Number one for graduate employability

The Guardian University Guide 2018

8th best university in the world

The Times Higher Education World University Rankings 2018
QS World University Rankings 2018

UK’s most international university

The Times Higher Education World’s Most International Universities 2017

INTRODUCING IMPERIAL

About Imperial
Welcome to Imperial 2
Subject requirements 4
Highlights 6
Where science meets world famous culture 8

Research-led education
A 21st century education 10
Learning by discovery 12
Be a part of the solution 14
Don’t just study the world, live it 16
Broaden your horizons 18

Your future
Careers support for all 20
A head start on your future 22
Great minds don’t think alike 24
A global alumni community 26

Living in London
Home from home 28
A global city 30
London on a student budget 34

Campus life
Our neighbourhood 38
An inspiring environment 40
Library and computing facilities 42
Here to help 44

Student life
Beyond the classroom 48
370 ways and counting to enjoy Imperial life 50
Play, compete, exercise, enjoy 52

WHAT’S INSIDE?

Watch 24 hours unfold at our South Kensington Campus:
www.imperial.ac.uk/studentblogs

STUDYING AT IMPERIAL

Choosing your course 58
How to apply 60
Our selection process 62
Fees and funding 64

Faculty of Engineering
Aeronautics 68
Bioengineering 76
Chemical engineering 88
Civil and environmental engineering 96
Computing 100
Design engineering 106
Electrical and electronic engineering 110
Geology and Geophysics 114
Materials science and engineering 118
Mechanical engineering 126
Nuclear engineering 88, 118, 126

Faculty of Medicine
Biomedical science 84
Medicine 130

Faculty of Natural Sciences
Biochemistry and Biotechnology 72
Biological sciences 80
Chemistry 92
Mathematics 122
Physics 134

Find out what life is like as an Imperial student from our team of student bloggers:
www.imperial.ac.uk/studentblogs
Imperial College London is a one-of-a-kind university, focusing exclusively on engineering, science, medicine and business. We’re on the lookout for the brightest and best students from all over the world.

There is no such thing as a typical Imperial student. But they do all have one thing in common – they approach the world with curiosity. The sort of curiosity that keeps them going in the face of challenge and often results in extraordinary things.

An Imperial education will expose you to real world challenges with no easy answers, teaching that opens everything up to question and opportunities to work across multi-cultural, multi-national teams.

If you take full advantage of the opportunities open to you, you won’t just come out with a degree that is recognised by employers across the globe, you will also gain skills that will last you for the rest of your life.

And it starts right here.
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 68–137) 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 63.

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

UNDERGRADUATE PROSPECTUS

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. The maximum Imperial Bursary available per year for Home students.

£60,000

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.

£5,000

No.1 for graduate starting salaries

The Times/Sunday Times Good University Guide 2018

No.1 for research impact based on our concentration of high-impact research – the greatest of any major UK university.

Research Excellence Framework (REF 2014) – the process by which the UK higher education funding bodies assess the quality of university research.

No.1

370+ student-led clubs, societies and projects – one of the largest ranges of any UK university – see page 52.

GUILSANTEEED ACCOMMODATION

in College accommodation for first-year students – see page 30 for terms and conditions.

Most International University

in the UK, with students from over 130 countries.

£100+ HUMANITIES, BUSINESS AND LANGUAGES COURSES

available free of charge to all undergraduate students through Imperial Horizons – see page 18.

No.1

The Times Higher Education World University Rankings 2018

3RD BEST UNIVERSITY IN EUROPE, 8TH BEST IN THE WORLD

The Guardian University Guide 2018

No.1 for graduate employability

The Times/Sunday Times Good University Guide 2018

Permalink:

SEE PAGE 67 FOR DETAILS.

 Highlights

Gold

in the Teaching Excellence Framework – the highest award available – for our outstanding teaching and outcomes for our students.

MOST INNOVATIVE UNIVERSITY

in the UK and second in Europe

Reuters’ Europe’s most innovative universities 2017

One of the most generous bursary schemes of its kind of any UK university

£60,000

£5,000

44%

£100+

No.1

The maximum Imperial Bursary available per year for Home students.

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 67 FOR DETAILS.
WHERE SCIENCE MEETS WORLD FAMOUS CULTURE...

Our location in South Kensington, London’s famous cultural quarter, is no accident – it’s the realisation of a Victorian vision for an area where science and the arts would enrich each other. 150 years later and this legacy is still going strong: today physics meets music in our joint course with the Royal College of Music, engineering meets design in our partnership with the Royal College of Art and graduation ceremonies meet breathtaking glamour in the Royal Albert Hall where our graduates celebrate their achievement in front of family and friends.

FREE
SOAK UP THE SUNSHINE...
in Hyde Park and Kensington Gardens, two of the city’s eight Royal Parks. The former regularly hosts major live music and sporting events while the latter is home to the Serpentine Gallery and Kensington Palace.
7 minutes

FREE
ENJOY PERFORMANCES...by some of the world’s finest artists in the stunning Royal Albert Hall; where all Imperial students graduate. The Poons are one of the highlights in the calendar with standing places available for as little as £6.
5 minutes

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

FREE
EXPLORE THE FUTURE OF DESIGN...at the annual graduate show for our two unique double Master’s degrees in engineering design, run jointly with the Royal College of Art. Past projects include gloves that enable two-way physical interaction with a virtual environment and an eye-tracking camera.
6 minutes

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

FREE
EXPLORE SCIENCE THROUGH THE AGES...in the Science Museum, with the original model of DNA and the Apollo 10 command module among the displays.
3 minutes

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.
4 minutes

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).
4 minutes

FREE
TAKE A BALLET CLASS...at the English National Ballet, which caters for all levels and offers concessions for students.
5 minutes

FREE
FEED YOUR SPIRIT OF ADVENTURE...at events at the Royal Geographical Society.
4 minutes

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

It’s likely to be a significant step up 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.

To maintain this high standard, we’ve launched a College-wide review of our education. We want to make our teaching more interactive, more challenging and even more supportive.

We’re also planning some changes to the structure and content of our courses, responding to feedback from our students. The changes we’re planning may impact on our courses for 2019 entry so we encourage you to check our Study website for the most up-to-date details.

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

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

TEACHING THAT CELEBRATES DIVERSITY

We want our students to learn how to work effectively in multi-cultural, international teams and to understand and value different cultures and perspectives. The spectrum of nationalities, backgrounds and beliefs at Imperial represents one of the most diverse environments you are ever likely to experience.

To make the most of this, we’re reviewing our teaching, learning and assessment approaches to help our students learn from the different backgrounds and viewpoints they will encounter and to challenge each other.

It’s the same reason we’re placing even more emphasis on activities that bring our students together across subject boundaries. Graduates who can consider problems from multiple perspectives will be better equipped for success in a fast-changing world.

www.imperial.ac.uk/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

It’s an exciting time of change for our education but it builds on a solid foundation of innovative teaching already taking place across the College...

CASE STUDY
Professor Pietro Spanu’s applied biology course uses teamwork to provide immediate feedback. Multiple choice tests on current research papers test students’ subject knowledge and negotiation skills as they try to persuade their group of the right answer, while the chance to anonymously grade each other’s performance encourages everyone to contribute to the discussion.

“Unlike a traditional test, where papers are taken away and marked, students get immediate feedback. If they get it wrong, they can reflect on why.”

Professor Pietro Spanu, Department of Life Sciences
LEARNING BY DISCOVERY

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

Unlike learning based on existing knowledge, the kind of education we offer opens everything up to question. We’ll teach you to look for evidence before you act, how to tackle problems with no right answer and how to be confident in the face of uncertainty. It’s a style of education that relies on learning by discovery rather than simply memorising facts.

300+ students take part in UROP every year

LEARN FROM AND ALONGSIDE EXPERTS

The quality of interactions with our research and research community is one of the standout features of an Imperial education. In every department, you will have the chance to gain research skills and study topics linked to our latest discoveries. Many of our courses also include the chance to do your own original work, under the supervision of an active researcher.

In the most recent UK university wide survey of research quality (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.

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 300 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. And 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.

www.imperial.ac.uk/urop

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

Dr Umang Shah, teaching lab manager, Department of Chemical Engineering

CASE STUDY

Chemical engineering students develop 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...

... Dyson School of Design Engineering student Nathaniel Petre (right), who created a 3D-printed surfboard that can be created from recycled plastic, and also recycled itself. The Dolphin Board of Awesome is made from a material derived from algae along with a nontoxic resin derived from plant sugars. This makes it comparably cheaper to make, more durable and more sustainable than most conventional surfboards.

... Dr Robin Carhart-Harris in our Department of Medicine, who has been carrying out research into the potential upsides of psychedelic drugs. He and his team have administered psilocybin, the active compound in magic mushrooms, to depressed patients who have not responded to normal treatment. The patients all reported improvements in mood that lasted weeks and the researchers think this is because psilocybin ‘resets’ their brains.

... Professor Michele Dougherty, Head of our Department of Physics, who was responsible for running the Imperial-built magnometer used in the Cassini mission. The spacecraft recently ended its 13-year mission around Saturn, where one of its key discoveries – made possible by the magnometer – was an atmosphere at the moon Enceladus. Imperial instruments will next explore the region close to the Sun and the icy moons of Jupiter.

... Professor Sanjeev Gupta and Dr Jenny Collier in our Department of Earth Science and Engineering, who found evidence of how ancient Britain (Uigililand Нomane) – among others – was shaped. The new research proves that the Dover Strait was formed 450,000 years ago from the dramatic spill over of a huge glacial lake. Before that, the area was a land bridge, crossed by rivers and mammoths alike.

... Professor Leroy Gardner and Professor Mark Girling, who are leading teams involved in testing the world’s first 3D-printed steel footbridge – due to be installed across a canal in Amsterdam in 2018. Engineers are testing the material properties of the new steel, while mathematicians are planning a sensor network on the bridge to monitor in real-time how it reacts to foot and bike traffic.

... Dr Cristina Lo Celso in our Department of Life Sciences, who is taking the fight against leukaemia to the source. Through an innovative imaging technique she has developed, her lab is now able to see the bone environment in action, and determine what the different cell types do when leukaemia strikes. Her research has already made discoveries that could optimise bone marrow transplantation and treatments for leukaemia patients.

... Dr Mirko Kovac in our Department of Aeronautics, who is the Director of our new Brahmal Vasudevan Aerial Robotics Lab. The UK is set to be a leader in drone technology, and our £1.25 million lab is giving it a flying start. Researchers can simulate different terrains in the air, the ocean and on land. They can also create extreme conditions, such as fire, smoke, and heat, to explore how the next generation of drones will perform in harsh environments.

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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...

The majority of departments offer integrated year abroad courses, with options to study at some of the world’s best universities. Students undertaking a year in industry may also organise a placement at home or abroad. www.imperial.ac.uk/placements/student-exchanges

Our International Research Opportunities Programme (IROP) combines a unique research experience at a top partner university with the chance to spend your summer vacation overseas. Recent partners include MIT and the University of California, Los Angeles (UCLA) in the USA and Seoul National University in South Korea. www.imperial.ac.uk/students/global-opportunities/ug/summerresearchplacements

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 skill to bring cost-effective and renewable energy to developing countries; and El Salvador Project members, who provide simple engineering solutions to indigent communities in this Central American country.

Examples include a student-led field trip to explore Indonesian volcanoes in the Department of Earth Science and Engineering (page 114) and an African tropical biology field course in the Department of Life Sciences (page 40).

Read about previous trips funded by the Exploration Board: www.imperial.ac.uk/be-inspired/exploration-board

Each year our Exploration Board receives funding proposals for trips which take our students all over the world.

Overseas field trips on a number of our courses turn the world into your classroom.

Overseas Field Trips on a Number of Our Courses Turn the World Into Your Classroom.

