more challenging ones.

ADMISSIONS TESTS
There is no College-wide entry test although some of our departments do use external admissions tests as part of their admissions process, such as BMAT for medicine. Where this applies, you will be responsible for registering for the test yourself so make sure you take note of relevant registration deadlines and test dates.

INTERVIEWS
The majority of our departments interview applicants who demonstrate potential. If you are shortlisted, your interview may form part of an recruitment day, which could also involve other tasks, discussion or a written test.

PRACTICAL SCIENCE ASSESSMENT (A-LEVEL STUDENTS)
Where this assessment applies, you will be expected to pass the practical science assessment for all subjects that form part of your offer.

ENGLISH LANGUAGE REQUIREMENTS
All applicants, including native English speakers, need to show that they meet our English language requirements for entry.

We have two levels of achievement – standard and higher. Check the entry requirements for the course you’re applying for to see which one you need to meet.

We accept a wide range of English language qualifications, including those shown below, but please see the link below for the full range. We also accept three proficiency tests: IELTS (Academic), Pearson Academic (PTE) and TOEFL (IBT). The scores for these tests are valid for two years from the date of the test.

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All Imperial students can access free academic language support from our Centre for Academic English. This includes classes, workshops, one-to-one consultations and online resources that develop your written and spoken communication. Before starting their course, international students with an unconditional offer who are non-native speakers can take the Centre’s three-week pre-sessional course to develop their academic language and literacy.

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<th>Standard</th>
<th>Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCSE or O-level</td>
<td>Grade B/6</td>
<td>Grade C</td>
</tr>
<tr>
<td>AS-level A-level</td>
<td>in English Language</td>
<td>in English Language</td>
</tr>
<tr>
<td>(if taken)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>Varies depending on syllabus</td>
<td></td>
</tr>
<tr>
<td>Baccalaureate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IELTS (Academic)</td>
<td>6.5 overall (minimum 6.0 in all elements)</td>
<td>7.0 overall (minimum 6.5 in all elements)</td>
</tr>
<tr>
<td>TOEFL (IBT)</td>
<td>92 overall (minimum 20 in all elements)</td>
<td>100 overall (minimum 22 in all elements)</td>
</tr>
</tbody>
</table>
REACHING APPLICANTS FROM ALL BACKGROUNDS

Each year, we aim to admit students who can make their own unique contribution to our learning community.

Our goal is to build a community that is not just defined by its academic achievements, but also by the diversity of staff and students within it – people who come from all different backgrounds and who support, challenge and inspire each other.

Achieving this means considering the performance of each applicant in context during the admissions process – taking into account the school they attend, their economic and social background, and other factors such as whether they are the first in their family to go to university.

UNDERREPRESENTED GROUPS

From 2020 entry, we will be using information about our applicants in three new pilot admissions schemes, to consider the wider context of Home students from groups underrepresented at the College.

The approach will vary across our three faculties (Engineering, Medicine and Natural Sciences), but will range from guaranteeing interviews in some departments to considering making slightly lower than standard offers in others.

For more information about each scheme and the eligibility criteria, see:

www.imperial.ac.uk/selection/admissions-schemes

“I’m the first person in my family to go to university and didn’t consider that a top university like Imperial would be for me. After taking part in Imperial’s STEM Potential programme I soon realised that I had underestimated myself. I also really enjoyed the atmosphere on campus, so I was really pleased when my application to Biochemistry at Imperial was accepted.

I’m from Cumbria and I was concerned about moving to London because it’s so far from my home, but I’ve joined lots of societies and that’s been great for meeting people and making new friends. The Imperial Bursary has also helped with my living costs, which was also something I worried about.”

Holly, BSc Biochemistry

Read Holly’s full story: bit.ly/student-stories-holly

Undergraduate Prospectus
An innovative education

The world is changing fast. To keep pace, our education is designed to prepare you for careers that might not exist yet.

We’ve found the best way to do this is to empower our students to be active participants in their own learning. This means helping you to think critically about your subject, to be creative in how you approach challenges and to learn through your successes – and your mistakes.

It’s likely to be a significant change from the way you’re used to learning but you’ll get plenty of support – our teaching received a Gold Award in the 2017 Teaching Excellence Framework, the highest award available.

RADICAL TRANSFORMATION

To maintain this high standard, we’ve embarked on a College-wide transformation of our education. Our goal is to change our teaching across all of our courses to make your experience even more interactive and supportive and to incorporate the latest digital technologies.

To make this goal a reality, many of our courses may undergo significant changes to their structure and content for 2020 entry. For the latest course information, see:

www.imperial.ac.uk/study/ug/courses

www.imperial.ac.uk/learning-and-teaching-strategy

Students come from all over the world to study together – so why sit in a lecture theatre in silence and then learn at home, alone? Teaching this way means that class time is freed up to do something more interesting.”

Professor David Dye,
Department of Materials

CELEBRATING OUR DIVERSE COMMUNITY

A global outlook and the ability to work in multicultural, multinational teams are essential attributes for tomorrow’s graduates. With students from over 130 different countries, the diversity in our classrooms is an undeniable asset in preparing you for the global workplace. The changes we’re making to our curriculum are designed to recognise this by creating even more opportunities for our students to learn from and challenge each other.

Graduates who can consider problems from multiple perspectives will be better equipped for success in this increasingly connected world. It’s for this reason that we’re placing greater emphasis on activities like our I-Explore programme (page 18), which make it easier for you to discover new skills and interests beyond your core subject area.

Students use real-life research labs with high-spec, state-of-the-art equipment. You can’t teach for the future using tools of the past.”

Dr Ana Costa-Pereira,
Faculty of Medicine

CASE STUDY

Professor of Metallurgy David Dye has replaced traditional lectures with a combination of short videos and detailed notes which he supplies to his first-, second- and third-year engineering students to review before class. This allows him to use the time in class to discuss the material and solve conceptual problems together.

CASE STUDY

Dr Ana Costa-Pereira has removed the traditional scaffolding for student learning in laboratories. Rather than just learning through observation, first year students hit the ground running and work in state-of-the-art Lab Pods where they are encouraged to discuss and formulate solutions to problems in groups. This allows students to learn how to assess, analyse, reflect and, if needed, adapt to challenges in a real-life lab.
I-Explore

Imperial students want to make their mark on the world. To help them prepare, we equip them with a broad range of skills – and not just those from within their chosen subject.

Through I-Explore, you’ll have the chance to deepen your knowledge in a brand new subject area, chosen from a huge range of for-credit modules built into your course.

HOW IT WORKS
From 2019, all of our undergraduate courses will include one module from I-Explore’s wide selection. The module you choose will be fully integrated into your course’s curriculum and will count as credit towards your degree.

You will have complete freedom of choice over which I-Explore module you want to study*. To make it easier to follow your interests, we’ve divided our huge portfolio of options into the following four categories.

IMPERIAL HORIZONS
This category gives you access to a wide range of options, including modules focused on humanities, social sciences, languages, and culture, society and global challenges. There are also opportunities to collaborate with the Enterprise Lab and the Advanced Hackspace (see page 28–29) and work on projects with real-world impact.

BUSINESS FOR PROFESSIONAL ENGINEERS AND SCIENTISTS (BPES)
The modules in this category, delivered by Imperial College Business School, give you the chance to gain a greater understanding of the financial, strategic and operational context of your core subject through face-to-face and online classes.

SCIENCE-BASED MODULES
These modules allow you to study areas of Science, Technology, Engineering, Maths and Medicine (STEMM) from outside of your chosen subject. This will also include topical areas of science being pioneered by our researchers that are not currently offered within our undergraduate courses.

MULTIDISCIPLINARY PROJECTS
Like the Faculty of Natural Sciences’ annual Make-A-Difference competition (see page 18), these multidisciplinary projects have collaboration at their heart. You will work with staff and students from across the College on projects which provide the opportunity and space to explore an idea, create a prototype or solve a problem.

www.imperial.ac.uk/i-explore

Imperial Horizons is available through I-Explore and also as an extracurricular option for students looking to gain new skills.

www.imperial.ac.uk/horizons

* Students taking a year abroad or a year in industry will not normally be able to choose from the full I-Explore range.
LEARNING BY DISCOVERY

At Imperial, you become part of a community of learners – even our staff are still learning through their own research discoveries.

We'll teach you to look for evidence before you act, to think critically about problems you encounter, to work together across disciplines and how to be confident in the face of uncertainty. It’s a style of education that relies on learning by discovery rather than memorising a set of facts.

500+ students take part in UROP every year

UNDERGRADUATE RESEARCH OPPORTUNITIES PROGRAMME (UROP)

Our students have always been driven by discovery. In 1980, the College formalised its support for students who wanted to take their curiosity beyond the classroom through the creation of the Undergraduate Research Opportunities Programme (UROP).

Each year, over 500 students take advantage of the chance offered through UROP to see first hand how our research groups operate.

UROP experiences typically last six to ten weeks during the summer vacation. They are as interesting as they are varied, from researching the Pleistocene instability of the East Antarctic Ice Sheet, to designing and modelling ground source energy systems. A weekly tax-free UROP bursary may also be available to cover your living costs.

LEARN FROM AND ALONGSIDE EXPERTS

The quality of interactions with our discoveries and the people responsible for making them is one of the standout features of an Imperial education. You will develop research skills and study topics linked to our latest research. Many of our courses also include a major individual research project, which you conduct under the supervision of an active researcher.

In the most recent university wide survey of research quality in the UK (the Research Excellence Framework) we were judged to have the highest proportion of ‘world leading’ or ‘internationally excellent’ research of any major UK university. So you’re going to be learning from and alongside staff who are recognised as experts in their fields.

Our idea is to make students into independent thinkers. They should never have to ask themselves: ‘why are we doing this?’

Dr Umang Shah, Principal Teaching Fellow, Department of Chemical Engineering

CASE STUDY

Chemical Engineering students gain research experience from their first year, when they are provided with the outline of a benchtop experiment but have to choose their own equipment and techniques. These practical projects – based on real industry projects – get more difficult each year. By the fourth year, they have to complete an independent research project and design a chemical plant to a specified brief.
BE A PART OF THE SOLUTION

We want our graduates to use their education to change the world. That’s why we don’t just equip them with knowledge, we also welcome them into an inspiring community of people who are doing just that. People like...

Dr Monica Marinescu in the Department of Chemical Engineering is helping to improve the batteries used in electrical vehicles, with benefits including faster charging, enhanced power delivery and longer battery lifetimes.

Helen O’Brien in the Department of Physics is lead engineer on a magnetometer for a European Space Agency mission that will get a close-up look at the Sun. The magnetometer on board the 2019 Solar Orbiter will spend eight years collecting data on the Sun’s magnetic field in interplanetary space, carried by the solar wind.

Dr Marcin Sawa in the Department of Chemical Engineering and Dr Andrea Fantuzzi from the Department of Life Sciences helped create a two-in-one paper solar bio-battery and solar panel that could power a simple digital clock. Power is generated by living cyanobacteria printed in precise patterns onto electrically conductive carbon nanotubes, which is then inkjet-printed onto a piece of paper.

Dr Robin Carhart-Harris in the Department of Medicine is exploring the therapeutic potential of psychedelic drugs for people with depression. He and his team have administered psilocybin, the active compound in magic mushrooms, to depressed patients who have not responded to normal treatments. The patients reported improvements in mood that lasted weeks and the researchers think this is because psilocybin ‘resets’ their brains.

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AN INSPIRING ENVIRONMENT

The real treasure of our campuses lies not in how they look – though there’s no shortage of beauty to be found in our green open spaces – but in the state-of-the-art facilities that lie behind the various facades.

1. One of the large teaching laboratories in the Department of Chemistry.
2. The Invention Rooms at our White City Campus include an extensive suite of prototyping equipment for students, staff and partners to make their ideas a reality.
3. Our four-storey Carbon Capture Pilot Plant is equipped with industry-standard equipment to give our Chemical Engineering students hands-on experience of capturing and storing harmful CO2 emissions.

The Brahmal Vasudevan Multi-Terrain Aerial Robotics Arena at Imperial is the first of its kind in Europe, enabling engineers to test next generation aerial robotics.

Our full-motion flight simulator is used by Aeronautics students to investigate the handling qualities and performance of existing and future aircraft.

Civil Engineering’s Hydrodynamics Laboratory is equipped with a range of flumes and tanks for teaching fluid mechanics.
LIBRARY SERVICES

The Central Library on our South Kensington Campus is one of seven College libraries. It’s the primary home for our print collections and is open 24 hours a day* most of the year. It also offers an extensive collection of e-journals, e-books and databases, most of which can be accessed both on and off campus.

The Central Library is a great place to study and has silent, quiet and group study areas, bookable rooms for project work, and a café serving food until late.

Library staff are available to help you find what you need and all students are supported by subject librarians for each department.

Disabled students can also access additional support on site, including a dedicated assistive technology room and book fetching service.

* Except Friday 23.00–Saturday 10.00

We have specialist libraries at our five medical campuses, at Silwood Park for Natural Sciences students and services on our White City Campus.

** 40 **

Items can be borrowed from the library at any one time with automatic renewals to help you stay on top of your loans.

** 290,000+ **

Online resources, including top science, engineering and medical publications.

Free document delivery service to help you source books and articles from around the UK and the rest of the world.

Download our Imperial Mobile app to access a range of College services, including viewing PC availability on campus and searching the library catalogue.

** 40 **

Computing facilities

Our students have access to Microsoft, Mac and Linux systems, high-speed internet and wireless connectivity and a wide range of virtual learning tools like Blackboard and Panopto.

Our ICT team offers face-to-face help, telephone support and online assistance to anyone experiencing IT-related issues. Free and discounted software is also available through their Tech Store – including free Microsoft Office 365.

Digital learning is a priority in our new Learning and Teaching strategy (see page 16) so we are constantly looking at new ways to use technology to enhance our education.
Great minds don’t think alike

People come to Imperial because they want to help create a better world. That takes courage, commitment, resilience and lots of creativity.

These are also the ingredients of successful entrepreneurship so it’s not surprising that many of our graduates choose this route over more conventional career paths.

THE ENTERPRISE LAB

The Enterprise Lab has been set up to serve Imperial’s enterprise community. It ensures that all students and staff who have an idea or innovation receive the support they need to take it forward, regardless of what stage they’re at. That might be through training programmes, access to competitions for funding, ideas surgeries with the Lab team or mentoring from industry experts. There’s also the physical space itself, which has become a go-to place for people to work on their ideas, connect with others and get inspiration.

ADVANCED HACKSPACE

At Imperial, we’re well known for turning our research into real-world solutions. In other words, responding to today’s global challenges through hands-on innovation. That’s exactly what our Advanced Hackspace is for. It brings together a network of facilities at our South Kensington and White City Campuses where you can build things, fix things and learn to hack (the good kind).

CREATING A BETTER WORLD

Our mission is to make the world a healthier, cleaner and safer place to live. The enterprising community at the College, and the student societies that have formed as a result, provide some of the best examples of this – like the El Salvador Project, whose members provide simple engineering solutions to indigent communities of this Central American country.

SUCCESS STORIES

Olivia Ahn (MBBS/BSc Medicine 2017) and Aaron Koshy (MSc Innovation Design Engineering 2017) won the 2018 Mayor of London’s Entrepreneur Competition for their startup, Polipop, which has developed biodegradable sanitary pads. Read Olivia’s full story: bit.ly/student-stories-olivia

Three undergraduate students, who formed Team CleanSea, won the 2018 Faculty Natural Sciences’ annual Make-a-Difference competition for their technology that could prevent microplastics from entering the oceans.

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DON’T JUST STUDY THE WORLD, LIVE IT

We want to train graduates who are interested in the world around them. Doing this authentically means giving our students the chance to experience different cultural perspectives first hand.

1 Many departments offer integrated year abroad courses, with options to study at some of the world’s best universities. Mathematics student Harrison spent his third year studying in Switzerland.


3 Our International Research Opportunities Programme (IROP) allows you to spend your summer vacation overseas at a top partner university. Chemistry undergraduate student Sofia took part in an IROP placement at Seoul National University in South Korea.

4 Materials undergraduate Matas carried out a summer IROP placement at MIT. www.imperial.ac.uk/students/global-opportunities/ug/summerresearchplacements

An expedition team of eight Imperial students trekked unsupported across one of Crete’s most tiring and difficult walking routes in three and a half weeks. www.imperial.ac.uk/be-inspired/exploration-board

5 A wide range of student-led volunteering societies give you the chance to apply your education globally, like members of e.quinox who use their engineering skills to bring cost effective and renewable energy to developing countries.

6 Extracurricular courses in up to nine different languages are available from your first year through Imperial Horizons. www.imperial.ac.uk/languages

OVERSEAS FIELD TRIPS ON A NUMBER OF OUR COURSES TURN THE WORLD INTO YOUR CLASSROOM

EACH YEAR OUR EXPLORATION BOARD FUNDS TRIPS WHICH TAKE OUR STUDENTS ALL OVER THE WORLD

ALL STUDENTS HAVE THE CHANCE TO LEARN A LANGUAGE THROUGH IMPERIAL HORIZONS

Our Earth Science and Engineering students trekked part of a field trip to the Pyrenees, a mountainous desert range between Spain and France.

A wide range of student-led volunteering societies give you the chance to apply your education globally, like members of e.quinox who use their engineering skills to bring cost effective and renewable energy to developing countries.

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Our campuses

Our South Kensington Campus is home to the majority of our undergraduate teaching.

We also have a number of specialist medical campuses where our medical students undertake their clinical attachments. These are based around some of London’s leading hospitals.

Meanwhile, our new White City Campus in West London allows us to extend our partnerships with businesses and local community partners even further through state-of-the-art facilities that are designed for collaboration.

Watch a day in the life of Imperial: bit.ly/imperial-day-in-the-life

1 The Queen’s Tower at the heart of our South Kensington Campus
2 Royal School of Mines, South Kensington Campus
3 Hammersmith Campus in East Acton
4 St Mary’s Campus in Paddington
5 White City Campus, our new development in West London
6 Dalby Court, South Kensington Campus

The Queen’s Lawn on our South Kensington Campus is the perfect spot to meet friends, chat over coffee or just soak up the sunshine.
CULTURE ON YOUR DOORSTEP

Our South Kensington Campus is surrounded by some of London’s most famous cultural treasures. Just a five-minute walk will take you to the door of thee of the world’s best museums – the Science Museum, the Natural History Museum and the V&A – all with free entry. Exiting our Students’ Union by the back door will also see you arrive at the Royal Albert Hall, where all students graduate. For outdoor activities, the green spaces of Hyde Park and Kensington Gardens are just a stone’s throw away and are the perfect place to relax in between lectures.

**FREE**

**SOAK UP THE SUNSHINE...**
in Hyde Park and Kensington Gardens, two of London’s eight Royal Parks. Hyde Park regularly hosts major live music and sporting events while Kensington Gardens is home to the Serpentine Gallery and Kensington Palace.