Examples include a student-led field trip to explore Indonesian volcanoes in the Department of Earth Science and Engineering (page 114) and an African tropical biology field course in the Department of Life Sciences (page 40).
Broaden your horizons

Joining a specialist science institution does not mean turning your back on the other subjects you love. Imperial Horizons allows you to follow a range of other interests alongside your core subject through for-credit modules, integrated with your timetable.

Learn or improve in a foreign language, take modules in the humanities and social sciences, work across disciplines on global challenges, or experiment with something completely new like prototyping, creative writing, music technology or entrepreneurship.

There is also a lot of emphasis on skills and knowledge that employers value, like team work, communication across cultures and barriers and awareness of the world around you – and how you can help change it.

www.imperial.ac.uk/horizons

100+

different modules available through Imperial Horizons

“Studying maths, you don’t write much at all, so being able to write creatively has been extremely useful at work. Communication is so important once you’ve graduated: writing reports, giving presentations, even simple stuff like writing a clear, succinct cover letter or email. The creative writing module taught me all about critical analysis, writing concisely and working with others – these skills have been invaluable since graduating.”

Cassandra Yong (MSci Mathematics 2015), winner of the H.G. Wells fiction prize 2016

www.imperial.ac.uk/horizons

BUSINESS SCHOOL COURSES

As well as contributing to Imperial Horizons modules, Imperial College Business School offers a number of options for undergraduates to develop their business and management knowledge:

- Joint Honours degrees within Biochemistry and Biotechnology, Biomedical Science, Biological Sciences, and Chemistry (see our courses section, pages 68–137)
- an intercalated BSc for third and fourth year medical students, giving them the chance to develop business acumen on top of their scientific and clinical skills
- for-credit modules through the Business for Professional Engineers and Scientists (BPES) programme, focusing on the financial, strategic and operational aspects within organisations

www.imperial.ac.uk/business-school/programmes/undergraduate-study
Careers support for all

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 psychometric practice tests, downloadable careers talks, online careers libraries and useful tips and videos covering every aspect of recruitment processes.

www.imperial.ac.uk/careers

ALUMNI MENTORING SCHEME
Our 190,000-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 a professional alumnus working in your field of interest, or a related industry, for advice on how to follow in their footsteps.

www.imperial.ac.uk/careers/charityinsights

IMPERIAL PLUS
Imperial students want to make their mark on the world, so it’s unsurprising that they spend hundreds of hours each year doing volunteer work. Imperial Plus, run by Imperial College Union, provides a way for you to identify the skills you gain from volunteering and to evidence them in a way that’s useful for graduate recruiters. There is also the option to take this a step further and gain an ILM (Institute of Leadership and Management) Award in the Management of Volunteers – a leadership qualification that will be valued in all kinds of careers.

www.imperialcollegeunion.org/social-action/imperial-plus

FOLLOW IN THEIR FOOTSTEPS

Alice Rowlands is one of many Imperial graduates to work in Formula 1, as a Simulator Test Engineer at McLaren Racing.

MBBS Medicine 2014

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.

BSc Biology with a Year in Industry 2014

Ted Welman and Jack Faulkner are junior doctors in South London. After graduating, they took part in a rowing challenge across the Indian Ocean. They completed the expedition in 56 days, breaking the current world record and raising over £100,000 for charity.

MBBS Medicine 2016

No.1
for graduate employability  
The Guardian University Guide 2018

7,000+ EMPLOYERS
advertise their opportunities every year through our online vacancy service, JobsLive

NO.1
for graduate starting salaries in the UK  
The Times/Sunday Times Good University Guide 2018

8
annual careers fairs, including engineering, science, and finance and consulting fairs, bringing hundreds of employers to campus
A head start on your future

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 £53.6m to our income in 2015–16. 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:

- eight 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

“[CASE STUDY] Yuxin’s year-long research placement is at the Francis Crick Institute in London, which is dedicated to researching the science underlying health and disease. She is working within the Electron Microscopy Science Technology Platform (EM STP), which provides the equipment and expertise necessary to image the structure of molecules, cells and tissues at high resolution.

“I really enjoy being a member of the lab – I have the freedom to structure my own learning and plenty of time to practice and refine the lab techniques. Even more importantly, I know the project I’m working on is valuable – it’s a great feeling to know that you’re making a real difference.”

Yuxin, BSc Biological Sciences with a Year in Industry/Research

“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.”

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- 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

“The students we meet from Imperial are always well prepared, engaging and demonstrate a number of the qualities we look for in our candidates.” Emma Cheetham, Student Recruitment Manager, PwC

“Over 60% of our undergraduate courses are professionally accredited, delivering industry-recognised skills and knowledge available across the College match those you will find in the professional world (see pages 42–43)
Great minds don’t think alike

A culture of creativity, innovation and discovery ripples through the College, often surfacing as a new business or invention. When it does, there’s plenty of support to bring it to life.

MAKE CONNECTIONS
The challenge of how to connect the many entrepreneurial minded people across Imperial was solved in the creation of our new Enterprise Lab. This state-of-the-art facility is staffed by a full-time team who can connect you to any advice, support, facilities and training you need from across the College.

DEVELOP YOUR SKILLS AND IDEAS
You will find plenty of options for building your skills through the Enterprise Lab’s range of programmes. Regular ideas surgeries also make it easy for you to get expert feedback on your idea, which you can put to the test by entering one of our annual competitions, like the Venture Catalyst Challenge for students with early-stage science and technology ideas.

BUILD A PROTOTYPE
A wide range of equipment to turn your idea into a physical prototype is available through the Imperial College Advanced Hackspace. It also organises regular hackathons, workshops and grants to support your project’s development.

SUCCESS STORIES

Four undergraduate students, who formed Team Matoha, triumphed in the 2017 Make-A-Difference competition in the Faculty of Natural Sciences for their low-cost recycling tool which uses infrared spectroscopy to identify different types of plastics.

www.imperialenterpriselab.com

You can win up to £10,000 to fund your idea in our series of annual innovation competitions.

Imperial alumnus Joachim Horn’s (MEng Mechanical Engineering 2013) start-up SAM Labs has raised £8.25m since its creation in 2014. Its novel Science, Technology, Engineering, Arts, Mathematics (STEAM) and Coding solutions empower teachers worldwide with engaging lesson plans, apps and electronics to help students discover the fun in coding and creating.

www.imperialcollegeunion.org

Our WE Innovate @ Imperial programme for her start-up’s innovative use of new membrane technology to remove and recycle hazardous micropollutants from wastewater.

Life Sciences student Gabriella Santosa won £10,000 of funding in the 2016 WE Innovate @ Imperial programme for her start-up’s innovative use of new membrane technology to remove and recycle hazardous micropollutants from wastewater.

www.imperialenterprise.com

Our WE Innovate @ Imperial programme encourages female students to develop their enterprising ideas through a series of workshops and one-to-one mentoring opportunities.

No.1

Most innovative university in the UK
and 2nd in Europe
Reuters’ Europe’s most innovative universities 2017
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 190,000 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, membership to campus libraries, online resources and access to our Alumni Visitor Centre on the South Kensington Campus.

www.imperial.ac.uk/alumni
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 – the Eurostar from central London will get you to Paris in just over two hours.

Imagine the memories you could create with such spectacular scenery forming the backdrop to your student experience, like the iconic London Eye, Palace of Westminster and Westminster Bridge (picture here).
Home from home

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 one 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.

First-year guarantee

...of a place in College accommodation for all first-year undergraduates who accept Imperial as their firm choice, are coming alone and apply by the deadline.

For full terms and conditions, see: www.imperial.ac.uk/accommodation

38–40 WEEK CONTRACTS

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.

SAFE AND SECURE

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.

You can stock up on your daily essentials in our convenience store on campus.
APPLYING FOR ACCOMMODATION

MAY 2019
The application process opens for applicants who have made the College their first choice (firm acceptance through UCAS). You can specify up to five preferences (of hall, room type and price) on your application.

FRIDAY 26 JULY 2019
Our first-year accommodation guarantee scheme closes.

Rent in our accommodation includes all bills (gas and electricity charges, internet in your room and insurance of 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/games rooms. There is also a year-round programme of social and cultural events 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

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

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.

www.imperialhomesolutions.co.uk

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

LIVING IN LONDON

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

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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

6 Parsons House, West Kensington
7 Woodward Buildings, North Acton

O ur halls are self-catered; if you don’t fancy cooking, there is a wide choice of catering outlets on campus.

9 Evelyn Gardens, Chelsea
8 Wilson House, Paddington
5 Prince’s Gardens, South Kensington

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

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

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

If you’re looking for a student experience that combines life in one of the world’s most vibrant cities with the chance to get a head start on your career then look no further than the UK’s capital – and choosing Imperial means easy access to everything it has to offer.

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 the huge choice of international restaurants and shops means that no matter where you’re from, it’s easy to find the comforts of home.

In fact, you might be surprised at how quickly you will start to feel settled here – probably around the time you get used to seeing sights like Tower Bridge, Buckingham Palace and Big Ben in real life, rather than just in films.

It’s easy to fall in love with London’s iconic scenery but for students, its cultural treasures also serve another purpose, adding depth to their studies. The V&A Museum, for example, as the world’s largest museum of decorative arts and design, provides endless inspiration for Design Engineering sketching exercises, while the plant diversity at Kew Gardens – unrivalled by any botanic garden in the world – makes a rich source of life sciences study. And not forgetting the British Library’s collection of over 150 million items and space for 1,200 readers.

At least 200 theatre shows run daily in the West End, including smash hits like The Lion King and Matilda. There are also close to 800 cinema screens, accounting for over a fifth of the UK’s total.

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

250 festivals per year, including the Notting Hill Carnival and London Pride.

Source of statistics: www.london.gov.uk

There are many ways to get around the capital.

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.
- London Underground
- There are many ways to get around the capital.

1 British Museum
2 Piccadilly Circus
3 Tower Bridge and the River Thames
4 Big Ben and the Houses of Parliament
5 St Paul’s Cathedral and the Millennium Bridge

The “Beefeaters” are one of many icons of British history and tradition that you’ll find all over the city.

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 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 extra course costs which you may have to consider. See pages 64–65 for more information.

£300/WEEK

is the approximate amount you should budget for as an Imperial student

<table>
<thead>
<tr>
<th></th>
<th>WEEKLY</th>
<th>39 WEEKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>College accommodation*</td>
<td>£172†</td>
<td>£6,708</td>
</tr>
<tr>
<td>private accommodation†</td>
<td>£176</td>
<td>£6,864</td>
</tr>
<tr>
<td>Food‡</td>
<td>£50</td>
<td>£1,950</td>
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<tr>
<td>Travel§</td>
<td>£27.90</td>
<td>£964.80</td>
</tr>
<tr>
<td>Personal and leisure‡</td>
<td>£19</td>
<td>£1,521</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£288.90</strong></td>
<td><strong>£11,143.80</strong></td>
</tr>
</tbody>
</table>

* Based on rents for 2017–18. Once confirmed, costs for 2019–20 will be displayed at: www.imperial.ac.uk/accommodation
† This £172 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 £172.
‡ Figures taken from a 2016 Cost of Living survey 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 (2018 prices).
≠ Based on buying a monthly zones 1–3 travelcard with a 18+ Student Oyster photocard for nine months (2018 prices).

IS IT WORTH THE COST?

London is more expensive than 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 campus that can enhance your study experience, including over 170 museums, many with free entry, more than 380 public libraries and 800 bookshops.

UK GOVERNMENT FUNDING TOWARDS LIVING COSTS

Home students can access help towards their living costs through the Imperial Bursary scheme for Home students – money which you do not have to pay back. See page 67 to see who is eligible.

BUDGETING IN ADVANCE AND LEARNING TO STICK TO IT IS KEY

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

Mala, MBBS Medicine

Top 10

most visited attractions in the UK are located in London – nine have free entry
Association of leading Visitor Attractions 2016

UP TO £5,000/YEAR

is available towards your living costs through the Imperial Bursary scheme for Home students – money which you do not have to pay back. See page 67 to see who is eligible.

UK GOVERNMENT FUNDING TOWARDS LIVING COSTS

Home students can access help towards their living costs from the UK government, including larger Maintenance Loans than students studying outside London. All students who are eligible for the loan can receive up to 50 per cent of the maximum loan amount regardless of their financial situation. Access to the remainder depends on your household income.
Campus life

If you want to study in London, our South Kensington Campus is within easy reach of everything the city has to offer. But with Hyde Park and Kensington Gardens on your doorstep green open space is also never far away.

Our South Kensington home has grown around the site where the original College was founded in 1907 by the coming together of the Royal College of Science, the Royal School of Mines and the City & Guilds College. It may have got bigger over the years but it still retains the feel of a campus university, with buildings all within walking distance of each other.

For a campus in central London, it also has its fair share of greenery from the Queen’s Lawn (pictured, right) to Prince’s Gardens, which is bordered by a number of halls of residence.

FACILITIES ON SITE INCLUDE:

- Central Library, with 24-hour opening most of the year (see page 44)
- Imperial College Union, with its own dedicated building and Student Advice Centre (see page 50)
- 15 catering outlets, offering a wide choice of food and drink, with discounts available for students
- Ethos sports centre with gym, 25m swimming pool and climbing wall (see page 54)
- NHS Health Centre and Dental Surgery

BEYOND SOUTH KENSINGTON

Our South Kensington Campus is home to the majority of our undergraduate teaching. However, our presence in London extends far beyond this, including to our specialist medical campuses (where our medical students undertake their clinical attachments) and to our new White City Campus in west London. White City houses a range of state-of-the-art facilities, co-locating researchers and businesses, to speed up the translation of our research ideas into real-world solutions.
OUR NEIGHBOURHOOD

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 three of the world’s best museums – the Science Museum, the Natural History Museum and the V&A Museum – all with free entry.

The Science Museum is also home to one of the UK’s largest IMAX cinema screens, offering a super-size alternative to Imperial’s own student-run cinema on campus.

For outdoor activities, Kensington Gardens and Hyde Park provide many picturesque acres in which to relax. Hyde Park also plays host to the annual Hyde Park Relays, the UK’s biggest student race of its kind, organised by the Imperial College Country and Athletics Club.

Boating on the Serpentine lake in Hyde Park is a popular summer activity.

A farmers’ market takes over the Queen’s Lawn at the College every week, selling the freshest fare.

Three Tube lines serve our neighbourhood: Circle, District and Piccadilly.

£6 on-the-day tickets are available throughout the world-famous BBC Proms season at the Royal Albert Hall.

615 acres of parkland sit on our doorstep in Hyde Park and Kensington Gardens.

87m is the height of the Queen’s Tower, which is located in the centre of our campus and is a landmark in South Kensington.

20m visitors per year make South Kensington one of the world’s most popular cultural destinations.

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20m visitors per year make South Kensington one of the world’s most popular cultural destinations.
AN INSPIRING ENVIRONMENT

The real treasure of our campus lies not in how it looks – 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 Civil Engineering’s Hydrodynamics laboratory is equipped with a range of flumes and tanks for teaching fluid mechanics.
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 carbon dioxide (CO2) emissions.
4 One of the large teaching laboratories in the Department of Chemistry.
5 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 carbon dioxide (CO2) emissions.

The interactive boardroom in the Enterprise Lab is one of a number of state-of-the-art facilities on campus to support budding entrepreneurs.

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

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 (see page 24).
The Central Library at South Kensington 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 houses an extensive collection of electronic journals and databases, most of which can be accessed both on and off campus.

As a place to study, the Library offers silent, quiet and group study areas, bookable rooms for project work, and a café serving food until late, with WiFi available throughout.

Library staff are available to help you find what you need and all students are supported by a named subject librarian.

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

* Except Friday 23.00-Saturday 10.00

**The Library**

**Computing Facilities**

Our students have access to Microsoft, Mac and Linux systems, high-speed internet and wireless connectivity and a wide range of teaching resources through their own virtual learning environment. Our ICT team offers face-to-face help and telephone support to anyone experiencing IT-related issues. Free and discounted software is also available through their Tech Store – including free Microsoft Office 365 and virus protection for all students.

Digital learning is a priority in our new Learning and Teaching strategy (see page 10) so we are constantly looking at new ways to use technology to enhance our education.
Here to help

At Imperial you’ll be part of a community that’s rooting for you to succeed. That means making sure you always have someone to turn to at those times when you need a little extra help.

**STUDENT SUPPORT**

*Tutoring system*
A network that begins in your department with your own personal tutor and extends to a system of Departmental and Faculty Senior Tutors.

*Residential support teams*
A point of advice and pastoral care 24/7 for residents in our halls of residence.

*Imperial College Union Advice Centre*
Confidential and impartial advice on a wide range of topics including housing rights, managing debt and academic issues.

*Student financial support team*
Information and guidance on government and Imperial funding, including what support you’re eligible for, how to apply and how to budget for student life.

*Imperial ‘families’*
Imperial College Union’s ‘Mums and Dads’ scheme matches first years with returning students to tap into the wealth of peer support and expertise in your department.

**HEALTH AND WELLBEING**

*NHS Health Centre and Dental Surgery*
Located on our South Kensington Campus and providing a range of services to registered patients.

*Disability Advisory Service*
Specialist advice and support for disabled students, including students with a specific learning difficulty or enduring health condition.

*Multi-faith Centre*
Bringing together chaplains from many different religions as well as prayer rooms, events, meditation sessions and information on places of worship.

**INTERNATIONAL STUDENTS**

*International Student Support team*
Dedicated support for our international students to help them adjust quickly to life in the UK, including events and trips organised throughout the year.

*Visa and immigration advice*
Expertise covering a range of issues including Tier 4 student visas, short-term study visas and post-study options to remain in the UK, provided by International Student Support.

*English language support*
Free courses and classes to improve your English in an academic and social context – delivered by the Centre for Academic English. See page 63 for details.

**FIND OUT MORE**

- www.imperial.ac.uk/student-space

Students from the Hindu Society celebrating Holi.

Drop in, email or search online for answers to questions on accommodation, funding, exchange programmes, exam arrangements and more.
Master a new skill, take up a new sport or embrace a new challenge – there’s much more to life at Imperial and we’ll encourage you to make the most of everything on offer.
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 52–53).

The Union is not just there for the social side of life, it also provides a voice for change for all Imperial students from its dedicated building in the heart of our South Kensington Campus. It houses its own student advice centre, staffed by professional advisers who can offer independent guidance on a range of issues.

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**THE ARTS**

It’s a common misconception that the arts cannot thrive on our science-dominated campus – at Imperial they’re alive and well. In 2016, for example, Imperial’s all-male student a cappella group The Techtonics were named the International Champions of Collegiate A Cappella (ICCA) – the first non-US group to do so. Music really thrives here – evident by our four orchestras, six choirs, a 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, on-site art studio and gallery and Dramatic and Musical Theatre societies welcoming both performers and behind-the-scenes volunteers.

---

**REPRESENTATION NETWORK**

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 attuned to the needs of its students, whether in relation to the delivery of a course or to student wellbeing issues, such as personal safety or financial wellbeing.

---

**THE UNION IS HOME TO AN ON-CAMPUS NIGHTCLUB, METRIC**

**THE SUMMER BALL IS ONE OF THE LARGEST UNION EVENTS**

---

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

Felixonline.co.uk

[www.imperialcollegeunion.org](http://www.imperialcollegeunion.org)
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 on campus, 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. DroneSoc, eSports and FinTech are just three of the new additions for 2017, for example.

1. IC Radio
2. Canoe
3. Cheese
4. Tabletop gaming
5. Punjabi
6. Imperial College Symphony Orchestra
7. Science Fiction and Fantasy
8. Musical Theatre
9. Caving
10. Parachuting and Skydiving
11. Gliding
12. Raising and Giving (RAG)
13. Fellwanderers
14. Drone
15. Juggling
16. Racing Green
17. iQ (LGBT+)

370 WAYS (AND COUNTING) TO ENJOY IMPERIAL LIFE

TUNE IN TO OUR AWARD-WINNING 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. These free or cheap taster sessions at the start of term 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

Students come to Imperial expecting to work hard. They probably don’t also expect to be joining the number one university for sport in London.*

PERFORMANCE SPORT
Over 100 Imperial teams will compete in the 2018–19 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 enjoy free access to the gym and swimming facilities in Ethos, and at our other campuses, for the duration of their studies following an annual administration fee (currently £40).

* Based on our overall ranking in the British Universities and Colleges Sport (BUCS) leagues 2016–17

1 Parkour, free running and gymnastics
2 Swimming
3 Karate Shotokan
4 Hockey
5 Surfing
6 Rowing
7 Fencing
8 American Football
9 Football
10 Lacrosse
11 Triathlete and sports scholar Imogen Simmonds
12 Basketball
13 Enigma fitness gym
14 Touch rugby
15 Cross country and athletics
A–Z course directory 142
Aeronautics 68
Biochemistry and Biotechnology 72
Bioengineering 76
Biological sciences 80
Biomedical science 84
Chemical engineering 88
Chemistry 92
Civil and environmental engineering 96
Computing 100
Design engineering 106
Electrical and electronic engineering 110
Geology and Geophysics 114
Materials science and engineering 118
Mathematics 122
Mechanical engineering 126
Medicine 130
Physics 134
Choosing your course

The majority of Imperial courses last four years or more. This gives you the chance to focus on your subject in depth and develop specialist skills and knowledge in your chosen field.

CHOOSING A SUBJECT
The table on pages 4–5 shows you the A-level subjects required for study at Imperial. You’ll see that many of our departments look for similar subjects at entry – if you have the requirements for one there may be other departments that you could also consider. Transfer between Imperial departments is rarely allowed once you’ve started your studies so this is the time to do your research – you may discover courses that you have never previously contemplated but which really suit your interests.

If you are interested in more than one course within the same Imperial department we recommend that you consider contacting them for advice on which course to apply for. Individual departments will usually not make more than one offer to a candidate, regardless of how many applications you submit to them. It may be possible for you to amend your choice of course within a department after applying or once you have started your studies. However, this may not be possible in all circumstances. If you are a Tier 4 student, be aware that making changes to your course after you start, e.g. adding a placement year, may affect your visa.

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

115+ COURSES
across 15 different departments

8:1
applications per place on average (2016–17 entry)

ENGINEERING AT IMPERIAL
We do not offer a general Engineering degree, which means you need to pick the branch of engineering you are interested in before you apply.

All of our engineering courses cover core engineering principles that are the building blocks of your career. These skills can also be applied across other areas as the foundation for careers in other engineering disciplines and beyond.

CASE STUDY
Interdisciplinary teaching projects like Racing Green (pictured) give our undergraduate students the chance to develop skills at the boundary of their individual fields. The team is made up of project students and volunteers from different departments who work together to build zero-emission vehicles.

Our Racing Green Formula student team in the pit garage.
How to apply

To apply, use the online Universities and Colleges Admissions Service (UCAS) system, which handles undergraduate applications for all UK universities.

WHAT HAPPENS WHEN

EARLY SEPTEMBER 2018
UCAS’s online application process opens
We recommend starting your application early to give yourself time to do a good job. If you need to sit an external admissions test, make sure you check the registration deadline and sit the test on time.

15 OCTOBER 2018
(18.00 UK TIME)
Application deadline for our MBBS/BSc and Graduate Medicine courses
All Medicine applicants also need to sit the BioMedical Admissions Test (BMAT), which you can take at any centre that administers BMAT.

NOVEMBER 2018–FEBRUARY 2019
Interviews
Imperial departments that hold recruitment days or interviews, mostly hold them during this time. International students may be offered an interview via Skype.

15 JANUARY 2019
(18.00 UK TIME)
UCAS deadline
Deadline for all other Imperial courses. If you’re a Home student, don’t forget to apply for government funding to be considered for the Imperial Bursary (see page 67).