**FREE**

**ENJOY PERFORMANCES...**
by some of the world’s finest artists in the stunning Royal Albert Hall. The Proms are one of the highlights in the calendar with standing places available for as little as £6.

**FREE**

**EXPLORE SCIENCE THROUGH THE AGES...**
in the Science Museum, with the original model of DNA and the Apollo 10 command module in its collections.

**FREE**

**LEARN GERMAN...**
from scratch or build on existing skills in classes at the Goethe-Institut.

**FREE**

**EXHIBITION OF DESIGN...**
at the annual graduate show at the Royal College of Art (RCA) for our two unique double Master’s degrees in engineering design which are run jointly with the RCA. Past projects include gloves that enable two-way physical interaction with a virtual environment and an eye-tracking camera.

**FREE**

**ENJOY ART SPANNING 3,000 YEARS OF HISTORY...**
in the world’s largest museum of decorative arts and design, the Victoria and Albert Museum (V&A).

**FREE**

**EXPLORE THE FUTURE OF DESIGN...**
in the award-winning Natural History Museum, home to around 80 million specimens, including some collected by Darwin.

**FREE**

**ENJOY PERFORMANCES...**
by some of the world’s finest artists in the stunning Royal Albert Hall. The Proms are one of the highlights in the calendar with standing places available for as little as £6.

**FREE**

**FEED YOUR SPIRIT OF ADVENTURE...**
at events at the Royal Geographical Society.

**FREE**

**ENTER THE WORLD OF MUSIC...**
through the Royal College of Music’s event series.

**FREE**

**SEE NATURAL HISTORY COME TO LIFE...**
in the award-winning Natural History Museum, home to around 80 million specimens, including some collected by Darwin.
Beyond the classroom

The pace and intensity of Imperial study can be demanding but it’s not all work and no play. There are currently over 370 student-run clubs, societies and projects on campus as well as a huge range of social and cultural events.

IMPERIAL COLLEGE UNION

All Imperial students are members of Imperial College Union, which provides funding, resources and support for our student activities (see pages 38–39). The Union is not just there for the social side of life, it also provides a voice for change for all Imperial students through its network of elected representatives across all campuses. Its dedicated building on our South Kensington Campus also houses its Advice Centre, staffed by professional advisers who can offer independent guidance on a range of personal and academic issues.

There are five established a cappella groups at the College, including the mixed-gender group The Scopes.

Felix the Cat is the official mascot of Imperial’s student newspaper, Felix. The weekly paper grew out of the College’s arts magazine Phoenix, which was established by War of the Worlds author H.G. Wells.

www.imperialcollegeunion.org

Imperial has an age-old tradition of mascotry, with 11 mascots representing our six Constituent Unions and Sport Imperial.

www.imperial.ac.uk/mascots

Imperial College Union has a number of volunteering programmes that offer a way for you to take practical action on issues that you care about and gain new skills at the same time.

Every year, over 3,000 students are elected to volunteer roles within Imperial College Union. Around 600 of these students make up the Union’s Academic and Wellbeing Representation Networks. These networks play a vital part in making sure that the College is aware of the needs of its students, whether in relation to the delivery of a course or to student welfare issues, such as personal safety or financial wellbeing.

THE ARTS

It’s a common misconception that the arts cannot thrive at our science-dominated College – at Imperial they’re alive and well. In 2018, for example, Imperial’s mixed-gender a cappella group The Scopes performed at the Edinburgh Fringe, one of the largest arts festivals in the world. Music really thrives here – evident in our four orchestras, six choirs, wind band, jazz big band, and busy lunchtime concert series. We also have ten music practice rooms.

Other arts are equally well catered for with free art workshops, an on-site art studio and gallery and Dramatic and Musical Theatre societies welcoming both performers and behind-the-scenes volunteers.
Imperial students are not just scientists or medics or engineers. They’re musicians, actors, linguists, astronomers, singers, comedians, dancers, sailors, journalists, debaters, cinephiles, cheerleaders, painters, photographers, skateboarders – in fact, too many things to mention.

Over 370 clubs, societies and projects currently exist at Imperial, representing all the different things that our students are into. Don’t worry if you can’t find one you like – Imperial College Union can help you set up your own. Lacrosse, eSports and DroneSoc are just three recent additions.

- IC Radio
- Canoe
- Cheese
- Tabletop gaming
- Punjabi
- Imperial College Symphony Orchestra
- Science Fiction and Fantasy
- Musical Theatre
- Caving
- Parachuting and Skydiving
- Gliding
- Raising and Giving (RAG)
- Fellwanderers
- Drone
- Juggling
- Racing Green
- iQ (LGBT+)

TUNEd in to our radio station at ICRAdio.com

GIVE IT A GO
You can try out many of the clubs, societies and projects on offer as part of Give it a Go at the start of term. These free or cheap taster sessions are perfect for students who want to try something new without committing to a club. Opportunities range from hip hop classes to yoga, and from a jazz and rock jam night to on-air practice with IC Radio.
PLAY, COMPETE, EXERCISE, ENJOY

Imperial is the number one university for sporting success in London*, giving you plenty of opportunity to stay active, get fit and meet new friends.

PERFORMANCE SPORT

Over 80 Imperial teams will compete in the 2019–20 inter-university league, BUCS. The standard is high, bringing together some of the UK’s top student-athletes, including 40 Imperial sports scholars who also perform at national or international level in their chosen sport.

For more information about our sport scholarships see:

www.imperial.ac.uk/sport

SPORTS CLUBS

The choice of sports clubs is as diverse as our students, with around 100 clubs welcoming players at all levels. These cover a huge range of competitive and recreational activities, including archery, badminton, BMX, cricket, fencing, hockey, polo, riding, rowing, rugby, skateboarding and snowsports. We also offer over ten different martial arts.

www.imperialcollegeunion.org/activities/a-to-z

ACTIVE IMPERIAL

Our recreational programme, Active Imperial, covers a breadth of fitness classes, sport taster sessions, intra-mural leagues, and individual activities such as swimming or climbing lessons on our 9m climbing wall. Active boxes in all our halls of residence also contain a range of fitness and sports equipment for residents to use.

ETHOS SPORTS CENTRE

Our on-campus sports centre, Ethos, is conveniently positioned for a lunchtime swim, gym session or fitness class.

All of our students have access to the gym and swimming facilities in Ethos, and at our other campuses, for an annual membership fee (currently £30).

www.imperialcollegeunion.org/activities/a-to-z

* Based on our overall ranking in the British Universities and Colleges Sport (BUCS) leagues 2017–18.

1 Parkour, free running and gymnastics
2 Diving
3 Karate Shotokan
4 Hockey
5 Surfing
6 Rowing
7 Fencing
8 American football
9 Football
10 Lacrosse
11 Distance runner and sports scholar Daniel Rowden
12 Basketball
13 Energia fitness gym
14 Touch rugby
15 Cross country and athletics

1st in London

in the inter-university British Universities and Colleges Sport (BUCS) leagues 2017–18.
If you want a student experience unlike any other, London’s fusion of culture, charm and career opportunities is hard to beat. Discover some of the best museums and galleries in the world for free, try food from across the globe, visit a different coffee shop or bar every time you go out – and take advantage of 24/7 bus (and weekend Tube) travel home, watch free gigs from soon-to-be-famous bands, and don’t be surprised if you have a chance encounter with a celebrity or two. But don’t let the excitement of London stop you venturing further afield – currently the Eurostar from central London will get you to Paris in just over two hours.

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“It’s so easy to get around London and I love exploring new areas. Tower Bridge is one of my favourite places to visit. The views from the iconic bridge are beautiful – you can see across to The Shard and look right down the River Thames. There’s such a positive atmosphere in London and I love being able to experience lots of different cultures from all over the world.”

Leah, MEng Molecular Bioengineering

Undergraduate students Dev, Leah and Kwan exploring the area surrounding one of London’s iconic landmarks, Tower Bridge.

Read Leah’s full story: bit.ly/student-stories-leah
A global city

Being a student in London is unlike anywhere else in the UK, from the cultural vibrancy felt across the city, to its unique balance of the very old and the strikingly new.

People come from all over the world to study in London – and the city thrives on the diversity that this brings. The streets are abuzz with more than 300 languages, and its food, fashions, cultural activities, shops, exhibitions and nightlife are a reflection of the people who have made London their home.

The annual party for London’s Caribbean communities – Notting Hill Carnival – for example, is Europe’s biggest street festival, and the city’s annual Pride in London parade is part of a month-long celebration of the city’s LGBTQ+ community.

As one of the people lucky enough to live here, you’ll soon discover one of its best kept secrets – that the sprawling city is more like a series of villages, each one with its own vibe, history and culture. Once you know your way around, you’ll find it easy to escape the crowds and enjoy London – from Shakespeare’s Southwark to Harry Potter’s King’s Cross – like a true local.

250
festivals every year, including BBC Proms in the Park, West End Live and the BFI film festival

17,000+
music performances a year across more than 300 venues

200+
théatre shows run daily in the West End, including many smash hit shows

MANY OF LONDON’S TOP ATTRACTIONS HAVE FREE ENTRY

London’s 850+ art galleries and over 170 museums include some of the world’s best.

There are many ways to get around the capital.

London’s Theatreland in the heart of the West End is home to cutting-edge drama, big hit musicals and classic shows.

Source of statistics: www.london.gov.uk
London on a budget

London is regularly ranked amongst QS’s top ten best student cities in the world. But how much of London life – its museums, galleries, restaurants, theatres, gigs – do you get to enjoy on a student budget? And what should that budget be?

WHAT COSTS ARE INVOLVED?

Our rough guide (opposite) gives you an idea of how much money you’ll need to live in relative comfort for an academic year (39 weeks) at Imperial.

Don’t forget, 52-week contracts are standard in private accommodation so you will need to budget for the entire year if you’re not staying in College accommodation or you’re not planning to go home during the holidays.

Remember, this guide does not include your tuition fees or any extra costs connected to your course. See pages 60–63 for more information.

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The approximate amount you should budget for as an Imperial student is £305/WEEK.

Approximate living costs

<table>
<thead>
<tr>
<th></th>
<th>WEEKLY</th>
<th>39 WEEKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
<td>£176.51</td>
<td>£6,883.89</td>
</tr>
<tr>
<td>accommodation*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>private</td>
<td>£176</td>
<td>£6,864</td>
</tr>
<tr>
<td>accommodation‡</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food§</td>
<td>£58</td>
<td>£2,262</td>
</tr>
<tr>
<td>Travel</td>
<td>£28.80</td>
<td>£995.40</td>
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<td>£1,677</td>
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<td>leisure*‡</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>£306.31</td>
<td>£11,818.29</td>
</tr>
</tbody>
</table>

* Based on rents for 2018–19. Once confirmed, costs for 2020–21 will be displayed at: www.imperial.ac.uk/accommodation
† This £176.51 average cost includes a £2 weekly contribution to the Activities Fund and all utilities. 65% of rooms in College accommodation cost less than the weekly average of £176.51.
‡ Figures taken from a Student Experience Survey 2018 of Imperial students, and also includes utilities.
§ Weekly zones 1–3 travelcard with a 18+ Student Oyster photocard, which gives a 30% discount off the adult price (2019 prices).
# Based on buying a monthly zones 1–3 travelcard with a 18+ Student Oyster photocard for nine months (2019 prices).

BELOW ARE SOME OF THE WORLDS BEST CLASS MUSEUMS – ALL WITH FREE ENTRY.

Kensington Gardens (below) is just a short walk away.

Try alternative, healthier modes of transport. I walk 40 minutes to the College every morning. It’s refreshing and I save money.”

Mala, MBBS/BSc Medicine

BUDGETING IN ADVANCE AND LEARNING TO STICK TO IT IS KEY

If you run into problems or you need extra help when you arrive, support is available from our Student Financial Support team and Imperial College Union’s Advice Centre.

IS IT WORTH THE COST?

London is more expensive than most other UK cities but as a student you are in a good position to minimise your living costs by taking advantage of the wide range of student discounts available across the city (including on our campus).

Preparing for your first graduate position in a global city where many graduate employers are based also brings a number of advantages. For example, you’ll be ideally placed to take up internships and work experience, and attend professional events where you can start building contacts that may prove useful later on.

You’ll also have access to world class facilities beyond our campuses that can enhance your study experience, many with free entry. These include over 170 museums and more than 380 public libraries, including the British Library.
Over 90 per cent of our first-year students start their Imperial experience in halls of residences. Our halls are not divided by gender, course or nationality. Instead, everyone is mixed together, with a residential support team in each hall to keep everything running smoothly.

If you take advantage of our first-year accommodation guarantee (see left) you’ll be assigned to one of our ten halls before you arrive.

You can choose up to five halls on your application (and specify your preferred room type and price for each). Your five choices will be ranked equally and we’ll use these to guide the decision.

Currently around 24 per cent of our 2,500+ bed spaces are in twin rooms. Twin rooms are always single gender and generally cheaper. You can state your preference on your application and we will try our best to match it.

Applicants who make Imperial their insurance choice can also apply for a place in halls, though they are not covered by the first-year guarantee.

There’s no need to move out during the Christmas and Easter holidays – some halls also include the option to extend your stay over the summer vacation.

You can stock up on daily essentials in our convenience store on campus.

### 38–40 WEEK CONTRACTS

All halls have CCTV and swipe card or fob entry systems. There are also 24-hour manned security offices on campus and mobile patrols for off-campus halls.
Our halls are self-catered; if you don't fancy cooking, there is a wide choice of catering outlets on campus.

## Applying for Accommodation

**May 2020**
The application process opens for applicants who have made the College their first choice (firm acceptance through UCAS). You can choose up to five halls (and specify your preferred room type and price for each).

**Friday 31 July 2020**
The last day to apply for a guaranteed place in our accommodation.

Rent in College accommodation includes all bills (gas and electricity charges, internet in your room and insurance for your personal possessions). This is paid on a termly basis, so it's easy to keep track of what you need to pay when.

Many of our halls have their own social facilities, such as TV and games rooms. There is also a year-round programme of social, cultural and sporting activities organised by the residential support team for each hall.

For a breakdown of rents in all our halls, including the number of rooms available within each price band, see:

[www.imperial.ac.uk/accommodation/halls/compare](http://www.imperial.ac.uk/accommodation/halls/compare)

**Monday 3 August 2020**
Application process starts for applicants who have accepted Imperial as their insurance choice. We aim to house as many students as we can but cannot guarantee places for insurance-choice students.

**Early September 2020**
We start allocating rooms, using the preferences you’ve put on your application form as a guide.

**September 2020**
We email you to tell you which hall you’ve been assigned to.

**Saturday 3 October 2020**
Moving in day!

Current students will be on hand on moving in day to help you unpack and settle in.

**Beyond the First Year**
Most undergraduates move into privately rented accommodation from their second year. We provide year-round advice and practical help on searching London’s huge range of houses, flats and studios. This includes an annual Private Housing Evening with tips on how to get started and a housing fair bringing estate agents and other service providers to campus.

[www.imperial.ac.uk/accommodation/privatehousing](http://www.imperial.ac.uk/accommodation/privatehousing)

There are also a few options to stay on in halls, including returners' rooms in our Evelyn Gardens hall of residence, applying to join a residential support team as a hall senior and applying for any remaining spaces in other halls.

**Property Search Website**
Our online property search website has been designed to help Imperial students navigate London’s huge choice of private properties. Imperial Home Solutions lets you search by type and size of property, price, area and travel time, and create your own property shortlist from a huge choice of rented properties offered by private landlords.

You can also connect with potential flatmates via the message board and access useful information to help with your search, including a checklist of what to look for when viewing properties and advice about paying deposits.

[www.imperialhomesolutions.co.uk](http://www.imperialhomesolutions.co.uk)

**Got a Question?**
Before you even arrive, you can take advantage of advice and support to help you find a home that’s right for you:

[accommodation@imperial.ac.uk](mailto:accommodation@imperial.ac.uk)

We encourage disabled students and students with special requirements to get in touch as early as possible for information about our purpose-built and adapted rooms, which are fully integrated within our halls:

[disabilities@imperial.ac.uk](mailto:disabilities@imperial.ac.uk)
Here to help

Being a student at Imperial is more of a marathon than a sprint. Our College-wide network of support services are an important part of your experience, making sure you can go the distance and feel part of a community where you can completely be yourself.

A NETWORK OF SUPPORT

ACADEMIC SUPPORT
You will have a dedicated personal tutor, who is there to support you throughout your time here. They provide academic advice and feedback, as well as helping you access any College support services you may need. We also provide a variety of resources to support your academic success, including an online Success Guide which covers a range of study advice, lunchtime library workshops and specialist subject librarians who can help you find the resources you need.

SUPPORT IN YOUR DEPARTMENT
As well as your personal tutor, your department is home to a network of other experienced staff members and student representatives who are there to provide support, advice and representation on personal, practical and academic matters. They work together to create a vibrant student community that you will quickly become a part of, helped by Imperial College Union’s buddy scheme which pairs you with returning students in your department.

SUPPORT WITHIN YOUR HALL
Our Residential Support team are on call 24/7 to look after your wellbeing and also organise lots of social activities for residents.

INTERNATIONAL STUDENT SUPPORT
Each year we welcome students from over 130 countries. We provide a range of services to help our international students quickly feel part of our student community:

A dedicated Student Support team to help international students settle into life in the UK and who hold a year-round programme of social activities.

Visa and immigration advisers offering specialist advice on issues including Tier 4 visas, short-term study visas and post-study visas.

Free courses and classes in both academic and social English, delivered by the Centre for Academic English. See page 13.

HEALTH AND WELLBEING
We have a number of on-site services to support your health and wellbeing, including an NHS Health Centre, Dental Surgery and a Counselling and Mental Health Advice Service. Imperial College Union’s independent and confidential Advice Centre offers advice on a wide range of issues. The Union also co-ordinates a network of Student Wellbeing Representatives whose role is to promote and support student health and wellbeing within their departments.

FAITH AND SPIRITUALITY
Our Multi-faith Centre supports students from different faiths and philosophical backgrounds. It provides access to chaplains from different religions, multi-faith prayer rooms, events, meditation and mindfulness sessions, and information on local places of worship.

SPECIALIST SUPPORT
If you have a disability, specific learning difference or an enduring physical or mental health condition, the Disability Advisory Service can provide you with specialist support throughout your time here. To take full advantage, be sure to contact the Service before you start your course to discuss the support that you might need. Care leavers can access a range of specialist support, starting from the admissions stage (see page 10).

www.imperial.ac.uk/student-space

All Imperial students – including native and non-native English speakers – can access free academic language support from our Centre for Academic English. See page 13.
Careers

In every department, you will have access to careers support for subject-specific guidance, on top of a wide range of support from our central Careers Service.