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. ‘Brexit’ is currently due to take place on Friday 29 March 2019. At the time of going to press (January 2018), the visa arrangements for students post-Brexit have not been confirmed. Trained visa advisors within our International Student Support team can provide expert advice on a wide range of visa and immigration issues, even before you arrive. They will be updating their visa knowledge as information 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.

www.imperial.ac.uk/study/ug/apply/after-you-apply/cas

www.gov.uk/academic-technology-approval-scheme

END OF MARCH 2019
Decisions
All applicants will receive a decision on their application by this time. Use UCAS Track to check the status of your application. The offers we make are normally ‘conditional’, which means they set out what you need to do before we can confirm your place (e.g. achieve certain grades in certain subjects by a set date). You need to meet these conditions by 19 August 2019 for entry in 2019.

Visa advice and guidance
Trained visa advisors within our International Student Support team can provide expert advice on a wide range of visa and immigration issues, even before you arrive. They will be updating their visa knowledge as information is confirmed by the UK government.

www.imperial.ac.uk/study/visas
Our selection process

Selection for Imperial is based on academic merit and potential. We welcome applications from students from all over the world and all different backgrounds.

ADMISSIONS TESTS
Some of our departments require you to sit an external admissions test as part of their entry requirements, such as BMAT for medicine. Most admissions tests are at the start of the academic cycle – make sure you take note of registration deadlines and test dates.

INTERVIEWS/ENTRY TESTS
While there is no College-wide entry test, the majority of our departments will interview applicants who demonstrate potential. If you are shortlisted for interview, this may form part of an admissions day and may involve other activities such as a group task or discussion. The department may also use its own admissions test – see our courses section for details.

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

WHAT IS A TYPICAL OFFER?
Our offers are aimed at attracting the most academically-able students, regardless of background, who demonstrate the greatest academic merit and potential to succeed on our courses. Some applicants may be set lower offers and some more challenging ones. The typical offers in this prospectus are based on offers made in 2016–17 to at least 85% of applicants who studied A-levels or an International Baccalaureate.

ENGLISH LANGUAGE REQUIREMENTS
All of our courses have a minimum English language requirement. This applies to all applicants, including native English speakers.

<table>
<thead>
<tr>
<th>Test</th>
<th>STANDARD</th>
<th>HIGHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCSE or O-level</td>
<td>Grade B</td>
<td>Grade B</td>
</tr>
<tr>
<td>A-level (of taken)</td>
<td>in English Language</td>
<td>in English Language</td>
</tr>
<tr>
<td>AS-level</td>
<td>Grade C</td>
<td>Grade C</td>
</tr>
<tr>
<td>in English Language</td>
<td>in English Language</td>
<td></td>
</tr>
<tr>
<td>International Baccalaureate</td>
<td>Varies depending on syllabus</td>
<td>Varies depending on syllabus</td>
</tr>
</tbody>
</table>

See our courses section for details of whether your course requires the standard or higher level English language requirement. Other English language qualifications are acceptable.

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

We also accept the following proficiency tests – scores are valid for two years from the date of the test:

<table>
<thead>
<tr>
<th>Test</th>
<th>STANDARD</th>
<th>HIGHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>IELTS</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>Pearson Academic</td>
<td>62 overall (minimum 56 in all elements)</td>
<td>69 overall (minimum 62 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>

All Imperial students – native and non-native speakers of English – can access free academic language provision from our Centre for Academic English. This includes academic writing classes, writing workshops, presentation skills, as well as one-to-one consultations and online resources. 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.

HOW WE ASSESS YOUR APPLICATION

All applications are first read thoroughly by admissions staff. They will be checking that you meet the academic criteria for your course, including predicted grades and scores for external tests (where relevant). Applications that meet the relevant criteria are passed to the Admissions Tutor for the department you’re applying to.

Admissions Tutors consider all of the evidence available during our rigorous selection process. This is to ensure that all applicants are assessed fairly and holistically. In so doing, Admissions Tutors will consider each individual’s academic, personal and social background.

DEMONSTRATING YOUR POTENTIAL

We’re particularly looking for evidence of your interest in the course, relevant skills and your potential to succeed in a challenging academic environment. Make sure you leave yourself plenty of time to complete the sort of activities that will help you demonstrate your suitability and aptitude for your chosen course, which you can then refer to in your personal statement.

www.imperial.ac.uk/study/ug/apply/requirements/english
Feas 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 level you pay is determined by your fee status, which we assess after you apply. The main criteria for being classified 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;
- 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 see please check this page:

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 2018 entry. This fee cap may increase for 2019 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 66 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. The UK government has not yet confirmed whether this will continue after the UK exits the EU – scheduled for March 2019.

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.

OVERSEAS FEES

The tuition fee for international students is set by the College and varies for each course. As a guide, in 2018 our fees ranged from £26,000 to £40,000 per year. We have not yet set our fees for 2019 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. Where these apply, they are explained online.

Once our tuition fees are confirmed for 2019 entry, we will publish them on our website:

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

www.imperial.ac.uk/about/imperial-and-the-european-union

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

MAINTENANCE LOAN FOR LIVING COSTS

See pages 36–37 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 – scheduled for March 2019.

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.
UK GOVERNMENT FUNDING

The money for student loans and grants comes from the government-owned Student Loans Company via 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, known as means testing – this is required for means-tested finance like the full Maintenance Loan. We also need this information to assess you for an Imperial Bursary (see right).

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) | £2,083/month |
| | £25,000/year |
| AMOUNT YOU’RE EARNING OVER CURRENT REPAYMENT THRESHOLD | £5,000/year |
| AMOUNT YOU REPAY (9% OF £5,000) | £37.50/month |
| | £450/year |

* The Times/Sunday Times Good University Guide 2018

FUNDING FROM IMPERIAL

“Receiving the 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 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 an Imperial Bursary for every year of your course – provided that 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 2019–2020**

<table>
<thead>
<tr>
<th>ANNUAL HOUSEHOLD INCOME</th>
<th>BURSARY (per year)</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>
</tr>
<tr>
<td>£50,001–£55,000</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.

There is no application process for the Imperial Bursary. Awards are given based on the household income information you provide to the Student Loans Company when you apply for a means-tested loan, i.e. the full Maintenance Loan (see page 66). So you do need to apply for the full loan to be considered, but you don’t need to use it.

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

SEARCH FOR 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.
www.imperial.ac.uk/fees-and-funding/scholarships-search

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.
www.imperial.ac.uk/sport/performance-sport/sport-scholarships

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.
www.imperial.ac.uk/music-and-arts/music-awards
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 2017.

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
→ 120 (2019 entry)

Applications: admissions ratio
→ 7:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/aeronautics for the latest course information.

OUR COURSES

QUALIFICATION AND TITLE UCAS CODE LENGTH

MEng Aeronautical Engineering H401 4 years
MEng Aeronautical Engineering with a Year Abroad n/a 4 years
MEng Aeronautical Engineering with a Year in the USA n/a 4 years
MEng Aeronautics with Spacecraft Engineering n/a 5 years

* Apply initially for MEng Aeronautical Engineering (H401).
■ International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 63.

PROFESSIONAL ACCREDITATION
Our courses are professionally accredited by the Royal Aeronautical Society (RAeS) and the Institute of Mechanical Engineers (I MechE).

ENTRY REQUIREMENTS

See pages 62–63 for more information about the selection process.

A-LEVELS
Minimum entry standards

A* A* A or A* AAA 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 third subject, Further Mathematics is strongly encouraged

Typical offers

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

INTERNATIONAL BACCALAUREATE
Minimum entry standards

40 points overall to include:

7 in Mathematics at higher level
7 in Physics at higher level

Typical offers

40–42 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

STANDARD LEVEL COLLEGE ENGLISH LANGUAGE REQUIREMENT – see page 63

A LANGUAGE QUALIFICATION MAY BE REQUIRED FOR YEAR ABROAD DEGREE

INTERNSHIP – CANDIDATES WHO DEMONSTRATE POTENTIAL

MATHEMATICS TEST (FOR CANDIDATES INVITED TO INTERVIEW)
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, wing design 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.

There are opportunities throughout to take management and non-technical modules through Imperial Horizons (see page 18).

YEAR ABROAD PATHWAY

Students choosing this pathway spend the third year studying at a university overseas – currently in France, Germany, Singapore, Switzerland 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 proficiency in the relevant language before you go. Free language classes are available to help you prepare. Places are limited at each partner university so competition is strong and selection cannot be guaranteed. Normally, only students who are on track for at least a 2:1 will be eligible for placements in France and Germany; for placements in Singapore and the USA, only students on track for a 1st will be eligible.

YEAR IN INDUSTRY PATHWAY

Students choosing this pathway complete an industrial placement between the third and fourth years, typically with a Formula One 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. Simulation and Analytics Engineer, Red Bull Technology
2. Aerodynamicist, McLaren
3. Technology Analyst, Goldman Sachs
4. Graduate Engineer, Airbus Defence and Space
5. Technical Service Engineer, Singapore Airlines

DID YOU KNOW?

Researchers in Imperial’s Department of Aeronautics have trained artificial intelligence (AI) to use aerospace simulation software to design a device that may ultimately improve dialysis for patients.

Patients with kidney failure have to clean waste from their body via a dialysis machine, connected to a vein and an artery in the arm that are surgically joined together. Up to 50% of these procedures can fail due to blockages. The prototype device developed by the AI optimises blood flow, which may reduce blockages in the future.

Full course information

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

Dr Andrew Wynn
+44 (0)20 7594 5047
aero.admissions@imperial.ac.uk
Biochemistry and Biotechnology

The analysis of chemical processes within living organisms and understanding how biochemical knowledge can be applied to real-world situations.

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 80–83.

OUR COURSES

Courses are also available in Biological Sciences (see pages 80–83). 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 | n/a* | 4 years
BSc Biochemistry with German for Science | C7R1 | 4 years
BSc Biochemistry with Spanish for Science | C7R4 | 4 years
BSc Biochemistry with Management | n/a* | 3 years
BSc Biochemistry with Management and a Year in Industry/Research | n/a* | 4 years
BSc Biotechnology | J700 | 3 years
BSc Biotechnology with a Year in Industry/Research | n/a* | 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 | n/a* | 4 years
BSc Biotechnology with Management and a Year in Industry/Research | n/a* | 5 years
BSc Biotechnology with Research Abroad | n/a* | 4 years

*Apply initially for BSc Biochemistry (C700) or BSc Biotechnology (J700).

Thinking of applying for more than one of these courses? Contact the Department for advice.
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 will choose from a number of optional modules, plus humanities or business topic.

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 glycomics, 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 will 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.

DID YOU KNOW?

Imperial researchers have shown that the number of parasites each mosquito carries influences the chance of successful malaria infection. Malaria is spread when mosquitoes bite humans and release microscopic parasites into the person’s bloodstream.

The finding has implications for vaccine development and studies into how the disease spreads in the field.

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. There are also other opportunities for life sciences graduates, including government and industrial research, public health, and careers in business, finance and entrepreneurship.

Recent Biochemistry and Biotechnology graduates have become...

1 Research Officer, A*STAR, Singapore
2 Television Researcher, BBC
3 Fungicide Biochemist, Syngenta
4 Analyst, Deutsche Bank
5 PhD student, Cambridge University

Full course information

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

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

A student using zebrafish larvae to investigate inflammatory immune responses.
**OUR COURSES**

### FAST FACTS

- Delivered by: Department of Bioengineering
- Total expected intake: 170 (2019 entry)
- Applications: admissions ratio: 3:1 (based on 2017 entry data)

**PLEASE NOTE**

The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/bioengineering for the latest course information.

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**QUALIFICATION AND TITLE**

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Title</th>
<th>UCAS Code</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEng</td>
<td>Biomedical Engineering</td>
<td>BH9C</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Biomedical Engineering with a Year Abroad</td>
<td>n/a*</td>
<td>5 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Biomedical Engineering with a Year in Industry</td>
<td>n/a*</td>
<td>5 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Molecular Bioengineering</td>
<td>H160</td>
<td>4 years</td>
</tr>
</tbody>
</table>

* Apply initially for MEng Biomedical Engineering (BH9C).

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### PROFESSIONAL ACCREDITATION

Our Biomedical Engineering courses are accredited by the Institute of Physics and Engineering in Medicine (IPEM), the Institution of Engineering and Technology (IET), the Institute of Mechanical Engineers (IMechE) and the Institution of Materials, Minerals and Mining (IOM3).

Molecular Bioengineering was introduced in 2017 so is not yet professionally accredited. We are currently seeking this accreditation. If successful, it is likely to be applied retrospectively.

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**INTERNATIONAL BACCALAUREATE**

Minimum entry standards

- 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

- 38–39 points

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**ADDITIONAL CRITERIA**

- Standard level College English language requirement – see page 63
- Interview – candidates who demonstrate potential
- Admissions exercise for candidates who are unable to attend a face-to-face interview

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**INTERNATIONAL QUALIFICATIONS**

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

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**ENTRY REQUIREMENTS**

See pages 62–63 for more information about the selection process.

**A-LEVELS**

Minimum entry standards

- A* A A overall to include
  - For Biomedical Engineering courses: A* in Mathematics
  - A in Physics
  - A in Biology, Chemistry or Further Mathematics
  - For Molecular Bioengineering: A* in Mathematics
  - A in Chemistry
  - A in another STEM subject

Typical offers

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

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**INTERNATIONAL BACCALAUREATE**

Minimum entry standards

- 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

- 38–39 points

---

**OUR COURSES**

### Bioengineering

A highly interdisciplinary field at the interface of engineering, medicine and the physical sciences.

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 2017). Of all of the engineering disciplines, none has the power to transform lives quite so dramatically as Bioengineering.

You will study many subjects, including engineering mathematics, mechanics, molecular engineering, electronic engineering, physiology, programming and design.

You will 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 will be very much part of.
OUR COURSES

Course overview

BIOMEDICAL ENGINEERING
This degree course adopts a top-down approach to bioengineering focusing on a breadth of engineering skills and knowledge to address problems in medicine and biology.

You also have the option to specialise in one of three pathways: Biomedical Engineering, Electrical Engineering or Mechanical Engineering.

All Biomedical Engineering students follow a compulsory programme of study for the first two years, in areas such as mathematics, digital systems, electronics, mechanics, and real-world applications of bioengineering. This is designed to help you develop a deep understanding of fundamental engineering principles, alongside an extensive knowledge of how the human body works.

In the second year, you take part in an engineering design project as part of the Sports Innovation Challenge – aimed at improving the sporting and training equipment available to disabled people.

In the third year, you start specialising in your chosen pathway (see above), covering core and optional modules and a group project. This specialisation continues into the fourth year where you also undertake an individual research project.

YEAR ABROAD PATHWAY
Students who are achieving at least a 2:1 standard at the time of selection can apply to spend the fourth year at one of our partner universities abroad. Places are currently available in Australia, France, the Netherlands, Singapore, 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 abroad is strong and cannot be guaranteed.

YEAR IN INDUSTRY PATHWAY
Between the third and fourth years, you have the chance to undertake a 12-month paid placement, working on a project set by your host company. You will be expected to help organise your placement; we have strong links with industry and can offer advice on companies to approach.

MOLECULAR BIOENGINEERING
The focus of this degree course is developing a ‘bottom up’ understanding of the links between molecules, cells, tissues, organs and limbs generating function, health and disease within a bioengineering context. You also spend significant time learning essential laboratory skills in biological engineering, synthetic biology, analytical sciences, microfluidics and device engineering.

All modules are compulsory for the first two years, focusing on core skills in areas such as mathematics, thermodynamics, medical science, analytical science, programming, and biomolecular engineering.

In your third year you can choose more advanced elective modules in molecular bioengineering alongside core modules and a group project. In your final year, you complete a substantial individual research project and study more advanced modules.

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. Some graduates launch their own startup companies, whilst others apply to enter graduate medical programmes. Academia, consultancy and finance are also common career destinations for our graduates.

Recent graduates of the Department have become...

1 Device Development Engineer, Roche
2 Graduate Engineer, Jaguar Land Rover
3 PhD student, ETH Zurich
4 Research Programmer, MIT
5 Trainee Clinical Scientist, NHS (King’s College Hospital)

DID YOU KNOW?
Imperial bioengineers are developing plastic-based medical implants that are less likely to be rejected by the body. These will be combined with natural body proteins to encourage interaction with nerves to prevent rejection.

New types of 3D-printed implants could improve mobility for patients.

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

Admissions team
+44 (0)20 7594 8157
be.ugadmissions@imperial.ac.uk
### Biological sciences

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 72–75.

#### FAST FACTS

- **Delivered by**: Department of Life Sciences
- **Total expected intake**: 150 (2019 entry)
- **Applications: admissions ratio**: 5:1 (based on 2017 entry data)

**Please Note**
The curriculum for courses in this Department is currently under review and is likely to change. See [www.imperial.ac.uk/study/ug/life-sciences](http://www.imperial.ac.uk/study/ug/life-sciences) for the latest course information.

#### QUALIFICATION AND TITLE

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<thead>
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<td>4 years</td>
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<td>C1R4</td>
<td>4 years</td>
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<td>C1B2</td>
<td>4 years</td>
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<tr>
<td>C1B3</td>
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</tr>
</tbody>
</table>

**Minimum entry standards**

- **A-LEVELS**
  - Overall to include: A in Biology, A in Chemistry, Mathematics or Physics
  - Typical offers: A A A

**Minimum entry standards**

- **INTERNATIONAL BACCALAUREATE**
  - 38 points overall to include: 6 in Biology at higher level, 6 in Chemistry, Mathematics or Physics at higher level
  - Typical offers: 38 points

**International qualifications**

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

**Entry requirements**

- See pages 62–63 for more information about the selection process.
- **A-LEVELS**
  - Minimum entry standards
    - A A A overall to include:
      - A in Biology
      - A in Chemistry, Mathematics or Physics
  - Typical offers: A A A
- **INTERNATIONAL BACCALAUREATE**
  - Minimum entry standards
    - 38 points overall to include:
      - 6 in Biology at higher level, 6 in Chemistry, Mathematics or Physics at higher level
  - Typical offers: 38 points
- **ADDITIONAL CRITERIA**
  - Higher level College English language requirement – see page 63
  - 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](http://www.imperial.ac.uk/study/ug/apply/requirements/ugacademic)

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**Our courses**

Courses are also available in Biochemistry/Biotechnology (see pages 72–75). 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.

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

---

**FAST FACTS**

- 3rd in the UK: The Times and Sunday Times Good University Guide 2018
- Year abroad options in Europe
- Management year available
- Year in industry/research option

**Thinking of applying for more than one of these courses?** Contact the Department for advice.
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 also choose a humanities or business topic.

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?

Researchers have discovered that the urge to mate in flies appears to override the need to sleep. The finding is part of a study looking at the importance of sleep for animals.

The result suggests there are some situations where flies and other animals can eliminate the drive to sleep entirely, rather than put it off until later.

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.

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 areas such as the biotechnology or pharmaceutical industries, 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. Communications Manager, Orangutan Project, Borneo
4. Investment Analyst, JP Morgan
5. Clinical Data Manager, Institute of Cancer Research

Full course information

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

Kate Sharples

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

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. Communications Manager, Orangutan Project, Borneo
4. Investment Analyst, JP Morgan
5. Clinical Data Manager, Institute of Cancer Research

Full course information

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

Kate Sharples

+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 Medical Biosciences courses are taught within Imperial's Faculty of Medicine. Scientists within the Faculty 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, stem cell research and pandemic modelling. Our courses draw on this cross-Faculty expertise and innovation to create a biomedical curriculum that is designed for the 21st century.

All students receive an iPad to engage with a blended syllabus of online and in-classroom learning. 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.

OUT COURSES

QUALIFICATION AND TITLE

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<td>BSc Medical Biosciences with Management</td>
<td>B111</td>
<td>4 years</td>
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Fast facts

Delivered by

Faculty of Medicine

Total expected intake

150 (2019 entry)

Applications: admissions ratio

14:1 (based on 2017 entry data)

PLEASE NOTE

The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/biomedical-science for the latest course information.

Entry requirements

See pages 62–63 for more information about the selection process.

A-LEVELS

Minimum entry standards

AAA overall to include:

A in Biology or Human Biology
A in Chemistry, Physics, Mathematics or Further Mathematics
A in another subject (if your second subject is Mathematics or Further Mathematics, your third subject must be a non-Mathematics subject)

Typical offers

AAA

INTERNATIONAL BACCALAUREATE

Minimum entry standards

38 points overall to include:

6 in Biology at higher level
6 in Chemistry, Mathematics or Physics at higher level

Typical offers

38 points

ADDITIONAL CRITERIA

☑ Higher level College English language requirement – see page 63
☒ 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
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 the critical challenges facing human health – such as cancer, obesity and diabetes, and infectious diseases – from multiple perspectives.

A high level of laboratory work, in ‘Lab Pods’ which are run like real research laboratories, 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 placement, or undertake a dissertation on a biomedical science topic. Placement possibilities may include industry, hospitals, publishing houses, museums, charities and government agencies.

Transfer from these courses to our MBBS Medicine course is not possible.

**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.

What our graduates do

Our courses are designed to educate future leaders in research and industry, policy makers and science communicators. Medical Biosciences graduates 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.

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.
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 sort of 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 our close collaboration with 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
130 (2019 entry)

Applications: admissions ratio
6:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/chemical-engineering for the latest course information.

FACILITIES

Imperial’s Carbon Capture Pilot Plant is the most sophisticated of its kind in an academic institution in the world. It provides a unique learning experience - a controlled and safe environment for Chemical Engineering undergraduates.

bit.ly/imperial-carbon-capture

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

2nd in the UK
The Times and Sunday Times Good University Guide 2018

Year abroad
(In Europe, Singapore or the USA)

Professionally accredited courses

Specialist teaching in Nuclear Engineering

QUALIFICATION AND TITLE

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<th>Title</th>
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</tr>
<tr>
<td>MEng</td>
<td>Chemical with Nuclear Engineering</td>
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<td>4 years</td>
</tr>
</tbody>
</table>

Please note
*Apply initially for MEng Chemical Engineering (H801).
* International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 61.

OUR COURSES

PROFESSIONAL ACCREDITATION
Our courses are professionally accredited by the Institution of Chemical Engineers (IChemE).

ENTRY REQUIREMENTS

See pages 62–63 for more information about the selection process.

A-LEVELS
Minimum entry standards
A* A* A overall to include:
A* in Chemistry
A* in Mathematics
A in Physics, Biology, Further Mathematics or Economics
Where a fourth A-level is offered, we prefer this to be in Physics, Biology, Further Mathematics or Economics at grade A.

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

INTERNATIONAL BACCALAUREATE
Minimum entry standards
39 points overall to include:
7 in Mathematics at higher level
7 in Chemistry at higher level
6 in Physics, Biology or Economics at higher level

Typical offers
41–42 points

ADDITIONAL CRITERIA

✓ Standard level College English language requirement – see page 63
✓ A language qualification may be required for Year Abroad degree
✓ 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
Course overview

All Chemical Engineering students study a range of compulsory science and mathematics topics and how they apply to practical engineering problems for the first two years. You will analyse a variety of chemical processes and learn about the many ways of contacting, 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, plus business and humanities options.

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

YEAR ABROAD PATHWAY

Students who are achieving at least a 2:1 standard at the time of selection for placements can apply to spend the third year (or 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, Sweden, Switzerland, Spain 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 cannot be guaranteed.

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.

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. Crude Oil Analyst, BP

DID YOU KNOW?