PROFESSIONAL CAREERS GUIDANCE
Our Careers Service is there to support your career planning and complement the guidance and professional development opportunities available in your department.

One-to-one sessions with professional careers consultants, daily skills seminars and a CV checking service are just some of the services available from your very first day and for up to three years after you graduate.

The Careers Service website also has an extensive collection of resources, including practice psychometric tests, interview and assessment centre feedback, country-specific information and useful tips and videos covering every aspect of the recruitment process.

www.imperial.ac.uk/careers

ALUMNI MENTORING SCHEME
Our 200,000-strong community of former students work in a huge range of professions across the world – and they are an invaluable source of careers advice. The Careers Service’s alumni mentoring scheme can partner you with an alumnus working in your field of interest, or a related industry, for advice on how to follow in their footsteps.

Our Charity Insights bursary scheme offers funding for a four-week internship in a charity of your choice. Find out more on our website:
www.imperial.ac.uk/careers/charityinsights

SKILLS DEVELOPMENT
Imperial students don’t wait until graduation to start making an impact in the world and often clock up hundreds of hours taking part in extra-curricular activities, volunteering and undertaking part-time work. The Imperial Award offers you a useful framework for reflecting on the skills you develop outside the classroom – and official recognition for them on your degree transcript to help you stand out to future employers. It is complemented by Imperial College Union’s free programme of online tools, resources and interactive workshops to help you grow your leadership potential.

www.imperialcollegeunion.org/your-development

FOLLOW IN THEIR FOOTSTEPS

Having started her career as a professional engineer working on London’s £16bn Crossrail Project, Kimberly Fok now employs her skills as a Project Manager’s Assistant within civil engineering firm Bechtel, where she is working on the £180m Gatwick Airport pier 6 expansion.

Dr Faii Ong received €1.86m in funding from the EU’s Horizon 2020 programme, and over £1m from the government and seed investors, for his company GyroGear which has created a device that helps to stabilise the hands of people with tremors.

Laura Kor is an Ecologist for the global engineering consultancy Mott MacDonald. She assesses the impact of infrastructure projects on wildlife and the environment around the world.

Kimberly Fok
MEng Electrical and Electronic Engineering 2016

Laura Kor
BSc Biology with a Year in Industry 2014

FOLLOW IN THEIR FOOTSTEPS

The Times/Sunday Times Good University Guide 2019

NO.1
for graduate employability
The Guardian University Guide 2019

8,900+ VACANCIES
advertised in 2018 by employers registered with the Careers Service

For graduate starting salaries in the UK
The Times/Sunday Times Good University Guide 2019

9
annual careers fairs, including engineering, science, and finance and consulting fairs, bringing hundreds of employers to Imperial.

www.imperial.ac.uk/careers

Our Ask an Alumnus scheme puts you in touch with Imperial alumni who are happy to answer your careers questions. It’s a great way to get valuable insight into specific industry sectors and job roles.

Our Charity Insights bursary scheme offers funding for a four-week internship in a charity of your choice. Find out more on our website:
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No.1
for graduate starting salaries in the UK
The Times/Sunday Times Good University Guide 2019

9
annual careers fairs, including engineering, science, and finance and consulting fairs, bringing hundreds of employers to Imperial.
Industry connections

Our strong connections with hundreds of employers mean Imperial students graduate with the sort of skills that will be valued in all kinds of careers.

The advantage of being the only university in the UK to focus solely on science, engineering, medicine and business is that a lot of businesses want to work with us – they contributed £61.2m to our income in 2017–18. They also use our facilities, engage our staff as consultants and fund scholarships and prizes for our students.

In many departments this valuable employer input is channelled through guest lectures and project work that’s based on real industry problems. Courses with integrated years in industry (or research) are also available in the majority of our departments – it’s not unusual for these to lead to job offers on graduation.

Our central London location is an undeniable asset as it puts a global job market on your doorstep. We make the most of this in our year-round graduate recruitment programme:

- nine sector-specific careers fairs
- a rolling programme of employer presentations
- industry sector forums, offering an insight into a variety of work roles within a particular industry
- on-campus interviews – first round interviews with a range of graduate recruiters

There are so many opportunities to get involved and learn about the role that people in other departments play – not only aeronautical engineers but also computer scientists, physicists and mathematicians.

I’m developing a new tool to understand how air flow along our cars can affect their performance and have been analysing the data from our wind tunnel experiments. This tool will mean our team can assess newly designed car parts more accurately and make improvements.”

Carlota, MEng Aeronautical Engineering with a Year in Industry
Year-long industry placement at Williams Racing

I love problem solving and being creative and that’s exactly what I’m able to do here. Analysing each car’s performance is a big part of my role: I process and analyse track data, looking at the car’s technical performance and briefing the drivers on what they can do to get the most out of the machine.

It’s really exciting to see the projects I’m working on in action and to know they could help a driver to win one day!”

Elizabeth, MEng Aeronautical Engineering with a Year in Industry
Year-long industry placement at Williams Racing

Read Elizabeth’s full story: bit.ly/student-stories-elizabeth

Read Carlota’s full story: bit.ly/student-stories-carlota

Over 60% of our undergraduate courses are professionally accredited, delivering industry-recognised skills and knowledge

Industry-standard facilities available across the College match those you will find in the professional world (see pages 24–25)
The magnificent setting of the Royal Albert Hall, one of the world’s finest concert halls, perfectly matches the pride and sense of achievement our graduates feel as they mark the end of their time at Imperial.

Your relationship with the College does not end when you graduate. As an Imperial alumnus, you will join a community of over 200,000 former students around the globe. It’s a community that includes prestigious prize winners, inventors, business leaders, scientists, engineers, doctors, journalists, researchers and entrepreneurs – united in their shared experience of studying in London at one of the best universities in the world.

Imperial alumni enjoy a range of exclusive perks including invitations to events, careers support, an alumni email address and membership access to campus libraries, online resources and an Alumni Visitor Centre on our South Kensington Campus.

www.imperial.ac.uk/alumni
Fees and funding

Tuition fees and living expenses are two of the biggest costs involved in university study. Depending on your fee status (see below), you may be able to get a loan from the UK government to cover the full cost of your fees for every year that your course lasts. You may also be eligible for additional funding from the government and from Imperial to help with your living costs.

HOME, EU OR OVERSEAS FEES?

There are currently two rates of tuition fees: the Home rate (for UK students, and currently EU students – see below, right), and the Overseas rate (for international students).

The fee rate you pay is determined by your fee status, which we assess after you apply. The main criteria for being classed as a Home student are:

- You’re a UK national or have ‘settled status’ (no restriction on how long you can stay) on 1 September of the year of entry; and
- You’ve been living in the UK for three years continuously before starting your course, providing that wasn’t solely for the purpose of receiving full-time education.

Other criteria also apply so please check our Study website:

www.imperial.ac.uk/study/ug/apply/fee-status

HOME FEES

The maximum fee that universities are allowed to charge Home students is set by the UK government. The £9,250 government cap on fees applied to all our undergraduate courses for 2019 entry. This fee cap may increase for 2020 entry, and in subsequent years, in line with government regulations.

Tuition Fee Loan

Tuition Fee Loans are available from the UK government to cover the full cost of tuition for Home students for every year that their course lasts. See page 62 for information on how to apply and about repayments.

EU students

The UK government has not yet confirmed whether EU students will continue to pay the Home rate of tuition fees and have access to the Tuition Fee Loan after the UK exits the EU.

Get questions about funding your studies?
www.imperial.ac.uk/fees-and-funding/contact-us

OVERSEAS FEES

The tuition fee for international students is set by the College and varies for each course. As a guide, in 2019 our fees ranged from £28,000 to £41,000 per year. We have not yet set our fees for 2020 entry.

EXTRA COURSE COSTS

Some courses may involve extra costs that are not covered by your tuition fees, such as protective clothing for lab work, field trips or books, so remember to budget for these costs. Please see our online course pages for details, where these apply. We will also publish our tuition fees for 2020 entry on these pages once they are confirmed:

www.imperial.ac.uk/fees-and-funding/loans-and-grants/nhs-funding

www.imperial.ac.uk/study/ug/courses

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MAINTENANCE LOAN FOR LIVING COSTS

See pages 46–47 for a guide to how much you should budget for life as an Imperial student.

Students who normally live in the UK can apply for a Maintenance Loan towards their living costs from the UK government. The amount you can get depends on where you live, where you study and your household income.

EU students

Currently, EU students who have lived in the UK for more than five years before the first day of the first academic year of their course are also eligible for a Maintenance Loan.

The UK government has not yet confirmed whether this will continue after the UK exits the EU.

Medical students

In years five and six, access to UK government funding is significantly reduced for medical students. This is why we offer a six-year Imperial Bursary payment option for Home medical students who are eligible for the bursary.

The six-year payment option allows them to spread their bursary payments over six years instead of four to bridge the funding gap in their clinical years.

www.imperial.ac.uk/study/ug/courses
UK GOVERNMENT FUNDING

The money for student loans and grants comes from the government-owned Student Loans Company through your regional funding body.

The easiest way to apply for money from the Student Loans Company is on the website of the funding body for where you live e.g. Student Finance England for students who normally live in England.

Depending on the type of finance you’re applying for, you may also need to provide household income information for what’s known as means testing – this is required for means-tested finance like the full Maintenance Loan. We also need this information to assess household income information for what's normally live in England.

WHAT GOVERNMENT FUNDING DO I PAY BACK?

You need to repay any Maintenance Loans and Tuition Fee Loans you have received from the Student Loans Company. However, you don’t have to start repaying them until:

- the April after you have finished or left your course; and
- you are in employment and you are earning over the relevant repayment threshold (currently £25,000/year for students who normally live in England and Wales)

When you start earning over the repayment threshold, your employer will automatically take 9% of any income you earn over the threshold to repay to the UK government through the tax system. If you’re self employed you pay through self assessment.

It does not matter how much you owe in total as repayments are always linked to your income and not the amount owed.

EXAMPLE FOR A STUDENT FROM ENGLAND

MEDIAN SALARY FOR IMPERIAL GRADUATES* £30,000/year

REPAYMENT THRESHOLD (FROM APRIL 2018) £25,000/year

AMOUNT YOU’RE EARNING OVER CURRENT REPAYMENT THRESHOLD £5,000/year

AMOUNT YOU REPAY (9% OF £5,000) £450/year (£37.50/month)

* The Times/Sunday Times Good University Guide 2019

FUNDING FROM IMPERIAL

“Receiving the Imperial Bursary meant I could spend my spare time getting involved in Imperial’s clubs and societies rather than working to pay for living in London.”

Melanie, MBBS/BSc Medicine and Imperial Bursary recipient

IMPERIAL BURSARY

The Imperial Bursary helps with the cost of studying in London for Home students. If your annual household income is below £60,000, you automatically qualify for the bursary for every year of your course – provided your household income remains below this level. The Imperial Bursary is paid on top of any government funding you may receive and you do not have to pay it back:

**Imperial Bursary 2020–2021**

<table>
<thead>
<tr>
<th>ANNUAL HOUSEHOLD INCOME</th>
<th>BURSARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>£0–£16,000</td>
<td>£5,000</td>
</tr>
<tr>
<td>£16,001–£50,000</td>
<td>£4,000</td>
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<tr>
<td>£50,001–£60,000</td>
<td>£3,000</td>
</tr>
<tr>
<td>£55,001–£60,000</td>
<td>£2,000</td>
</tr>
</tbody>
</table>

Please note: Graduate Medicine students are not eligible for the Imperial Bursary. Exclusions also apply to repeat years of study and NHS-funded years for medical courses.

This bursary offer may need to be adjusted if the government changes the levels of fees or the associated arrangements for supporting students, for example following the ongoing Higher Education Review. If this does prove necessary, we will publish any revisions clearly on our website.

**What you may be eligible for.**

| SPORTS SCHOLARSHIPS | Students who compete at national or international level in their chosen sport may be able to get a sports scholarship. Students who excel in their sport during their studies, and require additional support, can also apply for a bursary of up to £200. |

| ASH MUSIC SCHOLARSHIPS | Exceptional musicians (Grade 8 Distinction) may be eligible for an Ash Music Scholarship for the chance to have instrumental or vocal lessons at the neighbouring Royal College of Music. |

| ACADEMIC SCHOLARSHIPS | We offer a range of subject-specific scholarships to reward academic excellence and potential. Use our scholarships search tool to see what you may be eligible for. |

**Receivables**

Use our Student Finance calculator to estimate the Imperial Bursary and government support you could receive: www.imperial.ac.uk/fees-and-funding/calculator

“Receiving the Imperial Bursary meant I could spend my spare time getting involved in Imperial’s clubs and societies rather than working to pay for living in London.”

Melanie, MBBS/BSc Medicine and Imperial Bursary recipient
A–Z course directory
Aeronautics
Biochemistry and biotechnology
Bioengineering
Biological sciences
Biomedical science
Chemical engineering
Chemistry
Civil and environmental engineering
Computing
Design engineering
Electrical and electronic engineering
Geology, geophysics and planetary science
Materials science and engineering
Mathematics
Mechanical engineering
Medicine
Physics
Aeronautics

The science behind the design of vehicles and structures that interact with air, with application to aircraft and other flight vehicles, motorsports and energy.

Studying Aeronautics at Imperial means joining a department at the cutting edge of aerospace teaching and research – we’re ranked in the top ten in the field in the QS World University rankings by subject 2018.

This is reflected in the state-of-the-art facilities you will have access to – a Mach 9 hypersonic gun tunnel and a variable Mach supersonic wind tunnel; a range of low-speed wind tunnels for road vehicle studies; a large flight test arena for the development of next-generation aerial robots; and a flight simulator where you can test-fly your own aircraft designs.

We also have extensive links with the aerospace industry, resulting in talks and seminars by visiting experts, specific lecture courses delivered in full or in part by industry experts and industry-inspired projects.

### FAST FACTS

Delivered by

→ Department of Aeronautics

Total expected intake (2020 entry)

→ 130

Applications: admissions ratio

→ 8:1 (based on 2018 entry data)

PLEASE NOTE

The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/aeronautics for the latest course information.

### OUR COURSES

#### QUALIFICATION AND TITLE

<table>
<thead>
<tr>
<th>Course Description</th>
<th>UCAS Code</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEng Aeronautical Engineering</td>
<td>H401</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng Aeronautical Engineering with a Year Abroad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEng Aeronautical Engineering with a Year in Industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEng Aeronautics with Spacecraft Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- All students must apply to H401 in the first instance – transfer to this course is only available after you start.
- International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 11.

#### PROFESSIONAL ACCREDITATION

Our courses are accredited by the Royal Aeronautical Society (RAeS) and the Institution of Mechanical Engineers (IMechE). Our accreditation agreements last five years and are due to be renewed for students starting their studies in the 2020–21 academic year.

### ENTRY REQUIREMENTS

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

#### A-LEVELS

Minimum entry standard

- A* A* A or A* A A A overall to include:
  - A* in Mathematics
  - A / A* in Physics (an A* is required if studying three A-levels or at least an A if studying four A-levels)
  - A in a third subject. Further Mathematics is recommended but not essential

Typical offers (see page 12)

- Student taking three A-levels: A* A* A
- Students taking four A-levels: A* A A A

#### INTERNATIONAL BACCALAUREATE

Minimum entry standard

- 40 points to include:
  - 7 in Mathematics at higher level
  - 7 in Physics at higher level

Typical offers (see page 12)

- 40–42 points

#### ADDITIONAL CRITERIA

- Standard level College English language requirement – see page 11
- A language qualification may be required for Year Abroad course
- Interview – applicants who demonstrate potential
- Mathematics test (for applicants invited to interview)

#### INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic
DID YOU KNOW?

To protect drones without hindering their flight, scientists in our Aerial Robotics Lab have taken inspiration from the ancient art of paper folding. The researchers used an origami-inspired protective layer – made of a thin, lightweight sheet of plastic – to protect the flying robots from bumps and scrapes.

Their tests showed how drones equipped with the Rotary Origami Protective System (Rotorigami) made them more resilient to damage from crashes, which can still happen despite drones being equipped with obstacle detection and avoidance software.

Course overview

The first two years are the same across all of our Aeronautical Engineering courses, covering a strong base of physical and engineering subjects. Year two includes more specialised aeronautical material such as aerodynamics, flight mechanics and propulsion, and turbomachinery, plus the chance to attend a flight-testing course at the National Flying Laboratory Centre at Cranfield University.

Both years include laboratory-based coursework plus design, make and test exercises to develop your design and analysis skills.

Years three and four continue to cover core modules and laboratory work. You also have a choice of optional modules covering specialist topics. Current choices include advanced propulsion, turbulence and turbulence modelling, and advanced mechanics of flight, as well as general engineering options.

A group project in year three gives you the chance to simulate the work of a design team to take a design concept through the different stages of feasibility. Recent examples include an advanced tactical stealth fighter and an off-shore oil platform. You also complete an individual research project in year four.

YEAR ABROAD PATHWAY

Students choosing this pathway spend a year studying at a university overseas – currently in France, Germany, Singapore or California, USA. The grades you achieve while abroad count directly towards your degree. Teaching is in the language of the host country in France and Germany, so you will need to reach an acceptable level in the relevant language before you go. Free language classes are available to help you prepare.

YEAR IN INDUSTRY PATHWAY

Students choosing this pathway complete an industrial placement between the third and fourth years, typically with a Formula 1 racing team or aircraft manufacturer. You will be expected to help the Department organise your placement; we have strong links with industry and can offer advice on companies to approach.

SPACECRAFT ENGINEERING PATHWAY

Students on this pathway cover more specialised space-related material from year three onwards, including core modules in spacecraft structures and spacecraft systems. Your individual research project in year four must also be space engineering related.

What our graduates do

All of our undergraduate courses lead to an integrated Master’s degree, which includes study at postgraduate level. This makes our graduates highly sought after for a range of careers in the aerospace industry, manufacturing, consultancy, research and development, and in other fields including teaching and finance.

Recent graduates of the Department have become...

1 Graduate Simulation and Modelling Engineer, Mercedes AMG Formula 1 team
2 Structural Design Engineer, Airbus Group
3 Automatic Transmissions Control Engineer, Jaguar Land Rover
4 Technical Service Engineer, Singapore Airlines
5 Technology Analyst, Goldman Sachs

Full course information

www.imperial.ac.uk/study/ug/aeronautics

Undergraduate Admissions Team
+44 (0)20 7594 5047
aero.admissions@imperial.ac.uk
The analysis of chemical processes within living organisms and understanding how biochemical knowledge can be applied to real-world situations.

Biochemistry and Biotechnology

Biochemistry and Biotechnology students at Imperial are based within the Department of Life Sciences, which is home to one of the largest life science groups in Europe. This allows us to offer real breadth in our study programme, covering all aspects of the applied biochemistry and biotechnology industries.