An Imperial student has helped to electrify a village in central northern India, connecting 100 homes to a mini solar energy grid.

Clementine Chambon, a final-year PhD student in the Department of Chemical Engineering, is celebrating the successful installation of an eight-kilowatt mini solar grid in the village of Sarvantara, which is located in the state of Uttar Pradesh in India.

Full course information

www.imperial.ac.uk/study/ug/chemical-engineering

Dr Andreas Kogelbauer

+44 (0)20 7594 5569
cce-admissions@imperial.ac.uk
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 brand new 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 you have a high level of flexibility to follow your own interests and career goals through opportunities including overseas study, a year in industry or research, and combined studies in languages or in Imperial College Business School.

Delivered by

→ Department of Chemistry

Total expected intake

→ 160 (2019 entry)

Applications: admissions ratio

→ 6:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/chemistry for the latest course information.

FAST FACTS

Delivered by

→ Department of Chemistry

Year/research abroad

→ (in Europe, Singapore and the USA)

Management year available

Professionally accredited courses

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

PROFESSIONAL ACCREDITATION

Our courses are professionally accredited by the Royal Society of Chemistry.

QUALIFICATION AND TITLE

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<tr>
<td>MSci Chemistry with French for Science</td>
<td>F1R1</td>
<td>4 years</td>
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<td>MSci Chemistry with German for Science</td>
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<td>MSci Chemistry with Spanish for Science</td>
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<tr>
<td>MSci Chemistry with Research Abroad and a Year in Industry</td>
<td>F1F2</td>
<td>5 years</td>
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Thinking of applying for more than one of these courses? Contact the Department for advice.

ENTRY REQUIREMENTS

See pages 62–63 for more information about the selection process.

A-LEVELS

Minimum entry standards

A A overall to include:

A* in Chemistry

A* in Mathematics

A in another subject (Physics, Biology or Economics is preferred)

Physics is required for Chemistry with Molecular Physics

Typical offers

A* A to A* A

INTERNATIONAL BACCALAUREATE

Minimum entry standards

38 points overall to include:

7 in Chemistry at higher level

6 in Mathematics at higher level

6 in a third subject at higher level (Biology, Economics or Physics is preferred)

Physics is required for Chemistry with Molecular Physics

Typical offers

38–39 points

ADDITIONAL CRITERIA

✓ Higher level College English language requirement – see page 63

✓ A language qualification may be required for Year Abroad degree

✓ Interview – candidates 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
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 computational chemistry, 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 in 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, robot chemistry 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 identification, development and production of new drugs. They are ideal for students intending to work in the pharmaceutical and similar industries, and for those interested in chemical research in fields allied to medicine.

CHEMISTRY WITH MANAGEMENT
The 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 industrial 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?
Imperial scientists are aiming to design new cells from scratch. The FABRICELL initiative will provide researchers with new insights into how cells work, and attempt to harness the power of biology to create new classes of smart micro machines. They hope the new cells will perform designated functions seen in real cells such as environmental sensing and replication.

What our graduates do
Chemistry graduates are recruited into practically every branch of industry. About half of our graduates pursue a PhD, while others work in roles as diverse as industrial development, production and quality control of processes, marketing, and teaching. Importantly, our MSci programmes ensure that our degrees are recognised throughout Europe, where longer undergraduate degree programmes are the norm.

Recent graduates of the Department have become:
1. API Process Chemist, Aesica Pharma
2. Research Scientist, Merck
3. Graduate Scientist, Ministry of Defence
4. Consultant, Accenture
5. Management Consultant, Deloitte

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

Raj Sandhu
+44 (0)20 7594 5721
ch.admissions@imperial.ac.uk

IMPERIAL COLLEGE LONDON UNDERGRADUATE PROSPECTUS
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 will also 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
90 (2019 entry)

Applications: admissions ratio
5:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/civil-engineering for the latest course information.

QUALIFICATION AND TITLE

<table>
<thead>
<tr>
<th>UCAS Code</th>
<th>Length</th>
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<tbody>
<tr>
<td>H201</td>
<td>4 years</td>
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<tr>
<td>H202</td>
<td>4 years</td>
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</tbody>
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Our hydrodynamics laboratory in the Fluid Mechanics section of the Department is one of the largest of its kind in the UK university sector. It is fully equipped with facilities to measure waves and their impact.

OUR COURSES

QUALIFICATION AND TITLE

<table>
<thead>
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<tr>
<td>H201</td>
<td>4 years</td>
</tr>
<tr>
<td>H202</td>
<td>4 years</td>
</tr>
</tbody>
</table>

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 62–63 for more information about the selection process.

A-LEVELS

Minimum entry standards
A* A A or A*A AA overall to include:
A* in Mathematics
A / A* in Physics

Typical offers
A* A A

Please note: For 2019 entry, our typical offers may also include four A-level offers of A* A A A for applicants studying four A-levels.

INTERNATIONAL BACCALAUREATE

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

Typical offers
39 points

ADDITIONAL CRITERIA

✓ Standard level College English language requirement – see page 63
✓ A language qualification may be required for Year Abroad degree
✗ Interview
✓ Admissions test (as part of a recruitment day)
✓ Video submission required from overseas candidates who demonstrate potential on their application

TOTAL EXPECTED INTAKE
90 (2019 entry)

APPLICATIONS: ADMISSIONS RATIO
5:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/civil-engineering for the latest course information.

QUALIFICATION AND TITLE

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<tr>
<td>H201</td>
<td>4 years</td>
</tr>
<tr>
<td>H202</td>
<td>4 years</td>
</tr>
</tbody>
</table>

Quick facts

Gain invaluable construction experience

Thinking of applying for both courses? Contact the Department for advice.

PROFESSIONAL ACCREDITATION

Both courses are professionally accredited by the Joint Board of Moderators which includes the Institution of Civil Engineers and the Institution of Structural Engineers.
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, energy systems, fluid and structural mechanics, statistics and professional engineering practice. You will also take part in engineering design projects and attend 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.

Students building a scale model of The Gherkin skyscraper at the annual Constructionarium, a radical design course in which students manage and build real engineering projects at a bespoke construction site.

bit.ly/imperial-constructionarium

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 cannot be guaranteed.

Second-year students working in groups to design modular pods for the London Olympic Stadium during a creative design class.

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 Sustainability Engineer, Foster and Partners
2. Coastal Engineer, Surbana Jurong
3. Graduate Tunnel Engineer, Balfour Beatty
4. Civil and Structural Engineer, Royal Dutch Shell
5. Graduate Geotechnical Engineer, AECOM

Full course information

www.imperial.ac.uk/study/ug/civil-engineering

Mrs Louise Green
+44 (0)20 7594 6045
ciugo@imperial.ac.uk

DID YOU KNOW?

Imperial Civil Engineers are involved in a pilot project to install technology used in Formula One racing to recover energy from braking in trucks to make them more fuel efficient and environmentally friendly.
Computing

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

At Imperial, we place special emphasis on the fundamental principles underlying computing and on understanding the engineering considerations involved in computing system design, implementation and usage. The result is that 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 keeps our computing facilities at the cutting edge.

### FAST FACTS

- **Delivered by**: Department of Computing
- **2nd in the UK**: The Times and Sunday Times Good University Guide 2018
- **International study programme (in Europe or the USA)**: 195 (2019 entry)
- **Applications: admissions ratio**: 12:1 (based on 2017 entry data)
- **PLEASE NOTE**: The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/ study/ug/computing for the latest course information.

### QUALIFICATION AND TITLE

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Title</th>
<th>UCAS Code</th>
<th>Length</th>
</tr>
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<tbody>
<tr>
<td>BEng</td>
<td>Computing</td>
<td>G400</td>
<td>3 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Computing</td>
<td>G401</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Computing (Artificial Intelligence)</td>
<td>G700</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Computing (Management of Study)</td>
<td>G903</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Computing (Management and Finance)</td>
<td>G600</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng</td>
<td>Computing (Visual Computing and Robotics)</td>
<td>GG47</td>
<td>4 years</td>
</tr>
</tbody>
</table>

### ENTRY REQUIREMENTS

- **A-LEVELS**
  - Minimum entry standards
    - A* A A overall to include:
      - A* in Mathematics
      - A in two accepted subjects – see our website for details. Further Mathematics is preferred. ICT, Business Studies, General Studies and Critical Thinking are not accepted.
    - Typical offers
      - Three A-level offer: A* A A
      - Four A-level offer: A* A A
    - Typical offers include STEP requirements.

- **INTERNATIONAL BACCALAUREATE**
  - Minimum entry standards
    - 39 points overall to include:
      - 7 in Mathematics at higher level
      - 7 in another relevant subject at higher level
    - Typical offers
      - 42–44 points
    - Typical offers include STEP requirements.

- **ADDITIONAL CRITERIA**
  - Standard level College English language requirement – see page 43
  - A language qualification may be required for the International Programme of Study (G402)
  - Online admissions test – candidates who demonstrate potential
  - Interview – candidates 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/academic

### COMPUTING COURSES

- For Mathematics and Computer Science courses, see page 102.

### PROFESSIONAL ACCREDITATION

These 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.

We also introduce you to computer architecture and hardware and the software which can exploit them. Advanced techniques such as artificial intelligence and machine learning are also presented throughout, using current research taking place in the Department.

**INTERNATIONAL BACCALAUREATE**

Minimum entry standards

- 40 points overall to include:
  - 7 in Mathematics at higher level
  - 7 in another relevant subject at higher level

Typical offers

- 42 points

Typical offers include STEP requirements.

**ADDITIONAL CRITERIA**

- Standard level College English language requirement – see page 63
- Online admissions test – candidates who demonstrate potential
- Interview – candidates who demonstrate potential

**ENTRY REQUIREMENTS**

See pages 62–63 for more information about the selection process.

**A-LEVELS**

Minimum entry standards

- A* A* A overall to include:
  - A* in Mathematics
  - A* in Further Mathematics
  - A in a third subject (see pages 4–5 for details. ICT, Business Studies, General Studies and Critical Thinking are not accepted)

Typical offers

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

Typical offers include STEP requirements.

**INTERNATIONAL BACCALAUREATE**

Minimum entry standards

- 40 points overall to include:
  - 7 in Mathematics at higher level
  - 7 in another relevant subject at higher level

Typical offers

- 42 points

Typical offers include STEP requirements.

**ADDITIONAL CRITERIA**

- Standard level College English language requirement – see page 63
- Online admissions test – candidates who demonstrate potential
- Interview – candidates who demonstrate potential

**INTERNATIONAL QUALIFICATIONS**

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

**PROFESSIONAL ACCREDITATION**

These courses are professionally accredited by IET (the Institution of Engineering and Technology) and BCS (the Chartered Institute for IT).
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.

SOFTWARE ENGINEERING PATHWAY
This pathway focuses on how software is engineered to form complex computing systems. It has a strong practical emphasis and is closely aligned with the needs of modern industry. Typical study areas include software design, software engineering for industry, data management, performance engineering, 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 at least a 2:1 standard or 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 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 interests in both subjects.

You take set modules from each Department in either of 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 stage 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. Some of our graduates join large software companies, while some go on to work for smaller companies; quite a few have started their own businesses. Some go into management consulting or enter the accountancy profession; others take up careers in corporate strategy and marketing; some become business analysts in investment banks or stockbrokers; while others follow a career in research.

Recent graduates of the Department have become...

1. Software Engineers, Apple, Google and Amazon
2. Technical Analyst, JP Morgan
3. Software Developer, BAE Systems
4. PhD student, Imperial College London
5. Managing Director, Introversion Software

DID YOU KNOW?
Imperial researchers have scanned the faces of 6,000 volunteers for a project that aims to create 3D computer face models, with the aim of developing better guidelines for surgeons carrying out reconstructive procedures on people from different ethnic backgrounds.

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

Undergraduate Admissions Office
+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 will 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 our degree.

FAST FACTS

Delivered by

→ Dyson School of Design Engineering

Total expected intake

→ 90 (2019 entry)

Applications: admissions ratio

→ 8:1 (based on 2017 entry data)

PLEASE NOTE

The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/design-engineering for the latest course information.

QUALIFICATION AND TITLE

UCAS CODE LENGTH

MEng Design Engineering 28G3 4 years

PROFESSIONAL ACCREDITATION

This course is professionally accredited by the Institution of Engineering Designers (IED). Accreditation will also be sought from the Institution of Mechanical Engineers (I MechE) and Institution of Engineering and Technology (IET). This can only be completed 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 62–63 for more information about the selection process.

A-LEVELS

Minimum entry standards

A* A A overall to include:

A* / A in Mathematics

Typical offers

A* A A to A* A A

INTERNATIONAL BACCALAUREATE

Minimum entry standards

39 points overall to include:

6 in Mathematics at higher level

Typical offers

38–39 points

ADDITIONAL CRITERIA

✔ Standard level College

English language requirement – see page 63

✔ 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
What our graduates do

The MEng in Design Engineering is designed to equip you with creativity, enterprise skills and industrial experience that will appeal in a wide range of industries. The course 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 such as Samsung, Apple and Bentley, as well their own start-ups such as Bare Conductive and Omlet.

DID YOU KNOW?

A Dyson School of Design Engineering student has designed children’s clothes that grow with their wearer. Ryan Yasin’s Petit Pli range grows by up to seven sizes, tackling clothes waste and saving parents money.

The clothes are created using a specially engineered fabric with an auxetic structure, allowing them to expand in all directions when stretched. The innovative design earned Ryan the 2017 James Dyson Award for designing.

You will 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 and Gamble, and Airbus).

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

Alex Marsh
+44 (0)20 7594 7342
design.engineering@imperial.ac.uk

Course overview

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

It will enable you to develop a range of fundamental design and engineering skills, with a particular emphasis on creativity, computer-aided engineering tools, optimisation, human factors, design process, as well as 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 and focus on foundation engineering topics, computing, mathematics and design to give you a solid scientific and design basis on which to build. These cover subjects such as production and materials, mechanics, computer-aided engineering, electronics for product and system design, computing, and engineering mathematics.

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.
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 within the top 10 in the QS World University rankings by subject 2017) 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.

QUALIFICATION AND TITLE | UCAS CODE | LENGTH
--- | --- | ---
BEng Electrical and Electronic Engineering | H600 | 3 years
MEng Electrical and Electronic Engineering with a Year Abroad | H604 | 4 years
MEng Electrical and Electronic Engineering with Management | n/a* | 4 years
MEng Electronic and Information Engineering | H6N2 | 4 years
MEng Electronic and Information Engineering with a Year Abroad | n/a† | 4 years
MEng Electronic and Information Engineering | H665 | 3 years
MEng Electronic and Information Engineering | G756 | 4 years

* Apply initially for MEng Electrical and Electronic Engineering (H604).
† Apply initially for MEng Electronic and Information Engineering (G756).

Please note
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/electrical-engineering for the latest course information.

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

FAST FACTS
Delivered by
Department of Electrical and Electronic Engineering

Total expected intake
160 (2019 entry)

Applications: admissions ratio
7: 1 (based on 2017 entry data)

Professionally accredited courses
Integrated industrial placement

1st in the UK
The Guardian University Guide 2018

Year abroad (in Europe, Singapore or the USA)

Minimum entry standards
A* A A overall to include:
A* in Mathematics
A in Physics
A from preferred list (see pages 4–5)

Typical offers
A* A A to A* A A

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

Typical offers
38–40 points

ADDITIONAL CRITERIA
Higher level College English language requirement – see page 63
Interview – candidates who demonstrate potential
Admissions test

PROFESSIONAL ACCREDITATION
These 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.

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

OUR COURSES

ENTRY REQUIREMENTS
See pages 62–63 for more information about the selection process.

A-LEVELS
Minimum entry standards
A* A A overall to include:
A* in Mathematics
A in Physics
A from preferred list (see pages 4–5)

Typical offers
A* A A to A* A A

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

Typical offers
38–40 points

ADDITIONAL CRITERIA
Higher level College English language requirement – see page 63
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
Our courses

ELECTRICAL AND ELECTRONIC ENGINEERING
We place great importance on teaching you the underpinning analytical bases of the subject from the start, with topics ranging from semiconductor physics to software engineering, and the applied mathematics of encryption to the infrastructure of national power transmission.

You learn through a combination of lectures, study groups, personal tutorials, laboratory work and projects. As you build your knowledge you also undertake more ambitious project work, before having the chance in the final year to showcase your engineering expertise in a substantial individual project of your choice.

The first two years cover electrical and electronic engineering fundamentals. As the course progresses, you choose from a wide range of technical and non-technical modules in areas such as artificial intelligence, integrated circuit design, communication networks, signals and systems, image processing and robotics.

In the third year, MEng students choose between spending six months on an assessed industrial placement or completing a three-month group project at the College, acting as technical consultants on a brief supplied by industry.

You can take selected modules from other departments that include entrepreneurship, project management and a range of languages.

Team-based projects are an important part of the courses. These allow you to apply your skills in developing innovative solutions to problems defined by staff, industry or students.

MANAGEMENT PATHWAY
Students on this pathway take a reduced number of technical modules in years three and four to 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 design and architecture of the CPU in a smartphone, to the information theory and wireless protocols connecting it to the internet, and on to the operating systems and databases providing back-end support in the cloud.

In later years, you can choose advanced subjects from both the Department of Electrical and Electronic Engineering and the Department of Computing.

YEAR ABROAD PATHWAY
Students who are achieving at least a 2:1 standard at the time of selection in year three can apply to spend their final year at one of our partner universities. Places are currently available in Europe (Belgium, France, Germany, Italy, the Netherlands, Switzerland and Sweden), Singapore 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 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. Graduate Electronic Engineer, Dyson Technology
2. Chassis Electronics Engineer, Jaguar Land Rover
3. Financial Software Developer, Bloomberg LP
4. PhD student (Machine Learning), EPFL, Switzerland
5. Low Carbon Engineer, Western Power Networks

DID YOU KNOW?
Imperial electrical engineers have improved the way that brain activity data is collected in mice, which could ultimately help research into dementia. The team’s new ultra-lightweight wireless sensor system avoids many of the welfare concerns associated with existing approaches to recording brain activity in mice.

Kay Hancox
+44 (0)20 7594 6166
admit.eee@imperial.ac.uk

Full course information
www.imperial.ac.uk/study/ug/electrical-engineering
Geology and Geophysics

The understanding of how our planet works, from Earth’s internal core to its crust, including the oceans, atmosphere and applications to other planets.

Studying Geology and Geophysics at Imperial means joining a small and close-knit Department. We’re based within the Royal School of Mines, which has its own Students’ Union, providing many opportunities for our students to meet people from all years. The historic building also houses a range of state-of-the-art facilities including analytical and imaging facilities and our Rock Library, a leading international online database of rocks and minerals.

Our location in South Kensington also 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 are world experts in geochemistry, mineralogy, planetary science, mineral resources and palaeontology, also contribute to our teaching.

OUR COURSES

QUALIFICATION AND TITLE

UCAS CODE LENGTH

BSc Geology F600 3 years

MSci Geology F640 4 years

MSci Geology with a Year Abroad F601 4 years

BSc Geophysics F662 3 years

MSci Geophysics F660 4 years

MSci Geophysics with a Year Abroad F664 4 years

MSci Petroleum Geoscience F663 4 years

PROFESSIONAL ACCREDITATION

These courses are professionally accredited by the Geological Society.

ENTRY REQUIREMENTS

See pages 62–63 for more information about the selection process.

A-LEVELS

Minimum entry standards

AAA overall for all courses to include:

For Geology and Petroleum Geoscience

A, A in two of the following: Biology, Chemistry, Geophysics, Geology, Mathematics or Physics

For Geophysics

A, A in Mathematics and Physics

Typical offers

AAA to A* A A

INTERNATIONAL BACCALAUREATE

Minimum entry standards

38 points overall to include:

For Geology and Petroleum Geoscience

6, 6 at higher level in two of the following: Biology, Chemistry, Geophysics, Mathematics or Physics

For Geophysics

6, 6 at higher level in Mathematics and Physics

6 in another subject at higher level

Typical offers

38–39 points

ADDITIONAL CRITERIA

✓ Standard level College

English language requirement – see page 63

✓ Grade A in GCSE (or equivalent) in Mathematics required for Geology courses

✓ 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

FAST FACTS

Delivered by

→ Department of Earth Science and Engineering

Total expected intake

→ 80 (2019 entry)

Applications: admissions ratio

→ 3:1 (based on 2017 entry data)

PLEASE NOTE

The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/earth-science for the latest course information.

Professionally accredited courses

Strong emphasis on fieldwork to develop practical skills

Thinking of applying for more than one of these courses? Contact the Department for advice.
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 Earth to give us an understanding of how our planet works, from its internal core, crust and oceans, to the atmosphere and our solar system.

All of our courses follow a similar syllabus for the first two years. This high level of shared content means you may transfer between most* of our Geology and Geophysics 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 and

ends in a two-week field trip, currently to Spain. Year two is designed to deepen your knowledge of the geosciences. Further field trips are also available, currently to the Pyrenees and Scotland.

Geophysics students take additional maths classes and study numerical methods through global geophysics. This is supported by a field trip, currently to Cyprus, where you learn a range of near-surface geophysics field techniques.

In years three and four you specialise according to your chosen course (see below). You also take part in further field trips, study core and optional modules, and complete an independent field study and research project linked to your chosen course.

GEOLoGY

Geology is the study of Earth and how its interior, surface and atmosphere interact. Geologists study the world through observation and make inferences based on understanding of fundamental scientific principles. 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 biogeochemistry, oceanography, igneous and metamorphic processes, basin analysis, and hydrothermal ore-forming processes.

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.

YEAR ABROAD

MSci students who are achieving first class marks in the first two years, and are registered for the scheme, can apply to spend their third year abroad. Places are currently available in Australia, Canada, France, the Netherlands, Spain and the USA. Language classes are available (where appropriate) to help you prepare. The year counts directly towards your Imperial degree though limited places mean competition for placements is strong and specific locations cannot be guaranteed.

PETROLEUM GEOSCIENCE

This course provides you with the fundamental understanding of the Earth and its past required to locate and responsibly manage petroleum resources, as well as presenting the methods and practices of the modern petroleum industry.

What our graduates do

The growing importance of earth science in tackling some of the world’s most significant challenges means that demand for 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. MSci graduates also require fewer years of work experience to apply for Chartership of the Geological Society.

Recent graduates of the Department have become...

1. Graduate Environmental Scientist, Mott MacDonald
2. Environmental Advisor, BP
3. Geologist, CD Capital/Prairie Mining
4. Geosolutions Geophysicist, Schlumberger
5. Research Assistant, Natural History Museum

DID YOU KNOW?

A previously-overlooked, 160-million year old museum fossil has been re-examined by Imperial scientists and discovered to be the earliest member of the titanosauriform family of dinosaurs. The fossil – named Vouivria damparisensis – has been identified as a brachiosaurid sauropod dinosaur.

Full course information

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

Dr Elizabeth Day
+44 (0)20 7594 7337
admit.earth@imperial.ac.uk
Materials science and engineering

Understanding and exploiting the relationship between the structure, processing and properties of materials with 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. Our reputation in this discipline is reflected in our outstanding research record*, with expertise in bio- and soft materials, ceramics and composites, engineering alloys, functional materials, nanotechnology, and theory and simulation of materials.

You will join a Department that offers outstanding specialist guidance and facilities, regardless of which of these directions you ultimately take. We also maintain extensive contacts with industry and other leading universities around the world.

FAST FACTS

Delivered by
→ Department of Materials

Total expected intake
→ 100 (2019 entry)

Applications: admissions ratio
→ 3:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/materials for the latest course information.