You also have the flexibility to follow your career aspirations, with opportunities including overseas study, a year in industry or research, and the chance to study management or a language as part of your course.

For details of our Biological Sciences courses, see pages 78–81.

OUR COURSES

Courses are also available in Biological Sciences (see pages 78–81). While transfer is possible between the Biochemistry and Biotechnology courses (excluding Languages for Science), it is not possible to transfer from a Biochemistry/Biotechnology course to a course within the Biological Sciences stream after entry.

QUALIFICATION AND DEGREE TITLE  UCAS CODE  LENGTH
BSc Biochemistry  C700  3 years
BSc Biochemistry with a Year in Industry/Research  ß  4 years
BSc Biochemistry with French for Science  C7R1  4 years
BSc Biochemistry with German for Science  C7R2  4 years
BSc Biochemistry with Spanish for Science  C7R4  4 years
BSc Biochemistry with Management  ß  3 years
BSc Biochemistry with Management and a Year in Industry/Research  ß  4 years
BSc Biotechnology  J700  3 years
BSc Biotechnology with a Year in Industry/Research  ß  4 years
BSc Biotechnology with French for Science  J7R1  4 years
BSc Biotechnology with German for Science  J7R2  4 years
BSc Biotechnology with Spanish for Science  J7R4  4 years
BSc Biotechnology with Management  ß  4 years
BSc Biotechnology with Management and a Year in Industry/Research  ß  5 years
BSc Biotechnology with Research Abroad  ß  5 years

ENTRY REQUIREMENTS

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS

Minimum entry standard
AAA overall to include:
A in Chemistry
A in Biology, Mathematics or Physics

Typical offers (see page 12)
AAA to A*AA

INTERNATIONAL BACCALAUREATE

Minimum entry standard
38 points overall to include:
6 in Chemistry at higher level
6 in Biology, Mathematics or Physics at higher level

Typical offers (see page 12)
39 points (usually including a 7 in Chemistry or Biology at higher level)

ADDITIONAL CRITERIA

Higher level English language requirement – see page 13

Minimum grade B at AS level or 5 at higher level/6 at standard level for students studying the IB in the relevant language for French/German/Spanish for Science courses

Interview

Admissions test

INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

Delivered by
Department of Life Sciences

Total expected intake (2020 entry)
150

Applications: admissions ratio
7:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/life-sciences for the latest course information.

2nd in the UK
The Times and Sunday Times Good University Guide 2019

Year abroad options in Europe
Management year available
Year in industry/research

Thinking of applying for more than one of these courses? Contact the Department for advice.

A Biochemistry student working with cyanobacteria, photosynthetic bacteria that live in water.
**Course overview**

Biochemistry aims to understand biology with a focus on the molecular (protein, DNA) and cellular level. Biotechnology creates a vital link between biology and technology and aims to understand how biochemical knowledge can be applied, such as in the manufacturing of new drugs and diagnostic tools, or to catalyse the conversion of solar into chemical energy.

All students follow the same core modules for the first year and a half. This means you can transfer between the different Biochemistry and Biotechnology courses up to the end of your second year. Core modules currently focus on topics such as biological chemistry, cell and molecular biology, proteins and enzymes, genes and genomics and protein science.

In the second year, you start to specialise in a particular area and choose from a number of optional modules.

In the final year, you have increased freedom to follow your own interests, choosing from a range of topics linked to our current research such as damage and repair in biological systems, medical glycobiology, systems neuroscience, synthetic biology, structural biology and drug design, molecular basis of bacterial infection, and mechanisms of gene expression.

You also get the chance to apply your knowledge to the real world by carrying out a laboratory-based research project or literature-based dissertation.

**LANGUAGE FOR SCIENCE COURSES**

These courses combine the full science curriculum with the chance to study French, German or Spanish as a second language. You attend language classes in your first, second and fourth years. You spend the third year at a partner university, where you attend lectures and conduct a research project.

The following pathways are available for internal transfer for students achieving a 2:1 standard by the end of second year:

**MANAGEMENT PATHWAY**

This pathway integrates teaching by Imperial College Business School, focusing on the management and operating environment of business organisations.

The three-year course covers two years of science study followed by a management year. The four-year course covers the first three years of our BSc Biological Sciences course, with a final management year. The five-year course includes both a year in industry or research and a management year.

Transfer to this pathway is dependent on your internal application to the Business School being accepted.

**RESEARCH ABROAD PATHWAY**

Students following this pathway spend their third year at one of our partner universities – currently in Austria, Denmark, France, Germany, the Netherlands, Spain, Sweden or Switzerland. Placements to certain countries require proficiency in the relevant language – free language classes are available to help you prepare.

**YEAR IN INDUSTRY/RESEARCH PATHWAY**

This pathway combines our science curriculum with a 12-month placement in industry or a research organisation between the second and third years.

**What our graduates do**

Many of our Biochemistry and Biotechnology graduates go on to study for a higher degree in the field, typically starting with a Master’s degree, followed by a PhD and a career in academic research or industry. Other opportunities for Life Sciences graduates include government and industrial research, public health, and careers in business.

Recent Biochemistry and Biotechnology graduates have become:

1. Analyst, Ministry of Defence
2. Fungicide Biochemist, Syngenta
3. Research Officer, A*STAR, Singapore
5. Medical Laboratory Assistant, NHS (Darent Valley Hospital)

Full course information

www.imperial.ac.uk/study/ug/life-sciences

Undergraduate Admissions Team

+44 (0)20 7594 5398
lifesciences.admissions@imperial.ac.uk
Bioengineering

Imperial’s Department of Bioengineering is ranked in the top ten places in the world to study this rapidly evolving field (QS World University rankings by subject 2018). Of all of the engineering disciplines, none has the power to transform lives quite so dramatically as bioengineering.

You study many subjects, including engineering mathematics, mechanics, nanotechnology, biomaterials, electronic engineering, physiology, programming and design.

You also have access to a range of state-of-the-art facilities. These are designed to support practical activities across the subjects covered by this field. This creates an interdisciplinary community that you are very much part of.

QUALIFICATION AND TITLE

<table>
<thead>
<tr>
<th>Code</th>
<th>Length</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH9C</td>
<td>4 years</td>
<td>MEng Biomedical Engineering</td>
</tr>
<tr>
<td>BH9CY</td>
<td>4 years</td>
<td>MEng Biomedical Engineering with a Year Abroad</td>
</tr>
<tr>
<td>H160</td>
<td>4 years</td>
<td>MEng Molecular Bioengineering</td>
</tr>
<tr>
<td>BH9C</td>
<td>5 years</td>
<td>MEng Biomedical Engineering with a Year in Industry</td>
</tr>
</tbody>
</table>

PROFESSIONAL ACCREDITATION

We are currently seeking renewal of our accreditation agreements with the Institute of Physics and Engineering in Medicine (IPEM), the Institution of Engineering and Technology (IET), the Institute of Mechanical Engineers (IMechE) and the Institute of Materials, Minerals and Mining (IOM3) for BH9C and our Year in Industry pathway. The same is being sought for H160 (new for 2017 so not currently accredited). If successful, it is likely to be applied retrospectively.

A-LEVELS

Minimum entry standard

A* A A overall to include

For Biomedical Engineering courses
A* in Mathematics
A in Physics
A in another subject

(Biology, Chemistry or Further Mathematics is recommended)

For Molecular Bioengineering
A* in Mathematics
A in Chemistry
A in another subject (Biology, Further Mathematics or Physics is recommended)

Typical offers (see page 12)

Three A-level offer: A* A A to A* A A
Four A-level offer: A* A A A to A* A A A

INTERNATIONAL BACCALAUREATE

Minimum entry standard

38 points overall to include:

For Biomedical Engineering courses
6 in Mathematics at higher level
6 in Physics at higher level
6 in a third subject at higher level

For Molecular Bioengineering
6 in Mathematics at higher level
6 in Chemistry at higher level
6 in a third subject at higher level

Typical offers (see page 12)

38–40 points

ADDITIONAL CRITERIA

- Standard level College English language requirement – see page 13
- Interview – applicants who demonstrate potential
- Admissions exercise for applicants who are unable to attend a face-to-face interview

INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications:

www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

Entry requirements

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

FAST FACTS

- Delivered by: Department of Bioengineering
- Total expected intake (2020 entry): 170
- Applications: admissions ratio: 3:1 (based on 2018 entry data)

PLEASE NOTE

The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/bioengineering for the latest course information.

OUR COURSES
Course overview

**BIOMEDICAL ENGINEERING**

Biomedical engineers use their technological knowledge and understanding to help people live longer, healthier, happier lives. You learn a broad range of engineering skills, develop your ability to collaborate and solve problems, and work on projects in medicine and biology with life-changing potential.

In the first two years, you study foundational engineering topics such as mathematics, computing, electronics and mechanics and develop your understanding of the human body. In the second year, you apply these skills to practical problems through an engineering design project, where you work in teams to solve local and global challenges such as the need for low-cost assistive technology in the developing world or designing equipment to help Paralympians.

In the third and fourth years, you choose modules tailored to your interests and can specialise in one of three pathways: Biomedical Engineering, Electrical Engineering or Mechanical Engineering.

You continue to undertake substantial practical work – a third-year group project that includes working with medical students and an individual research project in your fourth year.

**YEAR ABROAD PATHWAY**

Students achieving marks of 60% and above at the time of selection can apply to spend the fourth year at one of our partner universities abroad. This is an integrated year so your grades will count directly towards your Imperial degree. Limited spaces mean competition for placements is strong and selection cannot be guaranteed.

**YEAR IN INDUSTRY PATHWAY**

You can apply to undertake a 12-month paid placement in an industrial setting between your third and fourth year. You are expected to organise your placement with support from the Department.

**MOLECULAR BIOENGINEERING**

Molecular Bioengineers consider how we can engineer chemical and biological systems to solve challenges in health and wellbeing. This truly interdisciplinary course covers a breadth of topics such as designing and building a cancer screening device, genetically engineering bacteria to produce new drugs, and understanding how minimising scar-tissue formation is the key to creating a bionic eye. You develop the technical knowledge and problem-solving skills of an engineer and the scientific understanding and laboratory expertise of an experimental scientist.

In the first two years, you study foundational engineering topics such as mathematics, computing, electronics and biomechanics, and develop your theoretical and practical understanding of chemical and biological processes. You work in groups in the second year to solve a real-world problem, such as developing new diagnostic tests or medical monitoring devices.

In the third and fourth years, you choose specialist modules in topics such as biomaterials and nanotechnology, cancer biology, device engineering and synthetic biology, which you study alongside core modules. You also undertake a group project in your third year and an individual research project in your fourth year.

**What our graduates do**

Our degrees not only prepare you for a career in the rapidly growing field of bioengineering, they also provide a technical foundation for careers in other engineering disciplines. Many graduates enter PhD programmes, whilst others launch their own startup companies or enter graduate medical programmes. Industry, consultancy and finance are also common career destinations for our graduates.

Recent graduates of the Department have become...

1. Device Development Engineer, Roche
2. Software Engineer, Samsung
3. Technology Graduate, M&G Investments
4. CEO, Radical Genomics Ltd
5. Trainee Clinical Scientist, NHS (King’s College Hospital)

**DID YOU KNOW?**

Department of Bioengineering researchers have won a prestigious €10m European Research Council (ERC) Synergy Grant for their work to develop prosthetic arms and legs that can sense the environment and feed back sensory information to the brain.

Bioengineering student Kaavya undertaking a UROP placement (see page 20), in Imperial’s Nowlan Lab.
Biological sciences

The study of living things and how they react to each other and the world around them.

Biological sciences at Imperial is taught within the Department of Life Sciences, which is home to one of the largest life science groups in Europe. The result is courses that span the full breadth of biological sciences, including molecular, cell and evolutionary biology, ecology, biostatistics, genetics and biodiversity.

Our research-led curriculum is designed to produce highly trained, independent, articulate scientists. It also offers you the flexibility to follow your career aspirations, with opportunities including overseas study, a year in industry or research, and the chance to study management or a language as part of your course.

For details of our Biochemistry and Biotechnology courses, see pages 70–73.

Professor Pietro Spanu, teaching a second-year Applied Molecular Biology class for Biological Sciences students.

FAST FACTS

Delivered by
Department of Life Sciences

Total expected intake (2020 entry)
150

Applications: admissions ratio
5:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change — see pages 16–17. See www.imperial.ac.uk/study/ug/life-sciences for the latest course information.

OUR COURSES

Courses are also available in Biochemistry/Biotechnology (see pages 70–73). While transfer is possible between all the courses on this page (excluding Languages for Science), it is not possible to transfer from a Biological Sciences course to a course within the Biochemistry/Biotechnology stream after entry.

QUALIFICATION AND TITLE  UCAS CODE  LENGTH

BSc Biological Sciences  C100  3 years
BSc Biological Sciences with a Year in Industry/Research  C1R1  4 years
BSc Biological Sciences with French for Science  C1R2  4 years
BSc Biological Sciences with German for Science  C1R3  4 years
BSc Biological Sciences with Management  C1R4  3 years
BSc Biological Sciences with Management and a Year in Industry/Research  C1R5  4 years
BSc Biological Sciences with Spanish for Science  C1R6  4 years
BSc Biological Sciences with Management and a Year in Industry/Research  C1R7  5 years
BSc Microbiology  C160  3 years

• All students must apply to C100 in the first instance – transfer to this course is only available after you start.

ENTRY REQUIREMENTS

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS

Minimum entry standard  
AAA overall to include:  
A in Biology  
A in Chemistry, Mathematics or Physics  

Typical offers (see page 12)  
AAA

INTERNATIONAL BACCALAUREATE

Minimum entry standard  
38 points overall to include:  
6 in Biology at higher level  
6 in Chemistry, Mathematics or Physics at higher level  

Typical offers (see page 12)  
38 points

ADDITIONAL CRITERIA

✓ Higher level College English language requirement – see page 13
✓ Minimum grade B at AS-level (or 5 at higher level/6 at standard level for students studying the IB) in the relevant language for French/German/Spanish for Science courses
✓ Interview
✓ Admissions test

INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic
Course overview

Biological sciences aims to understand the behaviour of living systems from the level of cells up to whole organisms and ecosystems.

All students follow the same core modules in the first year, covering topics such as biology of organisms, cell biology and genetics, and ecology and evolution. You gain a solid understanding of the basic areas of biology and develop the scientific skills needed for the rest of your studies.

In the second year, you study applied molecular biology and genetics and build on first-year training in statistics and programming before starting to specialise in particular areas of interest. Current optional modules cover topics such as bacterial physiology, behavioural ecology, virology, ecology, immunology and developmental biology.

You can choose from a wider selection of modules in your final year, with options to focus on a broader approach through Biological Sciences or specialise through the Ecology and Environmental Biology or Microbiology courses. Topics currently available include medical microbiology, regeneration and ageing, cancer biology, conservation biology, bioinformatics, biodiversity genomics, neurobiology, advanced immunology and a biology field course, currently in South Africa.

Final-year students have the chance to apply their knowledge to the real world by completing a laboratory-based research project or a literature-based dissertation.

DID YOU KNOW?

Department of Life Sciences researchers are joint leaders in a ten-year study that found alarming trends of malnutrition in Europe’s trees. The researchers’ tests of 13,000 soil samples across 20 European countries revealed that pollution is changing the fungi that provide mineral nutrients to tree roots, indicating that current pollution limits may not be strict enough.

LANGUAGE FOR SCIENCE COURSES

These courses combine the full science curriculum with the chance to study French, German or Spanish as a second language. You attend language classes in your first, second and fourth years. You spend the third year at a partner university, where you attend lectures and conduct a research project.

The following pathways are available for internal transfer for students achieving a 2:1 standard by the end of second year:

MANAGEMENT PATHWAY

This pathway integrates teaching by Imperial College Business School, focusing on the management and operating environment of business organisations.

The three-year course covers two years of science study followed by a management year. The four-year course covers the first three years of our BSc Biological Sciences course, with a final management year.

The five-year course includes both a year in industry or research and a management year. Transfer to this pathway is dependent on your internal application to the Business School being accepted.

RESEARCH ABROAD PATHWAY

Students following this pathway spend their third year at one of our partner universities – currently in Austria, Denmark, France, Germany, the Netherlands, Spain, Sweden or Switzerland. Placements to certain countries require proficiency in the relevant language – free language classes are available to help you prepare.

YEAR IN INDUSTRY/RESEARCH PATHWAY

This pathway combines our science curriculum with a 12-month placement in industry or a research organisation between the second and third years. This can be in a variety of areas, such as medical research, conservation biology, marine biology or pharmaceutical industries.

Full course information

www.imperial.ac.uk/study/ug/life-sciences

What our graduates do

Many of our Biological Sciences graduates go on to study for a higher degree in life sciences and follow careers in areas such as academic research, biotechnology or the pharmaceutical industry. There are also opportunities for Life Sciences graduates in government and independent laboratories involved in medical research, public health, forensic investigation, disease research, conservation and pollution. They also work as teachers, in medical careers, or in the media.

Recent Biological Sciences graduates have become:

1 Genome Scientist, Illumina
2 PhD student, The Francis Crick Institute
3 Trainee IT Manager, Lloyds Banking Group
4 Business Analyst, Nikon
5 Clinical Data Manager, Institute of Cancer Research

Undergraduate Admissions Team
+44 (0)20 7594 5398
lifesciences.admissions@imperial.ac.uk
Biomedical science

Applying scientific rigour to the challenges facing human health in the 21st century.

Our Biomedical science offering is brought to life in our Medical Biosciences courses. Expertise and innovation across our Faculty of Medicine creates a biomedical curriculum designed for the 21st century. For example, our scientists include the inventor of the world’s first ‘intelligent’ surgical knife, which can detect cancerous tissue with 100% accuracy, as well as experts at the forefront of HIV and malaria vaccine development, gene therapy and pandemic modelling.

You will learn at your own pace through a combination of online and in-classroom learning, and receive an iPad to engage with our blended syllabus. The courses also include a high level of laboratory work, integrating theory and practice to equip you with work-relevant practical and transferable skills that are highly valued by employers.

TOTAL EXPECTED INTAKE (2020 ENTRY)
150

APPLICATIONS: ADMISSIONS RATIO
11:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/biomedical-science for the latest course information.

FAST FACTS

Delivered by
Faculty of Medicine

High level of lab work, developing professional research skills

Networking opportunities

Management year available

Blended learning (online and face-to-face teaching)

OUR COURSES

QUALIFICATION AND TITLE
BSc Medical Biosciences
BSc Medical Biosciences with Management

UCAS CODE
B101
B111

LENGTH
3 years
4 years

Please note: these courses are not designed for applicants looking to follow a clinical diagnostic route and are not accredited by the General Medical Council (GMC).
DID YOU KNOW?

Researchers at Imperial have created genetically engineered immune cells that can be reprogrammed to help fight cancer. Early findings show that removing a type of immune cell from a patient’s blood and genetically altering it in the laboratory creates a supercharged cell that is primed to seek and destroy cancer cells. They hope their work could offer a new, personalised treatment for cancer patients.

Course overview

Our study programme explores the science behind medicine and its related fields. It also focuses on the principles and practice of biomedical science, and how they are applied in research, policy and industry.

It is interdisciplinary throughout, giving you the chance to investigate critical challenges facing human health – such as cancer, obesity and diabetes, and neurological diseases – from multiple perspectives.

A high level of laboratory work in ‘Lab Pods’, which are run like real research laboratories throughout the academic year, encourages you to think like a scientist. This is complemented by discussions on ethical issues and modules in science communication, which will broaden your outlook and employability skills.

In your third year, you choose specialist modules, each of which examines a global health problem. For your final-year project, you have the option to complete an intensive research project, a non-laboratory placement, or undertake a dissertation on a biomedical science topic. Placement possibilities may include industry, publishing houses, museums, charities and government agencies.

MEDICAL BIOSCIENCES WITH MANAGEMENT

This course combines the BSc Medical Biosciences course with a fourth year in Imperial College Business School where you will gain an understanding of the operating environment of business organisations to prepare for a career in management.

Transfer from our Medical Biosciences courses to our MBBS/BSc Medicine course is not possible.

What our graduates do

Our courses are designed to educate future leaders in research and industry, policy makers and science communicators. Medical Biosciences graduates can use their transferable skills to open the door to many fields and may, for example, pursue careers as academic researchers, in technical and managerial industry roles, or as journalists and museum curators.

Our emphasis on developing highly-sought transferable, analytical and research skills will also equip our graduates to enter a variety of professional careers.

Graduates from our previous Biomedical Science course (which was replaced in 2017 by our Medical Biosciences courses) work in scientific research laboratories within academia, the pharmaceutical industry and technical consultancy roles.

Many have also chosen to undertake Master’s and PhD courses at Imperial and other leading universities around the globe – a degree in Medical Biosciences provides an excellent foundation for postgraduate study.

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Chemical engineering

The design of processes for creating products that we all depend on, from food to fuel, chemicals to pharmaceuticals.

Chemical engineering students at Imperial have the chance to graduate with unrivalled expertise through access to the world’s most advanced Carbon Capture Pilot Plant in an educational facility. Equipped with over two hundred industrial instruments that feed into our on-site ABB Control Room, it gives our students hands-on experience of the real-world skills that will be essential in their future careers.

This practical education is supported by a high level of industrial input in our curriculum through close collaboration with our partners in the chemical, energy (oil, gas and renewable), healthcare and processing industries. Benefits for our students include guest talks and lectures, industry-led projects, sponsorship of prizes and options for vacation placements.

**FAST FACTS**

Delivered by

→ Department of Chemical Engineering

Total expected intake (2020 entry)

→ 140

Applications: admissions ratio

→ 5:1 (based on 2018 entry data)

PLEASE NOTE

The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/chemical-engineering for the latest course information.

**QUALIFICATION AND TITLE**

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<tr>
<td>MEng Chemical Engineering with a Year Abroad</td>
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International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 11.

All students must apply to H801 in the first instance – transfer to this course is only available after you start.

**PROFESSIONAL ACCREDITATION**

All our courses are professionally accredited by the Institution of Chemical Engineers (ChemE).

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**OUR COURSES**

**QUALIFICATION AND TITLE**

<table>
<thead>
<tr>
<th>UCAS CODE</th>
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**PROFESSIONAL ACCREDITATION**

All our courses are professionally accredited by the Institution of Chemical Engineers (ChemE).
Course overview

All Chemical Engineering students study a range of compulsory topics in science and mathematics and how they apply to practical engineering problems for the first two years. You analyse a variety of chemical processes and learn about the many ways of mixing, reacting and separating different gases, liquids and solids on a large scale. We also introduce you to the basic social, economic and environmental factors that affect industrial operations.

In the third year, you study more advanced subjects, such as environmental engineering. You can also choose from optional modules that include business and humanities options.

In the fourth year, you have even more freedom to tailor the course to your interests through an advanced research project and a broad choice of technical modules from across the Faculty of Engineering.

Design projects linked to real industry problems are integrated into every year and increase in complexity.

NUCLEAR ENGINEERING PATHWAY

This pathway is designed to prepare you for a career in nuclear or related industries. It combines the regular Chemical Engineering programme with specialist third- and fourth-year modules covering topics such as nuclear thermal hydraulics, nuclear materials and reactor physics. You can normally transfer onto this course up until the start of the third year.

YEAR ABROAD PATHWAY

Students who are achieving marks of 60% and above at the time of selection can apply to spend the third year (or currently the fourth year depending on your chosen country) studying at one of our partner universities. Places are currently available in Australia, France, Germany, the Netherlands, Singapore, Spain, Sweden, Switzerland and the USA. Free language classes are available (where appropriate) to help you prepare. This is an integrated year abroad so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

What our graduates do

Our graduates enjoy a wide choice of careers in the process, energy and healthcare industries and in companies involved in the design and construction of chemical plants. Many graduates have also entered research organisations, public utilities, consultancy and the information technology industry, with many opportunities for employment overseas.

Recent graduates of the Department have become:

1. Subsea Engineer, Shell
2. Graduate Scientist, National Nuclear Laboratory
3. Engineer, National Environment Agency, Singapore
4. Technical Process Engineer, Exxon Mobil
5. Process Engineer, BP

DID YOU KNOW?

Imperial Chemical Engineers have created a new technique for speeding up the biological process involved in making products such as fuels, plastics, medicines, and cosmetics. The technique, using a modified enzyme, can break down plant-based biomass 30 times faster than currently possible. If adopted on a large scale, they believe it could cut fuel-related carbon emissions by 80–100%.
Chemistry

The composition, behaviour, structure and properties of matter, and the changes it undergoes during chemical reactions.

Chemistry at Imperial includes extensive experience of practical chemistry through a wide range of laboratory-based activities.

This is supported by state-of-the-art facilities at our main base in South Kensington, and in the Molecular Sciences Research Hub at our White City Campus. Final-year undergraduate projects and some third- and fourth-year lectures will take place at White City. A free return shuttle bus service is available from our South Kensington Campus.

Our wide choice of courses means that you have a high level of flexibility to follow your own interests and career goals through opportunities including modules inspired by our research, overseas study, a year in industry or research, and combined studies in languages or in management.

**QUALIFICATION AND TITLE**

- **BSc Chemistry** F100 3 years
- **MSci Chemistry** F103 4 years
- **MSci Chemistry with a Year in Industry** F105 5 years
- **MSci Chemistry with French for Science** F1R1 4 years
- **MSci Chemistry with German for Science** F1R2 4 years
- **MSci Chemistry with Spanish for Science** F1R4 4 years
- **BSc Chemistry with Management** F1NF 4 years
- **BSc Chemistry with Management and a Year in Industry** FN11 5 years
- **MSci Chemistry with Medicinal Chemistry** F124 4 years
- **MSci Chemistry with Medicinal Chemistry and a Year in Industry** F125 5 years
- **MSci Chemistry with Molecular Physics** F1F3 4 years
- **MSci Chemistry with Molecular Physics and a Year in Industry** F1FH 5 years
- **MSci Chemistry with Research Abroad** F104 4 years
- **MSci Chemistry with Research Abroad and a Year in Industry** F101 5 years

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 11.

**OUR COURSES**

### FAST FACTS
- Delivered by: Department of Chemistry
- Total expected intake (2020 entry): 160
- Applications: admissions ratio: 5:1 (based on 2018 entry data)

### PROFESSIONAL ACCREDITATION

All our courses are professionally accredited by the Royal Society of Chemistry.

### ENTRY REQUIREMENTS

#### A-LEVELS

Minimum entry standard

- AAA overall to include:
  - A in Chemistry
  - A in Mathematics
  - A in another subject (Biology, Economics or Physics is recommended). Physics is required for Chemistry with Molecular Physics

Typical offers (see page 12)

- A* A A to A* A A

#### INTERNATIONAL BACCALAUREATE

Minimum entry standard

- 36 points overall to include:
  - 6 in Chemistry at higher level
  - 6 in another subject (Biology, Economics or Physics is recommended).

Typical offers (see page 12)

- 39 points

#### INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications:

- www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

#### ADMISSIONAL CRITERIA

- Higher level College English language requirement – see page 13
- A language qualification may be required for Year Abroad degree
- Interview – applicants who demonstrate potential
- Admissions test

#### INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications:

- www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

You should only apply for one of these courses as in-department transfer is usually possible after enrolment.
Course overview

ALL COURSES
All courses follow the same core content, alongside optional modules designed to match your chosen course of study. This structure means transfer between our Chemistry courses is possible at a later stage, providing you have studied the appropriate optional subjects. You may need to meet a certain academic standard to be eligible for placements in industry or abroad.

Laboratory work forms a key part of all our courses. These classes (including analytical, computational, measurement science, physical and synthetic laboratories) are designed to develop your practical, analytical and theoretical skills. This will help you gain confidence in applying a large number of different experimental approaches.

BSc AND MSci CHEMISTRY
Our core Chemistry courses cover topics across inorganic, organic and physical chemistry in each year of study.

In the fourth year of our MSci courses you can follow a broad or specialised programme by choosing from a selection of advanced topics, including nanomaterials, drug discovery and advanced catalysis. The content of the final year is informed and inspired by leading research within the Department.

CHEMISTRY WITH MOLECULAR PHYSICS
These courses are delivered by the Departments of Chemistry, Mathematics and Physics. They focus on work at the boundary of these three disciplines, for example, nano-engineering.

CHEMISTRY WITH MEDICINAL CHEMISTRY
These courses combine our Single Honours MSci Chemistry programme (F103) with modules that focus on the function, identification, development and production of new drugs, using input from industry. They are ideal for students intending to work in the pharmaceutical and similar industries, and for those interested in chemical research in fields related to medicine.

CHEMISTRY WITH MANAGEMENT
This four-year course consists of the first three years of BSc Chemistry (F100) followed by a final year in Imperial College Business School. The five-year course is the same as the four-year course, with the addition of an industry placement in the penultimate year prior to the year of management study.

CHEMISTRY WITH FRENCH/GERMAN/SPANISH FOR SCIENCE
These courses allow you to spend an academic year studying at a university in France, Germany or Spain. They combine the chemistry elements of the MSci Chemistry course with training in the language and culture of the country in which you are studying.

CHEMISTRY WITH A YEAR IN INDUSTRY
These courses allow you to gain paid experience of using chemistry in an industrial context. They are one year longer to accommodate the year in industry between your third and final year, while still covering the same comprehensive chemical content as our Single Honours Chemistry programmes.

CHEMISTRY WITH RESEARCH ABROAD
These courses combine our four-year MSci Chemistry course (F103) with the chance to carry out the final-year research project and some final-year modules in a partner university abroad. If you choose to study in a European university, which teaches in the language of the host country, you will receive support to develop fluency in that language, preparing you for careers overseas.

DID YOU KNOW?
Department of Chemistry researchers have lab-tested a new molecule that can combat the common cold virus by preventing it from hijacking human cells.

Their molecule targets N-myristoyltransferase (NMT), the human protein which the virus needs to make copies of itself, and not the virus itself, making emergence of resistant strains highly unlikely.

CHEMISTRY FOR SCIENCE

We have designed our courses to provide you with confidence in applying a large number of different experimental approaches. The curriculum is designed to develop your practical, analytical and theoretical skills, enabling you to gain confidence in applying a large number of different experimental approaches.

Recent graduates of the Department have become...

1. Pharmaceutical Technical Development Graduate, GlaxoSmithKline
2. Research Scientist, Merck
3. Graduate Scientist, Ministry of Defence
4. Technical Consultant, BASF Chemicals, China
5. Management Consultant, KPMG

Full course information
www.imperial.ac.uk/study/ug/chemistry

Undergraduate Admissions Team
+44 (0)20 7594 5721
ch.admissions@imperial.ac.uk
Civil and environmental engineering

Creating the infrastructure that is key to our quality and enjoyment of life, from safe drinking water to the transport systems of tomorrow.

Studying civil engineering at Imperial means access to facilities that are amongst the most up-to-date and best equipped in Europe. Our five laboratories cover all of our sub-disciplines – environmental, geotechnical, transportation, water resource and structural engineering – with facilities including a range of testing rigs, extensive computing provision, tension and compression machines, and wave generators and tanks.

Strong industry links across the Department mean you benefit from a high level of industrial input in your studies, including options for guest talks and lectures, industry-led projects and sponsorship of student prizes.

FAST FACTS

Delivered by
Department of Civil and Environmental Engineering

Total expected intake (2020 entry)
90

Applications: admissions ratio
6:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/civil-engineering for the latest course information.

QUALIFICATION AND TITLE
UCAS CODE LENGTH
MEng Civil Engineering H201 4 years
MEng Civil Engineering with a Year Abroad H202 4 years

PROFESSIONAL ACCREDITATION
Both courses are professionally accredited by the Joint Board of Moderators (JBM), which includes the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), the Chartered Institution of Highway and Transportation (CIHT) and the Institute of Highway Engineers (IHE).

OUR COURSES

ENTRY REQUIREMENTS

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS
Minimum entry standard
A* A* A or A* A A overall to include:
A* in Mathematics
A / A* in Physics

Typical offers (see page 12)
A* A A

Please note: For 2020 entry, our typical offers may also include offers of A* A A A for applicants studying four A-levels.

INTERNATIONAL BACCALAUREATE
Minimum entry standard
39 points overall to include:
7 in Mathematics at higher level
6 in Physics at higher level

Typical offers (see page 12)
39 points

ADDITIONAL CRITERIA
✓ Standard level College English language requirement – see page 13
✓ A language qualification may be required for Year Abroad degree
✓ Interview (as part of a recruitment day) – applicants who demonstrate potential
✓ Admissions test (as part of a recruitment day) – applicants who demonstrate potential
✓ Online video submission required from applicants who demonstrate potential in their application and cannot attend a recruitment day

INTERNATIONAL QUALIFICATIONS
We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic
Course overview

In the first two years, all modules are compulsory, covering a foundation in engineering science, mathematics and technology. Topics include geotechnics, energy systems, materials, environmental engineering, fluid and structural mechanics, statistics and professional engineering practice. You also take part in engineering design projects and attend a surveying field course in year one and a geology field course in year two.

Year two ends with the week-long Constructionarium course at the National Construction College Campus in Norfolk. Working in teams, you construct scaled-down versions of well-known buildings, bridges, dams and other civil engineering projects.

YEAR ABROAD

Students with average year one and two marks of 67% and above at the time of selection can apply to spend their final year studying at one of our partner universities. Priority is given to students without prior overseas study experience.

Places are currently available in Australia, France, Germany, Hong Kong, Italy, the Netherlands, Spain, Switzerland and the USA. Language classes are available (where appropriate) to help you prepare.

This is an integrated year abroad, so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

What our graduates do

All of our students gain valuable contact and networking opportunities with representatives from industry throughout the course. These are available through guest lectures, field trips, the Constructionarium, our creative design course and group and individual projects.

Recent graduates of the Department have become...

1. Graduate Transport Planner, Atkins
2. Coastal Engineer, Surbana Jurong
3. Graduate Tunnel Engineer, Balfour Beatty
4. Structural Engineer, Mott Macdonald
5. Graduate Geotechnical Engineer, AECOM

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Computing

The engineering of computer hardware and software and the study of the mathematical principles of computing.

Computing at Imperial places special emphasis on the fundamental principles underlying computing and understanding the engineering considerations involved in computing system design, implementation and usage. Our graduates do not just develop essential core computing skills, they also learn how to adapt to the challenges and opportunities of technological change.

This is supported by strong industry links across the Department leading to industry-led research projects, guest talks and lectures, industrial placements and sponsorship of prizes.

A rolling programme of equipment and software upgrades also keep our computing facilities at the cutting edge.

The engineering of computer hardware and software and the study of the mathematical principles of computing.

QUALIFICATION AND TITLE

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<td>MEng Computing</td>
<td>G001</td>
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<tr>
<td>MEng Computing (Artificial Intelligence and Machine Learning)</td>
<td>G700</td>
<td>4 years</td>
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<td>MEng Computing (Management and Finance)</td>
<td>G501</td>
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<tr>
<td>MEng Computing (Security and Reliability)</td>
<td>G610</td>
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<tr>
<td>MEng Computing (Software Engineering)</td>
<td>G600</td>
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</tr>
<tr>
<td>MEng Computing (Visual Computing and Robotics)</td>
<td>GG47</td>
<td>4 years</td>
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COMPUTING COURSES

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS

Minimum entry standard
A* A* A overall to include:
A* in Mathematics
A*, A in two other subjects (see pages 6–7 for recommended and useful subjects). Further Mathematics is recommended. ICT, Business Studies, General Studies and Critical Thinking are not accepted.

Typical offers (see page 12)
Students taking three A-levels: A* A A
Students taking four A-levels: A* A A A
Please note: for 2020 entry, our typical offers may also include A* A A for applicants taking three A-levels.

Typical offers include STEP requirements.

INTERNATIONAL BACCALAUREATE

Minimum entry standard
39 points overall to include:
7 in Mathematics at higher level
7 in another relevant subject at higher level

Typical offers (see page 12)
41–42 points
Typical offers include STEP requirements.

ADDITIONAL CRITERIA

✓ Standard level College English language requirement – see page 13
✓ A language qualification may be required for the International Programme of Study (G402)
✓ Online admissions test – applicants who demonstrate potential
✓ Interview – applicants who demonstrate potential

INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

Delivered by
→ Department of Computing

Total expected intake (2020 entry)
200

Applications: admissions ratio
13:1 (based on 2018 entry data)

Professionally accredited courses

International study programme (in Europe or the USA)

Joint mathematics and computer science courses

You should only apply for one of these courses as in-Department transfer is usually possible after enrolment.

Fast Facts

You should only apply for one of these courses as in-Department transfer is usually possible after enrolment.

FAST FACTS

Delivered by
→ Department of Computing

Total expected intake (2020 entry)
200

Applications: admissions ratio
13:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/computing for the latest course information.

PROFESSIONAL ACCREDITATION

All our courses are professionally accredited by IET (The Institution of Engineering and Technology) and BCS (The Chartered Institute for IT).
Course overview

COMPUTING

All of our Computing courses follow broadly the same structure for the first two years. After this, the programme becomes more focused towards your chosen specialism. This high level of shared content means that you can usually move between all of our Computing courses, including between the BEng and MEng, at any time during the first two years.

The core modules of our courses have been designed to give you an understanding of fundamental computing concepts and principles, the ability to appreciate and to adapt to changes in technology, and practical experience of using computing to solve real-world problems.

We place special emphasis on both the principles underlying computing and the engineering considerations involved in computing system design, implementation and usage.

We provide a solid background in discrete mathematics (logic, sets, relations and grammars), which is the basic mathematics of computing, as well as in the continuous mathematics and statistics relevant to applications, analysis and management.

Advanced techniques such as artificial intelligence and machine learning are also presented throughout, using current research taking place in the Department.

The Dyson Robotics Lab researches 3D computer vision methods, which allow robots to perceive their surroundings.

Throughout your studies you take part in project and design work. In your final year, you spend around eight months working on an individual project.

The third year of all of our MEng courses includes an industrial placement which takes place from April of your third year until just before the start of the fourth year. Recent students have undertaken placements in the UK, Europe, North America and India.

Students following one of our specialised pathways choose optional modules relevant to their specialism (see below and page 102).
OUR COURSES

MANAGEMENT AND FINANCE PATHWAY
This pathway covers the theory and tools of business management that require computerised solutions, including decision support and constraint solving techniques. Typical study areas include operations research, computational finance, computing for optimal decisions, and software engineering for industry.

SECURITY AND RELIABILITY PATHWAY
This pathway focuses on how modern communications systems can be used and adapted to build the next generation of reliable and secure computing applications. Current study areas include web security, software reliability, systems verification and data privacy techniques.

SOFTWARE ENGINEERING PATHWAY
This pathway focuses on how software is engineered to form complex computing systems. It has a strong technical emphasis and is closely aligned with the needs of industry. Typical study areas include software design, software engineering for industry, data management, performance engineering, and security and reliability.

VISUAL COMPUTING AND ROBOTICS PATHWAY
This pathway focuses on various technologies and algorithms for applications such as computer games, visual effects and robotics. It has a strong technical emphasis, spanning topics such as computer systems, advanced computer architecture, computer graphics, artificial intelligence and human-computer interaction.

INTERNATIONAL PROGRAMME OF STUDY
Students who are achieving marks of 60% and above at the time of selection in year three can apply to spend their final year studying abroad at one of our partner universities. Places are currently available in France, Germany and Switzerland. Free language classes are available (where appropriate) to help you prepare. A placement in the USA for the first two terms of your third year is also a possibility.

This is an integrated year abroad, so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

JOINT MATHEMATICS AND COMPUTER SCIENCE (JMC)
With the spread of computing procedures and mathematical ideas into many areas, there is high demand for professionals who are expert in both.

These Joint Honours courses are delivered by the Departments of Computing and Mathematics, with the teaching divided approximately equally between the two.

They are designed as mathematical courses orientated towards computer science. They provide a firm foundation in mathematics, particularly in pure mathematics, numerical analysis and statistics.

They also cover all the essentials of computer science, with an emphasis on developing software, as well as more theoretical topics. They are therefore suited to mathematically-able students with interest in both subjects.

You take set modules from each Department in the first two years, with some options available in the second year. The high level of shared content means you can switch between the BEng and MEng at any time during the first year. Progression to the MEng requires achievement of a certain academic standard for the first two years – you may be required to transfer to the BEng degree if you do not meet this level.

Group and individual project work is a feature of all of our courses. In the third and fourth years, you choose modules from either Department to support your particular interests and areas of specialisation. MEng students also complete an industrial placement.

What our graduates do
Our degrees open the door to a wide range of careers, including research. Some of our graduates join large software companies or start their own business. A number of our graduates have pursued careers in management consultancy, corporate strategy, marketing and accountancy, while others have become business analysts in investment banks or stockbrokers.

Recent graduates of the Department have become...

1 Software Engineers, Apple, Google and Microsoft
2 IT Consultant, Google
3 Technology Analyst, Goldman Sachs
4 Software Developer, Amazon
5 Managing Director, Introversion Software

DID YOU KNOW?
Robotics experts from Imperial are developing an artificially intelligent wheelchair which paralysed people can lead with their gaze. An AI programme uses data from an eye tracker and an infrared-based sensor commonly used on self-driving cars to guide the wheelchair.

Full course information
www.imperial.ac.uk/study/ug/computing

Undergraduate Admissions Team
+44 (0)20 7594 8267/8278
doc-ugadmissions@imperial.ac.uk
Design engineering

The fusion of design thinking, engineering knowledge and practice, within a culture of innovation and enterprise.

Studying design engineering at Imperial means access to a range of brand new facilities in the new Dyson Building – opened in 2018 with support from a £12 million donation from the James Dyson Foundation.

You have access to hackspaces and workshops, design studios and laboratories, presentation spaces and networking areas, as well as a range of creative breakout spaces.

You’ll be part of an inspiring design community, including staff and students from the neighbouring Royal College of Art – partners in our two postgraduate design engineering degrees.

We also have strong links with industry, allowing us to offer six-month paid placements as an integral part of the course.

**QUALIFICATION AND TITLE**
- **MEng Design Engineering**
- **UCAS CODE**: 28G3
- **LENGTH**: 4 years

**PROFESSIONAL ACCREDITATION**
This course is professionally accredited by the Institution of Engineering Designers (IED). We also intend to seek accreditation from the Institution of Mechanical Engineers (IMechE) and Institution of Engineering and Technology (IET). We can only do this once the first cohort of students reach their fourth year in 2018–19. If successful, this triple accreditation will be retroactively applied.

**ENTRY REQUIREMENTS**
See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

**A-LEVELS**
- **Minimum entry standard**: A* A A overall to include:
  - A* / A in Mathematics
- **Typical offers** (see page 12)
  - A* A to A* A

**INTERNATIONAL BACCALAUREATE**
- **Minimum entry standard**: 39 points overall to include:
  - 6 in Mathematics at higher level
- **Typical offers** (see page 12)
  - 39–40 points

**ADDITIONAL CRITERIA**
- Standard Level College English language requirement – see page 13
- Interview – applicants who demonstrate potential
- Admissions test

**FAST FACTS**
- Integrated paid industrial placement
- Professionally accredited course
- Brand new facilities
- Strong emphasis on enterprise and innovation

**TOTAL EXPECTED INTAKE (2020 ENTRY)**
- **90**

**APPLICATIONS: ADMISSIONS RATIO**
- **7:1** (based on 2018 entry data)

**STUDENT FEEDBACK**

**INTERNATIONAL QUALIFICATIONS**
We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic
What our graduates do

Our course is designed to equip you with creativity, enterprise skills and industrial experience that will appeal in a wide range of industries. It launched in 2015 so our first students will graduate in 2019. They are expected to move into similar careers as graduates of our postgraduate courses in Global Innovation Design and Innovation Design Engineering, who now work for companies including Samsung, Apple and Bentley, as well their own startups such as Bare Conductive and Omlet.

A School of Design Engineering alumnus is one of the brains behind a large bionic chandelier which has been installed in the world famous V&A Museum. Julian Melchiorri founded Arborea, which created the artwork composed of 70 delicately veined plastic leaves containing green microalgae.

Aptly named Exhale, the piece absorbs CO₂ from the air and releases oxygen, making it the first living addition to the museum’s permanent collection.

DID YOU KNOW?

Course overview

This course focuses on the design and engineering of advanced products, services, experiences and systems.

You develop a range of fundamental design and engineering skills, with a particular emphasis on creativity, computer-aided engineering tools, optimisation, human factors, design process, and the enterprise skills and industrial experience necessary to launch brand new products to market.

The course contains a substantial number of project and coursework modules which increase in scale and complexity each year. With each project you enhance your engineering and design skills along with business knowledge. This builds to an Enterprise Roll Out module in the final year in which you will prepare to market one of the projects you have already prototyped. You cover all the stages involved in preparing a product for market, including making a prototype, pitching to investors, creating marketing materials and organising a launch event.

All first- and second-year modules are compulsory. They focus on foundation engineering topics, computing, mathematics and design, covering subjects such as production and materials, mechanics, computer-aided engineering, electronics for product and system design, and engineering mathematics. This provides a solid scientific and design basis for you to build on.

The third and fourth years include a greater emphasis on advanced design and engineering, as well as enterprise and entrepreneurship skills. You have a choice of optional modules, alongside a reduced number of compulsory modules, allowing you to specialise in the areas you are most interested in. Current choices include modules in robotics, industrial design, artificial intelligence and design, and audio experience design.

You have access to outstanding workshop facilities where you can use a wide range of manufacturing processes and materials to bring your design concepts to life.

You also complete a major individual project in the fourth year.

A six-month paid industrial placement is built into the course. This starts in the April of the third year. You will work on-site on a project set by your host company, with joint supervision from Imperial and the company.

It is expected that you will have a variety of projects to choose from, as a substantial number of companies have already expressed an interest in hosting placements, including Dyson, Adidas, Proctor & Gamble, and Airbus.

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You have access to outstanding workshop facilities where you can use a wide range of manufacturing processes and materials to bring your design concepts to life.
Electrical and electronic engineering

The design and application of technologies that connect our world and help us live better, healthier and more sustainably.

Imperial’s Department of Electrical and Electronic Engineering is amongst the top teaching and research departments in the UK. We also have a strong global reputation (ranked fifth in the QS World University rankings by subject 2018) in recognition of our world class academics and researchers, dedicated support staff, strong relationships with industry and our diverse and talented student community.

Special features of our courses include an integrated six-month industrial placement or industry-led group project, and pathways that combine technical and management skills or increased software skills. We also offer integrated year abroad opportunities.

FAST FACTS

Delivered by
Department of Electrical and Electronic Engineering

Total expected intake (2020 entry)
160

Applications: admissions ratio
6:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change. See pages 16–17. See www.imperial.ac.uk/study/ug/electrical-engineering for the latest course information.

QUALIFICATION AND TITLE UCAS CODE LENGTH
BEng Electrical and Electronic Engineering H600 3 years
MEng Electrical and Electronic Engineering H604 4 years
MEng Electrical and Electronic Engineering with a Year Abroad • 4 years
MEng Electrical and Electronic Engineering with Management H642 4 years
BEng Electronic and Information Engineering HG65 3 years
MEng Electronic and Information Engineering GH56 4 years
MEng Electronic and Information Engineering with a Year Abroad • 4 years

Students interested in Electrical and Electronic Engineering with a Year Abroad must apply to H604 in the first instance; for Electronic and Information Engineering with a Year Abroad please apply to GH56.

PROFESSIONAL ACCREDITATION
All our courses are accredited by the Institution of Engineering and Technology (IET). Imperial College London is a member of the IET’s Power Academy and the UK Electronic Skills Foundation (UKESF), which support Home students through scholarships.

ENTRY REQUIREMENTS

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS
Minimum entry standard
A* A A overall to include:
A* in Mathematics
A in Physics
A from preferred list (see pages 6–7 for details)

Typical offers (see page 12)
A* A A

INTERNATIONAL BACCALAUREATE
Minimum entry standard
38 points overall to include:
6 in Mathematics at higher level
6 in Physics at higher level

Typical offers (see page 12)
38–40 points

ADDITIONAL CRITERIA
✓ Higher level College English language requirement – see page 13
✓ Interview – applicants who demonstrate potential
✗ Admissions test

INTERNATIONAL QUALIFICATIONS
We welcome applications from international students and accept a wide variety of international qualifications:
www.imperial.ac.uk/study/ug/apply/requirements/ugacademic
Course overview

All students follow a broadly similar programme in the first two years, covering the fundamentals of the discipline. Some of the core modules in years one and two are shared across all courses, while others are designed specifically for your chosen area of study (see right).

You learn through a combination of lectures, study groups, personal tutorials and laboratory experiments, which allow you to put theoretical knowledge into practice. Team-based projects are also an important part of the study programme.

In later years, you tailor your degree to fit your interests and choose from a number of advanced topics that broaden and deepen the material covered in years one and two.

In the third year, MEng students choose between spending six months on an assessed industrial placement to tackle a project that has real business impact, or completing a three-month group project, acting as a consultant on an industry-defined brief.

In your final year, you complete an individual project that allows you to showcase your engineering expertise by developing innovative solutions to present day problems.

**Management Pathway**

Students on this pathway take a reduced number of technical modules in years three and four and instead study management topics such as accounting, entrepreneurship, corporate finance and managerial economics delivered by Imperial College Business School.

**Electronic and Information Engineering**

These courses provide a deeper understanding of the entire stack of modern networked computers, from the central processing unit in a smartphone, to the operating systems and databases providing back-end support in the cloud.

In your final years, you can take advanced subjects from both the Department of Electrical and Electronic Engineering and the Department of Computing.

**Year Abroad Pathway**

Students achieving marks of 65% and above at the time of selection can apply to spend their final year at one of our partner universities. Places are currently available in Europe, Singapore and the USA.

This is an integrated year abroad, so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

**What our graduates do**

Our graduates are highly sought after worldwide for a wide range of careers in fields such as electrical energy, circuit design, computer gaming, software development, image processing, technical consultancy, academic research, telecommunications, finance and management.

Recent graduates of the Department have become...

1. Electronics Engineer, Sony
2. Chassis Electronics Engineer, Jaguar Land Rover
3. Software Engineer, Goldman Sachs
4. Technology Analyst, Bank of America Merrill Lynch
5. Low Carbon Engineer, Western Power Networks

**Did you know?**

Imperial-designed wearable tech that lets students record data from their own bodies is helping to enrich their intellectual curiosity in signal processing courses. Professor Danilo Mandic’s biosignal recording device, iAmp, records students’ vital signs to which they can then apply the relevant mathematical concepts.

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**Electrical and Electronic Engineering**

These courses cover topics ranging from semiconductor physics to software engineering, and the applied mathematics of encryption to the infrastructure of our national power transmission.

You choose from a wide range of technical and non-technical modules, such as artificial intelligence, integrated circuit design, signals and systems and robotics. You can also take modules from other departments, including entrepreneurship and project management.

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These courses provide a deeper understanding of the entire stack of modern networked computers, from the central processing unit in a smartphone, to the operating systems and databases providing back-end support in the cloud.

In your final years, you can take advanced subjects from both the Department of Electrical and Electronic Engineering and the Department of Computing.

**Year Abroad Pathway**

Students achieving marks of 65% and above at the time of selection can apply to spend their final year at one of our partner universities. Places are currently available in Europe, Singapore and the USA.

This is an integrated year abroad, so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

**What our graduates do**

Our graduates are highly sought after worldwide for a wide range of careers in fields such as electrical energy, circuit design, computer gaming, software development, image processing, technical consultancy, academic research, telecommunications, finance and management.

Recent graduates of the Department have become...

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Geology, geophysics and planetary science

Exploring the geological and geophysical processes that have shaped Planet Earth and other planets and solid bodies in our Solar System.

Studying Earth science at Imperial means joining a small and close-knit department. Our base in the Royal School of Mines has its own Students’ Union, making it easy for our students to meet people from all years. The historical building also houses a range of state-of-the-art facilities including analytical and imaging facilities and a leading international database of rocks and minerals.

Our location in South Kensington gives us easy access to one of the finest fossil and mineral collections in the world at the neighbouring Natural History Museum. Museum staff, who include world experts in their fields, also contribute to our teaching.

ENTRY REQUIREMENTS
See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS
Minimum entry standard
AAA overall for all courses to include:
For Earth and Planetary Science
A, A in Mathematics and in either Biology, Chemistry, Geography, Geology or Physics
For Geology
A, A in two of the following: Biology, Chemistry, Geography, Geology, Mathematics or Physics
For Geophysics
A, A in Mathematics and Physics
Typical offers (see page 12)
AAA to A*AA

INTERNATIONAL BACCALAUREATE
Minimum entry standard
38 points overall to include:
For Earth and Planetary Science
6, 6 at higher level in: Mathematics and in either Biology, Chemistry, Geography, Geology or Physics
For Geology
6, 6 at higher level in two of the following: Biology, Chemistry, Mathematics or Physics
For Geophysics
6, 6 at higher level in Mathematics and Physics
6 at higher level in another subject
Typical offers (see page 12)
38–39 points

ADDITIONAL CRITERIA
✓ Standard level College English language requirement – see page 13
✓ Grade 7 in GCSE Mathematics preferred for Geology applicants without A-level Mathematics
✓ Interview – candidates who demonstrate potential
✓ Admissions test

INTERNATIONAL QUALIFICATIONS
We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

QUALIFICATION AND TITLE
BSc Earth and Planetary Science MSci Earth and Planetary Science BSc Geology MSci Geology BSc Geophysics MSci Geophysics BSc Geology with a Year Abroad MSci Geophysics with a Year Abroad

UCAS CODE F668 F667 F600 F640 F662 F664

LENGTH 3 years 4 years 3 years 4 years 3 years 4 years

Thinking of applying for more than one of these courses? Contact the Department for advice.

FAST FACTS
Delivered by Department of Earth Science and Engineering
Total expected intake (2020 entry) 80
Applications: admissions ratio 4:1 (based on 2018 entry data)

Year abroad (in Australia, Canada, Europe or the USA)

Professional courses
Strong emphasis on fieldwork to develop practical skills

1st in the UK
The Times and Sunday Times Good University Guide 2019

Professionally accredited courses
Strong emphasis on fieldwork to develop practical skills

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/earth-science for the latest course information.

PROFESSIONAL ACCREDITATION
Our Geology and Geophysics courses are professionally accredited by the Geological Society. Earth and Planetary Science is a new degree for 2019 entry so is not yet professionally accredited. We are currently seeking this accreditation. If successful it is likely to be applied retrospectively.

OUR COURSES

First-year students on a field trip to learn a range of field skills such as mapping, note taking, sedimentary logging and geological mapping.
Course overview

Earth science is an interdisciplinary subject which encompasses physics, chemistry, mathematics and other classical sciences. Combined with engineering, we can apply it to the study of the Earth and other planets to give us an understanding of how they work, from their internal core, crust and oceans, to their atmosphere and role in our solar system.

All of our courses follow a similar syllabus in the first year. This high level of shared content means you may transfer between most* of our courses up to the start of spring term in the first year (if you meet the original entry requirements for the course you want to transfer to). As a result, we encourage you to only apply for one course within the Department.

Year one covers the fundamentals of the geosciences, including topics such as surface processes, mathematical methods, field geology and structural geology. The year ends in a residential field trip, currently to Spain. Year two is designed to deepen your knowledge of the geosciences. Field trips are also available in this year, currently to the Pyrenees and Scotland.

Year three and four, you specialise according to your chosen course (see right). You also take part in further field trips, study core and optional modules, and complete an independent study in the laboratory or in the field.

EARTH AND PLANETARY SCIENCE

Earth and planetary scientists seek to understand the Earth and other planets through observation. These courses focus on the geological and geophysical processes in our solar system, with particular emphasis on planets, moons and other solid bodies, such as asteroids and comets. Current specialist modules include astrobiology, earth systems, planetary physics, ore deposits and collisions and craters.

GEOLOGY

Geology is the study of Earth and how its interior, surface and atmosphere interact. We use field work to help you gain experience in identifying rocks and interpreting the physical (including tectonic) processes that may have been involved in their formation. Specialist modules currently available include palaeoecology, oceanography, igneous and metamorphic processes, and geomorphology.

GEOPHYSICS

These courses are designed for students with a specific interest in mathematics or physics and the application of physical laws to the study of Earth. While you share some core modules with our other courses, we place greater emphasis on mathematics and physics subjects and modelling techniques. You also gain experience with technical equipment and specialist software.

MSci students who are achieving marks of 70% or above in the first two years, and who are registered for the scheme, can apply to spend their third year abroad.

What our graduates do

The growing importance of Earth science in tackling some of the world’s most significant challenges means that demand for problem-solving graduates of this discipline remains high. Our three-year BSc degrees are excellent preparation for careers in geosciences and other professions, especially if followed by a relevant MSc and a research degree. Our four-year MSci degrees provide a deeper understanding of the subject and the chance to undertake a significant research project.

Recent graduates of the Department have become...

1 Graduate Engineering Geologist, Mott MacDonald
2 Risk Consultant, KPMG Malaysia
3 Trainee Field Geophysicist, Schlumberger
4 Environmental Advisor, BP
5 Research Assistant, Natural History Museum

DID YOU KNOW?

The Department’s Dr Matthew Genge has found evidence linking an 1815 volcanic eruption in Indonesia with Napoleon’s famous defeat. His findings suggest that electronically charged volcanic ash short-circuited the ionosphere, causing global bad weather that contributed to the French Emperor’s battlefield defeat at Waterloo.

Full course information

www.imperial.ac.uk/study/ug/earth-science

Undergraduate Admissions Team
+44 (0)20 7594 6478
admit.earth@imperial.ac.uk

* Transfer to Year Abroad programmes is not normally permitted as places at partner institutions are limited.
Materials science and engineering

-understanding and exploiting the relationship between the structure, processing and properties of materials for technological applications.

Materials scientists develop and investigate materials for applications across the full range of engineering disciplines, from aerospace and nuclear engineering to solar cells and medical devices.

You will join a Department that is home to a number of leading researchers, with expertise in bio- and soft materials, ceramics and composites, engineering alloys, functional materials, nanotechnology and theory and simulation of materials. Our facilities include cutting-edge equipment and tools for advanced materials imaging and characterisation. We also maintain extensive contacts with industry and other leading universities around the world.

-fast facts

Delivered by
- Department of Materials

Total expected intake (2020 entry)
- 100

Applications: admissions ratio
- 4:1 (based on 2018 entry data)

Please note
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/materials for the latest course information.

Our courses

Professional accredited courses

nuclear engineering specialism

Understanding and exploiting the relationship between the structure, processing and properties of materials for technological applications.

- Explore and discover materials at the nanoscale

- Professionally accredited courses

Professionally accredited courses

nuclear engineering specialism

First-year Materials students preparing samples for microscopic observations using abrasive particles of silicon carbide paper.

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 11.

Our courses

Qualification and title

UCAS code

Length

MEng Biomaterials and Tissue Engineering
BJ95
4 years

BEng Materials Science and Engineering
JF52
3 years

MEng Materials Science and Engineering
JFM2
4 years

BEng Materials with Management
J5N2
3 years

MEng Materials with Nuclear Engineering
JSH8
4 years

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 11.

Professional accreditation

All our courses are professionally accredited by the Institute of Materials, Minerals and Mining (IOM3).

International qualifications

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

Entry requirements

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-levels

Minimum entry standard
AAA overall to include:
- A in Mathematics
- A in Chemistry or Physics

Typical offers (see page 12)
A* AA

International baccalaureate

Minimum entry standard
38 points overall to include:
- 6 in Mathematics at higher level
- 6 in Chemistry or Physics at higher level

Typical offers (see page 12)
38 points

additional criteria

- Standard level college English language requirement – see page 13
- Interview – applicants who demonstrate potential
- Admissions test
Course overview

All students follow a common core curriculum covering the fundamental science of materials. This includes exploring ideas of structure and bonding as well as the thermodynamic and kinetic principles that underpin nano- and micro-structure formation in all materials.

Experimental work is a core part of all our courses. This starts with a series of laboratory tutorials that introduce foundational ideas and key techniques in a practical setting. You then move on to perform more extended laboratory work, including a case study project that analyses the materials found in a consumer project using cutting-edge techniques such as electron microscopy, X-ray scattering and chemical spectroscopy.

As your course progresses, you cover the instrumental approaches used to measure and image materials. You also gain a solid understanding of the common principles of most engineering disciplines, such as basic mechanics, technical drawing and an introduction to business.

The MEng builds on the BEng with a four-month placement between years three and four. Where possible the placement should be relevant to your chosen course.

MATERIALS SCIENCE AND ENGINEERING
This is the broadest of our courses. As such, you have the freedom in the final years to choose from a wide variety of modules.

MATERIALS WITH MANAGEMENT
This course offers you the chance to supplement a strong materials science and engineering core with additional business-focused modules towards the end of the degree, taught within Imperial College Business School.

MATERIALS WITH NUCLEAR ENGINEERING
Materials are central to the nuclear industry, both in designing reactor parts that are safe when exposed to radiation and in handling and processing waste. This course, built on the common materials science and engineering core, combines a specialism in nuclear-relevant materials with a focused introduction to nuclear engineering taught by specialists from across Imperial.

BIOMATERIALS AND TISSUE ENGINEERING
Biomaterials is a rapidly developing field. It is made up of both conventional biomaterials that provide simple properties such as mechanical strength, and the emerging discipline of tissue engineering which aims to control tissue growth and regeneration in lab-grown implants or within living organisms. This course combines the common core of materials science and engineering, with specialist teaching in this area.

What our graduates do

A degree in Materials Science and Engineering can open the door to careers in a wide variety of sectors from chemicals manufacturing and pharmaceuticals to technical management and scientific research and development (R&D).

There are lots of emerging sectors to think about too, such as nanotechnology, biomedical materials, quantum computing and composites.

Recent graduates of the Department have become...

1. Graduate Engineer, Jaguar Land Rover
2. Production Engineer, Shell
3. Trainee Engineer, Rolls-Royce plc
4. Research Engineer, SIMTech
5. Process Engineer, Morgan Advanced Materials

DID YOU KNOW?

Materials scientists at Imperial have identified the most efficient pattern for molecules in solar panels. The research shows how molecules of the widely-used semiconductor, pentacene, should be arranged to release the most electrons possible during singlet fission — a highly unusual phenomenon where one photon can generate two high energy electrons, which are then used as electricity.
Mathematics

A language and a tool for examining and understanding quantity, shape, structure, space and change.

Studying mathematics at Imperial means joining a community of some of the world’s leading researchers. Our teaching programme is strongly influenced by their research expertise which spans applied mathematics and mathematical physics, mathematical finance, pure mathematics and statistics. This opens up a large choice of optional modules in years three and four, with plenty of freedom to follow your own interests.

Additional opportunities within the Department include the chance to complete an integrated year abroad or to study a Joint Honours degree with Computing. You can also engage with maths beyond the curriculum by joining Plus!, our problem-solving group, and our student-led weekly lecture series, the Undergraduate Colloquium.

FAST FACTS

Delivered by
→ Department of Mathematics

Total expected intake (2020 entry)
→ 221

Applications: admissions ratio
→ 10:1 (based on 2018 entry data)

OUR COURSES

QUALIFICATION AND TITLE

UCAS CODE | LENGTH
BSc Mathematics | G100 | 3 years
MSci Mathematics | G103 | 4 years
BSc Mathematics, Optimisation and Statistics | G131 | 3 years
BSc Mathematics (Pure Mathematics) | G125 | 3 years
BSc Mathematics with Applied Mathematics/Mathematical Physics | G193 | 3 years
BSc Mathematics with Statistics | G160 | 3 years
BSc Mathematics with a Year Abroad | G104 | 4 years
BSc Mathematics with Mathematical Computation | G062 | 4 years

OUR MATHEMATICS AND COMPUTER SCIENCE COURSES

See the Department of Computing on page 100 for details.

ENTRY REQUIREMENTS

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

A-LEVELS

Minimum entry standard
A* A* A overall to include:
A* in Mathematics
A* in Further Mathematics
A in another subject

Typical offers (see page 12)
A* A* A to A* A* A*

INTERNATIONAL BACCALAUREATE

Minimum entry standard
39 points overall to include:
7 in Mathematics at higher level
6 in another subject at higher level

Typical offers (see page 12)
39–40 points

INTERNATIONAL QUALIFICATIONS

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

In exceptional circumstances only

Please note

The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/mathematics for the latest course information.

Student mathematical puzzle-solving group

Joint mathematics and computer science courses

Please note

You should only apply for one of these courses as in-Department transfer is usually possible after enrolment.
OUR COURSES

Course overview

All students follow broadly similar programmes for the first two years to gain a firm foundation in areas essential to further study including: algebra, analysis, mechanics, probability and statistics, complex analysis, differential equations, multivariable calculus and numerical analysis.

Transfer between any of our Mathematics courses is possible during this time.

A key feature of the third and fourth years is flexibility and the ability to specialise in a particular area of mathematics (see below).

You can choose from a range of options in areas such as pure mathematics, mathematical physics, applied mathematics, and mathematical methods and statistics. You will also take part in both independent and group research.

APPLIED MATHEMATICS/ MATHEMATICAL PHYSICS
This course focuses on how mathematical methods can be used to solve problems in physics or the other sciences.

MATHEMATICAL COMPUTATION
This course encourages you to apply mathematical thinking to theoretical computer science.

OPTIMISATION AND STATISTICS
This course focuses on problem solving and decision making, with specialist modules including applied probability, statistical modelling and stochastic simulation.

PURE MATHEMATICS
This course gives you the chance to gain an in-depth understanding of a key area of our research, such as geometry, analysis, algebra or number theory.

STATISTICS
This course focuses on statistical theory and the real applications of this important area of mathematics through topics such as applied probability, statistical modelling, and statistical theory.

STATISTICS FOR FINANCE
This course focuses on applying statistical methods to financial service industries through topics such as credit scoring, option pricing and quantitative methods in retail finance.

YEAR ABROAD
Students who are achieving marks of 60% and above by the end of second year can apply to spend their third year studying at one of our partner universities. Places are currently available in France, Germany, Spain and Switzerland. Free language classes are available to help you prepare. This is an integrated year abroad, so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

JOINT MATHEMATICS AND COMPUTER SCIENCE DEGREES
See the Department of Computing on page 100.

What our graduates do

The logical and analytical skills developed through our mathematics courses are highly valued by a wide range of employers. Our graduates go on to a wide range of careers in industry, government and education, as well as international banking, computing, business, law and accountancy.

The MSci programmes in particular prepare you for research careers and are recognised throughout the European Union, where four-year undergraduate degrees tend to be the norm.

Recent graduates of the Department have become...

1 Quantitative Analyst, Citi Bank
2 Accountant, KPMG
3 Software Developer, TPP
4 Computer Analyst, Credit Suisse
5 E-Commerce Manager, Lloyds Banking Group

Did you know?

Imperial maths experts are bringing us a step closer to managing inheritance of deadly genetic diseases. Their mathematical model, applied to data from mice, revealed a link between increasing age and the chances of mothers passing on disease-causing mutated mitochondrial DNA (mtDNA). The team hope their findings could help IVF couples by identifying the eggs least at risk.

Full course information
www.imperial.ac.uk/study/ug/mathematics

Undergraduate Admissions Team
+44 (0)20 7594 8484
ugmaths.admissions@imperial.ac.uk
Mechanical engineering

The application of mechanical science to a range of real-world challenges, from new transport technologies to medical devices.

The mechanical engineering education we offer is designed to turn the brightest, most ambitious students into 21st century engineers. Our courses will develop your knowledge, skills, imagination and creativity. We also work continuously with industry to ensure that our courses – and the facilities and equipment you will learn to use – remain relevant to the profession.

You will gain a true appreciation of manufacturing through project work which requires use of manual and automated manufacture tools in our student workshop. There are also opportunities to engage directly with research taking place in the Department in areas such as sustainable energy, medical engineering, robotics, structural integrity, advanced manufacturing and future transport technologies.

Delivered by
Department of Mechanical Engineering

Total expected intake (2020 entry)
160

Applications: admissions ratio
10:1 (based on 2018 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 16–17. See www.imperial.ac.uk/study/ug/mechanical-engineering for the latest course information.

FAST FACTS

1st in the UK
The Times and Sunday Times Good University Guide 2019

Year abroad (in Australia, Europe, Singapore or the USA)

Specialist teaching in Nuclear Engineering

Year in industry

O U R C O U R S E S

QUALIFICATION AND TITLE
MEng Mechanical Engineering
MEng Mechanical Engineering with a Year Abroad
MEng Mechanical Engineering with a Year in Industry and a Year Abroad
MEng Mechanical Engineering with Nuclear Engineering
MEng Mechanical Engineering with Nuclear Engineering and a Year in Industry

UCAS CODE
H301
H302
H303
H304
H305

LENGTH
4 years
4 years
5 years
5 years
5 years

A L E V E L S

Minimum entry standard
Three A-levels:
A*A*A overall to include:
A* in Mathematics
A* in Physics
A in another subject
(Further Mathematics is useful but not essential)
Four A-levels:
A*A*A* overall to include:
A* in Mathematics
AAA including Physics and two other subjects (Further Mathematics is useful but not essential)

See pages 6–7 for more information on preferred subjects.

Typical offers (see page 12)
Students taking three A-levels: A*A*A
Students taking four A-levels: A*A*A*

I N T E R N A T I O N A L B A C C A L A U R E A T E

Minimum entry standard
40 points overall to include:
6 in Mathematics at higher level
6 in Physics at higher level
6 in another subject at higher level

Typical offers (see page 12)
40 points

A D D I T I O N A L C R I T E R I A
✓ Standard level College English language requirement – see page 13
✓ Interview – UK/EU-resident applicants
✗ Admissions test

I N T E R N A T I O N A L Q U A L I F I C A T I O N S
We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/ requirements/ugacademic
Course overview

All of our Mechanical Engineering courses start with the same two core years of intensive engineering science. You attend lectures, tutorials and laboratory sessions in areas including thermofluids, materials, mechanics, mechatronics, stress analysis and design. You practise sketching by hand, use computer-aided design (CAD) to produce solid models and industry-standard technical drawings, and create the blueprints for your own designs.

You also develop your manufacturing skills in hands-on workshop sessions, and bring your designs to life through design projects.

The final two years are mostly made up of optional modules and two major projects – a group project in year three and a research-oriented individual project in year four. You have the freedom to choose project topics proposed by staff based on their cutting edge research or even pitch your own ideas.

The optional technical modules cover some of our key research areas such as tribology and combustion, as well as solid mechanics, thermofluids, robotics and nuclear energy.

In the fourth year, you can also choose modules taught in other engineering departments, subject to availability, such as fluid dynamics (Aeronautics), advanced biomaterials (Materials), computer assistive and rehabilitative devices (Bioengineering) and sustainable electrical systems (Electrical and Electronic Engineering).

NUCLEAR ENGINEERING PATHWAY

This course provides a foundation for employment in nuclear or related industries. Specialist teaching delivered by the Departments of Chemical Engineering, Materials and Mechanical Engineering in years three and four cover an introduction to nuclear energy, nuclear chemical engineering, nuclear materials, nuclear thermal hydraulics, and nuclear reactor physics.

YEAR ABROAD PATHWAY

Students who are achieving marks of 65% and above at the time of selection can apply to spend their fourth year at one of our partner universities – currently in Australia, California, France, Germany, the Netherlands, Singapore and Switzerland. Free language classes are available (where appropriate) to help you prepare. This is an integrated year abroad so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

YEAR IN INDUSTRY PATHWAY

Students interested in gaining paid industry experience can take advantage of our close links with a range of employers to complete a year in industry. Taking place between second and third or third and fourth year, this is a great way to put what you have learnt into practice and help inform your future career choices.

Imperial Mechanical Engineers have designed a unique facility for testing 3D printed engine parts, to help reduce carbon emissions worldwide.

Unlike normal engine test facilities, the new Transient Air System Rig (TASR) uses fresh air instead of hot exhaust gas, so the 3D printed plastic parts won’t melt. 3D printing parts also allow makers to focus on the parts that need testing, instead of building a whole engine.

DID YOU KNOW?

Imperial Mechanical Engineers have designed a unique facility for testing 3D printed engine parts, to help reduce carbon emissions worldwide.

YEAR IN INDUSTRY PATHWAY

Students interested in gaining paid industry experience can take advantage of our close links with a range of employers to complete a year in industry. Taking place between second and third or third and fourth year, this is a great way to put what you have learnt into practice and help inform your future career choices.

WHAT OUR GRADUATES DO

Our close industry links ensure that many graduates leave Imperial with jobs already lined up. Formula 1 and related industries are popular destinations for our graduates. The chance to specialise in nuclear engineering is also good preparation for an industry poised for future expansion. The technical and management skills of the discipline are equally valued in consultancy, technical business roles and project management. Recent graduates have become...

1. Mechanical Engineer, European Space Agency
2. Graduate Nuclear Engineer, EDF Energy
3. Vehicle Dynamics and Simulation Engineer, Mercedes AMG Petronas Formula 1 Team
4. Well Engineer, Shell UK
5. Mechanical Design Engineer, Nous Engineering

Full course information
www.imperial.ac.uk/study/ug/mechanical-engineering

Imperial Racing Green enables students to get involved in designing, making, testing and racing zero-emission racing cars.

See one of our past teams in action: bit.ly/imperial-formula-student

Undergraduate Admissions Team
+44 (0)20 7594 7005 me.admissions@imperial.ac.uk
**Medicine**

The science of understanding, diagnosing, preventing and curing illness and damage to the human body and mind.

At Imperial, we have access to a very large and diverse patient population through the Faculty of Medicine’s links to a wide range of National Health Service (NHS) Trusts, hospitals and clinics both in and outside London. This gives you the chance to gain a variety of clinical experiences from the very start of your studies.

The Faculty itself is one of the largest in Europe, with experts at the cutting edge of research that benefits patients and populations worldwide. You have the chance to learn alongside these researchers and clinicians and to undertake your own research under their supervision.

You will also be part of an active student community, supported by Imperial College School of Medicine Students’ Union.

**FAST FACTS**

- **Delivered by** → School of Medicine
- **Total expected intake (2020 entry)** → 345
- **Applications: admissions ratio** → 9:1 (based on 2019 entry data)
- **PLEASE NOTE**
  - The curriculum for courses in this Department is currently under review and is likely to change – see pages 16-17. See www.imperial.ac.uk/study/ug/medicine for the latest course information.

**QUALIFICATION AND TITLE**

<table>
<thead>
<tr>
<th>UCAS CODE</th>
<th>LENGTH</th>
</tr>
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<tbody>
<tr>
<td>A100</td>
<td>6 years</td>
</tr>
<tr>
<td>A109</td>
<td>5 years</td>
</tr>
</tbody>
</table>

- All students must apply to A100 or A109 in the first instance – transfer to this course is only available after you start.

**OUR COURSES**

- **MBBS/BSc Medicine**
- **MBBS/PhD**
- **MBBS Graduate Medicine**
- **MBBS Medicine** (delivered at Lee Kong Chian School of Medicine, Singapore)

**Typical offers (see page 12)**

- A* A (excluding A* in either Biology or Chemistry)

**INTERNATIONAL BACCALAUREATE (A100 ONLY)**

Minimum entry standard

- 38 points overall to include:
  - 6 in Biology at higher level
  - 6 in Chemistry at higher level

**TYPICAL OFFERS**

- 39 points (grade 7 in Biology and Chemistry at higher level – grades in any order)

**MINIMUM ENTRY STANDARD**

- 30 points overall

**ENTRY REQUIREMENTS**

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

**A-LEVELS (A100 ONLY)**

- Minimum entry standard
  - A A overall, to be achieved in the same sitting. To include:
    - A in Biology
    - A in Chemistry
    - A in any third subject (excluding General Studies and Critical Thinking)

**Typical offers (see page 12)**

- A* A (excluding A* in either Biology or Chemistry)

**INTERNATIONAL BACCALAUREATE (A100 ONLY)**

Minimum entry standard

- 38 points overall to include:
  - 6 in Biology at higher level
  - 6 in Chemistry at higher level

**International qualifications**

- 30 points overall

**ADDITIONAL CRITERIA**

- Standard level College English language requirement – see page 13
- Interview – applicants who demonstrate potential
- Admissions test – BMAT is required

**INTERNATIONAL QUALIFICATIONS**

- We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic

**APPLICATIONS**

- The deadline for applications is 15 October 2019 and March 2020; you should not apply via UCAS. For entry requirements for the MBBS at Lee Kong Chian School of Medicine, Singapore please visit: www.lkcmedicine.ntu.edu.sg

**PROFESSIONAL ACCREDITATION**

- All MBBS courses based at Imperial College London are professionally accredited by the General Medical Council (GMC). The MBBS degree at LKCMedicine is recognised by the Singapore Medical Council.

As a School, we are fully committed, both individually and collectively, to upholding the principles and values enshrined in the NHS Constitution and to selecting future doctors who will adhere to them. You can download a PDF copy of the Constitution at bit.ly/nhs-constitution-pd

**INTERNSHIP**

- 2 years

**Gender Equality in the Workplace**

- 78% of Imperial’s academic staff are female

**FURTHER INFORMATION**

- See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.
Course overview

We offer three routes to achieving the MBBS qualification at Imperial College London:

**MBBS/BSc MEDICINE**

This course is designed for those who do not yet have a first degree in a biological science subject. It leads to the award of a Bachelor of Science (BSc) and a Bachelor of Medicine, Bachelor of Surgery (MBBS) qualification.

Over the course of the programme you gain clinical experience at many of our partner NHS Trusts and community settings. We have carefully selected these to give you a broad and balanced clinical learning experience.

Phase one of the course runs over three years. You will undertake an integrated programme covering the scientific basis of medicine and the foundations of clinical practice, with clinical experience from the start. The third year consists of clinical attachments in hospitals and placements in a primary care setting, supported by structured teaching.

Phase two leads to the award of a BSc degree at the end of year four. We have many specialist pathways available, exposing you to research at the cutting edge of the field. You also undertake a supervised research project.

Phase three covers the final two years of the MBBS qualification. You rotate through a wide range of clinical specialties, such as obstetrics and gynaecology, psychiatry, general practice and paediatrics. In the final years, you have the freedom to follow your own interests and undertake an eight-week elective, which you may complete in the UK or overseas.

**GRADUATE MBBS MEDICINE**

This course is for those who already have at least a 2:1 in an appropriate biological science degree. You complete phase one and phase three of the undergraduate MBBS/BSc course (see above), with additional opportunities to pursue research projects and/or develop expertise in teaching.

You do not undertake the BSc Honours year of the MBBS/BSc programme, allowing you to achieve the Bachelor of Medicine, Bachelor of Surgery (MBBS) qualification in five years instead of six.

**INTERCALATED PhD**

Exceptional students may be offered the chance to complete a three-year PhD either after the BSc year for six-year MBBS/BSc students, or after the second year for Graduate MBBS Medicine students.

What our graduates do

Imperial’s MBBS degree is a primary medical qualification (PMQ). Successfully achieving it entitles you to provisional registration with the General Medical Council (GMC). It also gives you licence to practise in approved Foundation Year 1 posts, if you can demonstrate to the General Medical Council (GMC) that your fitness to practise is not impaired.

You will need to apply for a Foundation Year 1 post during the final year of your course through the UK Foundation Programme Office (UKFPO) selection scheme. The UKFPO allocates posts on a competitive basis. So far, all suitably qualified UK graduates have found a place on the Foundation Year 1 programme, but this cannot be guaranteed.

On successful completion of the Foundation Year 1 programme you will be eligible to apply for full registration with the GMC before entering Foundation Year 2. Doctors need full registration with a licence to practise for unsupervised medical practice in the NHS or UK private practice.

As well as medical practice, Medicine graduates have entered diverse careers as biomedical research, the pharmaceutical industry, scientific journalism, healthcare management and academic research.

This information is correct at the time of printing (January 2019). Please be aware that regulations and academic research.

For more details about this course see:

**MBBS in Singapore**

The Lee Kong Chian School of Medicine (LKCMedicine) offers a five-year undergraduate programme leading to a medical degree (MBBS). This is awarded jointly by Imperial and Nanyang Technological University, Singapore (NTU). It is targeted primarily at Singaporean students.

LKCMedicine’s programme is recognised by the Singapore Medical Council. It has been designed and developed by Imperial in collaboration with LKCMedicine faculty to produce doctors who will meet Singapore’s healthcare needs.

It emphasises the clinical relevance of the basic sciences and early patient interaction from the very beginning of the course, training you to put a patient’s individual needs at the centre of all care.

You will gain a thorough understanding of the scientific basis for medicine, as well as broader management and communication skills. You will also benefit from innovative and interactive approaches to learning, including extensive use of simulation, team-based learning and e-learning.

Graduates of this programme will serve a five-year (Singaporeans) or six-year (non-Singaporeans) service obligation, excluding housemanship or first-year residency training. You will receive career guidance during the course, including guidance on applying for postgraduate medical training.

For more details about this course see:

www.lkcmedicine.ntu.edu.sg
Physics

The study of the universe and its origins; the understanding of how matter behaves through space and time.

Students in Imperial’s Department of Physics join a vibrant research community, which is contributing to ground-breaking discoveries in fields such as string theory, the origins of the universe, particle physics, thermonuclear fusion, laser science, and materials physics. You have the chance to learn from and alongside these experts and use a range of state-of-the-art facilities, including high intensity laser systems, nanoscale fabrication and high performance computing. You also have access to data collected from major experiments such as CERN and international space missions.

The Department’s strong industry links are cemented by its Industry Club, which brings a number of benefits including supporting a third-year exchange programme with overseas institutions and an annual recruitment fair.

**OUR COURSES**

<table>
<thead>
<tr>
<th>Qualification and Title</th>
<th>UCAS Code</th>
<th>Length</th>
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</thead>
<tbody>
<tr>
<td>BSc Physics</td>
<td>F300</td>
<td>3 years</td>
</tr>
<tr>
<td>MSci Physics</td>
<td>F303</td>
<td>4 years</td>
</tr>
<tr>
<td>BSc Physics and Music Performance</td>
<td>F3W3</td>
<td>4 years</td>
</tr>
<tr>
<td>MSci Physics with a Year Abroad</td>
<td>F309</td>
<td>4 years</td>
</tr>
<tr>
<td>BSc Physics with Theoretical Physics</td>
<td>F325</td>
<td>3 years</td>
</tr>
<tr>
<td>MSci Physics with Theoretical Physics</td>
<td>F390</td>
<td>4 years</td>
</tr>
</tbody>
</table>

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 11.

**ENTRY REQUIREMENTS**

See pages 12–15 for more information about our selection process and new pilot admissions schemes for Home students from underrepresented groups.

**A-LEVELS**

Minimum entry standard

A* A* A overall to include:

- A* in Mathematics
- A* / A in Physics
- A* / A in a third subject

Typical offers (see page 12)

- A* A* A

**INTERNATIONAL BACCALAUREATE**

Minimum entry standard

40 points overall to include:

- 7, 6, 6 at higher level which must include Mathematics and Physics

Typical offers (see page 12)

- 40–41 points

**ADDITIONAL CRITERIA**

- Higher level College English language requirement – see page 13
- A language qualification may be required for Year Abroad degree
- Interview – applicants who demonstrate potential
- Physics and Music Performance applicants: A minimum standard broadly equivalent to Grade 8 with distinction in a suitable musical instrument in the Associated Board of the Royal Schools of Music (ABRSM) examination. Suitable applicants will be invited to audition and interview.

**INTERNATIONAL QUALIFICATIONS**

We welcome applications from international students and accept a wide variety of international qualifications: www.imperial.ac.uk/study/ug/apply/requirements/ugacademic
What our graduates do

Many of Imperial’s Physics graduates go on to study for a higher degree – either a Master’s degree or straight to a PhD and a career in academic research.

Physics graduates are also sought after by a wide range of employers – from the electronics industry where physicists are needed to design next-generation technologies to the astrophysics and space technology industry where physics graduates are needed to analyse space objects.

Recent graduates of the Department have become...

1. Graduate Trainee, European Space Agency
2. Scientific Officer, Civil Service
3. Research Engineer, Institute of Microelectronics
4. Systems Engineer, BAE Systems
5. Innovations Analyst, Carbon Trust

Course overview

All students study a common core of modules for the first two years – topics such as mathematics, mechanics, electromagnetism, quantum physics, relativity, and environmental and atmospheric physics provide a good grounding in the fundamental aspects of physics, mathematics and experimental methods.

Practical work is an important part of all our courses. You take part in laboratory classes to equip you with a wide range of skills such as using apparatus, conducting experiments, interpreting data and presenting your results. You also gain a solid understanding of how to use computers as tools to help model and understand the physics of complicated phenomena.

We introduce more optional modules as the course progresses, giving you greater flexibility to follow your interests. Current applied areas covered from year three onwards include astrophysics, medical imaging, plasma physics, cosmology, lasers and nanotechnology.

You have a choice of theoretical optional modules in areas such as group theory, computational physics, general relativity and advanced particle physics.

All of our courses include a substantial final-year project, usually within one of our research groups.

Physics and Music Performance

This course offers a unique opportunity to combine physics with a passion for music performance or composition, preparing you for a professional career in either field.

Taught jointly by Imperial and the neighbouring Royal College of Music (RCM), you study all the core physics material from our three-year BSc degree, as well as some optional modules, to ensure that you graduate as a fully qualified physicist. You also complete the main performance elements on one principal instrument and core supporting modules of the RCM’s BMus degree. Because of the demanding workload the course is spread over four years.

Physics with a Year Abroad

Students who are achieving marks of 60% or above at the time of selection in year two can apply to spend their third year studying at one of our partner universities abroad. Places are currently available in France, Germany, Italy, Spain, Switzerland or the USA. Free language classes are available (where appropriate) to help you prepare. This is an integrated year abroad, so the grades you achieve will count directly towards your Imperial degree. Limited places mean competition for placements is strong and selection cannot be guaranteed.

Physics with Theoretical Physics

This course is ideally suited to those with a specific interest in mathematics and its application. It places less emphasis on experimental work. Years one and two have an additional focus on mathematics, and as the course progresses, you begin to specialise by choosing from mainly theoretical optional modules. The final-year project is also on a theoretical topic.

DID YOU KNOW?

NASA’s recent Cassini mission exploring Saturn had onboard kit built and run by Imperial physicists. Data from Imperial’s magnetometer instrument has raised questions about a common theory that magnetic fields around planets can only form when there is a discernible tilt between the rotation axis of the planet and the magnetic field axis. Saturn’s tilt is almost negligible, which came as a surprising mystery.

Full course information

www.imperial.ac.uk/study/ug/physics

Undergraduate Admissions Team

+44 (0)20 7594 7513

ph.admissions@imperial.ac.uk
Frequently asked questions

Here you’ll find answers to some of the common queries we receive from applicants.

APPLYING

WHAT ARE YOU LOOKING FOR IN APPLICANTS?
While grades are important, what also drives the decision is whether we believe you’re a good fit for our problem-solving community. That has nothing to do with your background, financial situation, nationality or where you went to school and everything to do with your attitude and potential. We’re looking for people who commit to the things they’re passionate about – that includes the subject they’re applying for, but other interests are important too. Find out how you can use your personal statement to show us your potential in a way that’s personal to you: bit.ly/imperial-personal-statements.

IS THERE AN UPPER AGE LIMIT FOR APPLICANTS?
No, we welcome applications from students of any age who meet our entry requirements. Medicine applicants must be aged 18 or older on the first day of term – see page 129.

CAN I TRANSFER TO ANOTHER COURSE OR DEPARTMENT AFTER I’VE STARTED?
Many of our courses have a common structure for the first one or two years so internal transfer within the same department is common (although not guaranteed). Transfer between different departments is rarely allowed.

DO YOU OFFER FULL SCHOLARSHIPS?
The College does not have its own full scholarships. However, scholarships offered by a number of external organisations are available – you can find these using our scholarships search tool – see page 63.

We also offer a generous bursary for eligible Home students. The Imperial Bursary does not have to be paid back and contributes up to £5,000/year towards your study costs – see page 63 for more details.

CAN I APPLY TO MORE THAN ONE COURSE?
Applying for multiple courses within the same department is usually not recommended as most departments tend to only make one offer per applicant due to the high level of shared content between their courses. If you’re planning to do this, check first with the department you’re applying to.

DOES IMPERIAL OFFER GENERAL ENGINEERING?
No, all of our engineering courses are specialised from the start, so you need to commit to a particular type at the application stage.

LIFE AND CULTURE

HOW HARD ARE IMPERIAL’S COURSES?
For many, the most challenging part of studying at Imperial is tackling questions that don’t have a single right answer and understanding that failure brings its own lessons. This can feel uncomfortable at first, especially as you’ll be working with increasingly difficult problems and often in groups with people with completely different perspectives from you, but we believe that the overall benefit of this style of learning is far greater than if we just gave you a set of facts to memorise.

IS IMPERIAL’S COMMUNITY DIVERSE?
Imperial provides excellent preparation for the global job market with students from over 130 different countries. We’re embracing this diversity in our classrooms by creating more opportunities in our curriculum for our students to learn from each other – see pages 16–17. We’ve also committed to reaching more students from non-traditional backgrounds, including care leavers and first-generation university students, through a number of new admissions schemes for Home students from 2020 entry – see pages 14–15.

WHAT’S AVAILABLE FOR STUDENTS WHO ARE INTERESTED IN THE ARTS AND HUMANITIES?
Our new i-Explore programme makes it possible for you to study a range of modules in areas beyond your core subject, including humanities, for credit – see pages 18–19. A busy music and arts programme is also run through our on-campus Blyth Centre, with lots of opportunities for you to get involved.
About our courses

TYPES OF QUALIFICATIONS

Our courses lead to the award of one of the following qualifications:

- Bachelor of Science (BSc)
- Master in Science (MSci)
- Bachelor of Engineering (BEng)
- Master of Engineering (MEng)
- Bachelor of Medicine and Bachelor of Surgery (MBBS)

The MEng and MSci are known as integrated Master’s degrees. This means study at the level of a Bachelor’s degree with Honours is combined with Master’s-level study during the latter stages of a single, continuous programme of study.

CHANGES TO OUR COURSES

For entry in the 2020 academic year, we are revising our taught course and assessment structures with the aim of introducing a standardised modular structure and enhanced degree provision across the College. This will include changes to academic and examination regulations for all taught undergraduate (and Master’s-level) courses. As a result, we will be making changes to some of the course content and assessment information set out in this prospectus prior to the start of the courses in October 2020.

These changes are designed to enhance your learning experience and ensure you develop a range of skills that employers value. These changes are being made in line with our new Learning and Teaching Strategy and in response to feedback from our students — see page 16–17.

We recommend checking our Study website before finalising your application and after you have submitted it, as we will publish updated course information on our online course pages in our Study website as and when the new course structures are ratified by College decision-making bodies.

If we need to make any changes to, or in relation to, our courses after you have been made an offer or once you have started studying at the College, these will be handled in accordance with our published approach to course changes — see page 16–17 and page 140.

TERMS AND CONDITIONS

The information given in this printed prospectus may change following its publication in January 2019. For example, the following details may change:

- The College will be making changes to the taught course and assessment structures as explained further on pages 16–17 and page 140 and may make other changes to or in relation to courses, including suspension or discontinuation of courses, where the College considers this is necessary (examples may include: due to staff availability, new research, feedback from students, examiners or professional or regulatory bodies or due to circumstances beyond the control of the College).
- Optional modules may not all run every year due to staffing, timetabling or lack of student demand.
- Fees for Home students are regulated by the UK government, and will increase or decrease in line with any changes to the fee caps set by the government.
- EU students currently pay the Home rate of tuition and this will also increase or decrease in line with any changes to the fee caps set by the government.
- EU students may change following its publication in January 2019. The information given in this printed prospectus may change following its publication in January 2019. For example, the following details may change:

Please check the Undergraduate Study website for the latest information:

www.imperial.ac.uk/study/ug/courses

More information on our approach to course changes is set out in the Study section of our website (see the weblink on page 140).

ENTRY REQUIREMENTS

In all departments except the School of Medicine, the typical offers in this prospectus (pages 66–135) are based on offers made to at least 80% of 2017–18 applicants who studied A-levels or the International Baccalaureate.

Achievement of the entry requirements for a typical offer does not guarantee entry to the College.

TERMS AND CONDITIONS AND REGULATIONS

All students of the College are required to comply with the full terms and conditions and regulations of the College.

For the full terms and conditions and regulations that apply to students of the College, please see:

www.imperial.ac.uk/students/terms-and-conditions
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GET TO KNOW US BEFORE YOU APPLY

COME TO AN OPEN DAY
Tuesday 25 June 2019
Wednesday 26 June 2019
Saturday 14 September 2019

COME TO A SUMMER SCHOOL
Experience life as an Imperial student first-hand on our residential and non-residential programmes

FOLLOW THE LIVES OF OUR STUDENT BLOGGERS
An authentic view of Imperial life

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Available every Wednesday

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