OUR COURSES

PROFESSIONAL ACCREDITATION
These courses are professionally accredited by The Institute of Materials, Minerals and Mining (IOM3).

* The Department is ranked 2nd in the UK based on the proportion of world leading and internationally excellent research in the Research Excellence Framework 2014.

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 62–63 for more information about the selection process.

A-LEVELS
Minimum entry standards
AAA overall to include:
A in Mathematics
A in Chemistry
A in Physics

Typical offers
A* AA

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

Typical offers
38 points

ADDITIONAL CRITERIA
✓ Standard level College English language requirement – see page 63
✓ Interview – candidates who demonstrate potential
✗ Admissions test

QUALIFICATION AND TITLE
UCAS CODE
LENGTH
MEng Biomedical Engineering BJ95 4 years
BEng Materials Science and Engineering JF52 3 years
MEng Materials Science and Engineering JFM2 4 years
BEng Materials with Management J542 3 years
MEng Materials with Nuclear Engineering J5G8 4 years

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 65.
Course overview

All students follow a common core curriculum covering the fundamental science of materials. We use different materials, including metals, polymers and ceramics, to demonstrate global principles of the discipline such as structure, bonding and materials formation. You also study application – critical functionalities such as electromagnetic and mechanical properties of materials.

Experimental and project work is fundamental to all our courses. This starts with guided experiments and progresses to more independent and creative laboratory and project work. A major year three engineering design project, carried out in large highly structured teams, mimics the projects you will encounter in industry. The year four research project (MEng only) is a chance for you to apply the knowledge you have gained so far to a major project relating to one of our research themes: bio- and soft materials, ceramics and composites, engineering alloys, functional materials, nanotechnology or theory and simulation of materials.

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

Materials Science and Engineering

This is the broadest of our courses, enabling you to pursue your interests in any of the disciplines represented by our research themes.

Materials with Management

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

Materials with Nuclear Engineering

Materials are central to the nuclear industry, both in designing reactor parts that are safe under irradiation 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, comprising both conventional biomaterials that provide simple properties such as mechanical strength, and the emerging discipline of tissue engineering that aims to control tissue growth and regeneration in lab-grown implants or directly in vivo. 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, high performance textiles and composites.

Recent graduates of the Department have become...

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

DID YOU KNOW?

Scientists at Imperial have developed a material that can mimic cartilage and potentially encourage it to re-grow. They have developed a bio-glass material that mimics the shock-absorbing and load bearing qualities of real connective tissue or cartilage. They are hoping to use it to develop implants for replacing damaged cartilage discs between vertebrae, and encourage cartilage cells to grow in knees.

Full course information

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

Mrs Raj Adcock
+44 (0)20 7594 6728
raj.adcock@imperial.ac.uk
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 available in the Department include the chance to gain a nationally recognised teaching qualification, 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.

QUALIFICATION AND TITLE

<table>
<thead>
<tr>
<th>UCAS CODE</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSc Mathematics</td>
<td>G100 3 years</td>
</tr>
<tr>
<td>MSci Mathematics</td>
<td>G103 4 years</td>
</tr>
<tr>
<td>BSc Mathematics, Optimisation and Statistics</td>
<td>GG31 3 years</td>
</tr>
<tr>
<td>BSc Mathematics (Pure Mathematics)</td>
<td>G125 3 years</td>
</tr>
<tr>
<td>MSci Mathematics with a Year Abroad</td>
<td>G104 4 years</td>
</tr>
<tr>
<td>BSc Mathematics with Education</td>
<td>n/a* 3 years</td>
</tr>
<tr>
<td>BSc Mathematics with Mathematical Computation</td>
<td>G102 3 years</td>
</tr>
<tr>
<td>BSc Mathematics with Statistics</td>
<td>G103 3 years</td>
</tr>
<tr>
<td>BSc Mathematics with Statistics for Finance</td>
<td>G104 3 years</td>
</tr>
</tbody>
</table>

* Apply initially for Mathematics BSc (G100) or MSci (G103) and transfer during the second year or third year on to the Bachelor’s level or Master’s level course.

Our courses

QUALIFICATION AND TITLE

<table>
<thead>
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<th>UCAS CODE</th>
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</table>

* Apply initially for Mathematics BSc (G100) or MSci (G103) and transfer during the second year or third year on to the Bachelor’s level or Master’s level course.

OUR MATHEMATICS AND COMPUTER SCIENCE COURSES

See the Department of Computing on page 102 for details.

FAST FACTS

Delivered by
→ Department of Mathematics

3rd in the UK
The Guardian University Guide 2018

Year abroad
(in France, Germany, Spain or Switzerland)

Applications: admissions ratio
→ 257 (2019 entry)

9:1 (based on 2017 entry data)

Total expected intake

Option to gain Qualified Teacher Status (QTS)

Joint mathematics and computer science courses

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/mathematics for the latest course information.

ENTRY REQUIREMENTS

See pages 62–63 for more information about the selection process.

A-LEVELS

Minimum entry standards

A* A* A overall to include:

A* in Mathematics
A* in Further Mathematics
A in another subject

Typical offers

A* A* A to A*A*A*

INTERNATIONAL BACCALAUREATE

Minimum entry standards

39 points overall to include:

7 in Mathematics at higher level
6 in another subject at higher level

Typical offers

39 points

ADDITIONAL CRITERIA

✓ Standard level College English language requirement – see page 63
✓ Interview – in exceptional circumstances only
✓ Admissions test – A-level/IB candidates who apply before 15 October 2018 must take the Mathematics Admissions Test (MAT). Conditional offers for later candidates include STEP II/III. STEP may also be included in offers after consideration of MAT performance.
✓ At least five A*s at GCSE level, including Mathematics

INTERNATIONAL QUALIFICATIONS

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

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

As well as studying core and optional modules (which includes business and humanities subjects), you 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 and 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, stochastic simulation, and games, risks and decisions.

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.

MATHEMATICS WITH EDUCATION
This course allows you to gain ‘Qualified Teacher Status’ (QTS) alongside your Mathematics degree. To be eligible, you must pass a suitability interview and be performing at a 2:1 standard (or above) at the time of selection in year two. You can choose several mathematics options from the same list as other final-year students; some of the optional modules will be replaced by core teacher training delivered on-campus by Canterbury Christ Church University. You also complete a series of in-school placements.

YEAR ABROAD
Students who are achieving at least a 2:1 standard 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 cannot be guaranteed.

JOINT MATHEMATICS AND COMPUTER SCIENCE DEGREES
See the Department of Computing on page 102.

What our graduates do

The logical and analytical skills developed through a degree in mathematics 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. Graduate Mathematician, Williams Martini Racing
2. Research Analyst, Thomson Reuters
3. Analyst, JP Morgan
4. Accountant, KPMG
5. Data Scientist, Summit Media

DID YOU KNOW?

An Imperial mathematician is leading a new five-year programme to test and improve predictive policing and tackle other challenges for future cities. Predictive policing involves using mathematics and statistics to predict times and places that serious crimes will occur based on historical crime data in a given area, allowing police to efficiently allocate resources.

Full course information

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

Undergraduate Admissions Office
+44 (0)20 7594 8484
ugmaths.admissions@imperial.ac.uk
OUR COURSES

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 twenty-first 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.

FAST FACTS

Delivered by
Department of Mechanical Engineering

Total expected intake
160 (2019 entry)

Applications: admissions ratio
10:1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/ study/ug/mechanical-engineering for the latest course information.

A first-year student learning to safely operate a mill, one of many machines in our workshop that our students learn to use in the first year.

A first-year student learning to safely operate a mill, one of many machines in our workshop that our students learn to use in the first year.

PROFESSIONAL ACCREDITATION
These courses are accredited by the Institution of Mechanical Engineers (MEng).

ENTRY REQUIREMENTS
See pages 62–63 for more information about the selection process.

A-LEVELS
Minimum entry standards
Three A-levels:
A* A* A overall to include:
A* in Mathematics
A* in Physics
A in another subject
(Further Mathematics preferred but not essential)

Four A-levels:
A* A A A overall to include:
A* in Mathematics
AAA including Physics and two other subjects (Further Mathematics preferred but not essential)

See pages 4–5 for more information on preferred subjects.

Typical offers
Three A-level offer: A* A* A
Four A-level offer: A* A A A

INTERNATIONAL BACCALAUREATE
Minimum entry standards
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
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

QUALIFICATION AND TITLE

<table>
<thead>
<tr>
<th>Qualification</th>
<th>UCAS Code</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEng Mechanical Engineering</td>
<td>H301</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng Mechanical Engineering with a Year abroad</td>
<td>n/a*</td>
<td>4 years</td>
</tr>
<tr>
<td>MEng Mechanical Engineering with a Year in Industry</td>
<td>n/a*</td>
<td>5 years</td>
</tr>
<tr>
<td>MEng Mechanical Engineering with a Year in Industry and a Year Abroad</td>
<td>n/a*</td>
<td>5 years</td>
</tr>
</tbody>
</table>

A* Apply initially for MEng Mechanical Engineering (H301).

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 61.

ADDITIONAL CRITERIA

✓ Standard level College English language requirement – see page 63
✓ Interview – UK/EU-resident applicants
X Admissions test

WEBSITE

www.imperial.ac.uk/study/ug/mechanical-engineering
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 a ‘design, make and test’ group project.

Years three and four mostly comprise elective study and project work. The elective technical modules cover some of our key research areas such as tribology and combustion, as well as solid mechanics, thermofluids, robotics and nuclear energy. The non-technical modules can be as diverse as design, art and creativity, or business economics (delivered online by Imperial College Business School).

In the fourth year, you can also choose modules taught in other engineering departments, such as fluid dynamics (Aeronautics), advanced biomaterials (Materials), computer assistive and rehabilitative devices (Bioengineering) and sustainable electrical systems (Electrical and Electronic Engineering). You can also study a language or a humanities subject through Imperial Horizons (see page 18).

Years three and four of the course involve substantial group and individual project work, with freedom to choose topics proposed by staff based on their cutting edge research or even pitch your own ideas.

Nuclear Engineering

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 topics such as an introduction to nuclear energy, nuclear chemical engineering, nuclear materials, thermodynamics and energy, and nuclear reactor physics.

The last two years of the course involve substantial group and individual project work, with freedom to choose topics proposed by staff based on their cutting edge research or even pitch your own ideas.

DID YOU KNOW?

Prototype technology that uses controlled burning to partially reveal landmines buried in peat soil has been developed by Imperial engineers. The technology ignites peat, causing a smouldering fire that strips the upper layer to reveal the landmines – making it easier to dispose of them.

So far, the researchers have successfully tested the device – called O-Revealer – on dummy landmines in the lab. It could have global potential.

What our graduates do

Our close industry links ensure that many graduates leave Imperial with jobs already lined up. Formula One 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, finance and project management. Recent graduates of the Department have become…

1 Mechanical Engineer, European Space Agency
2 Graduate Nuclear Engineer, EDF Energy
3 Vehicle Dynamics and Simulation Engineer, Mercedes AMG Petronas F1 Team
4 Well Engineer, Shell UK
5 Actuarial Analyst, Deloitte

Full course information

www.imperial.ac.uk/study/ug/mechanical-engineering

Dominika Pocsova
+44 (0)20 7594 7005
me.admissions@imperial.ac.uk

Imperial Racing Green is a flagship undergraduate teaching project at Imperial. It 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
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 our students the chance to gain a variety of clinical experience from the very start of their 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. Our students have the chance to learn alongside these researchers and clinicians and to undertake their own research under their supervision.

They also enjoy an active community within their own student-led organisation – Imperial College School of Medicine Students’ Union.

Delivered by
School of Medicine

Total expected intake
345 (2019 entry)

Applications: admissions ratio
9: 1 (based on 2017 entry data)

PLEASE NOTE
The curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/medicine for the latest course information.

FAST FACTS

Delivered by
School of Medicine

Patient contact from the first term
6th in the UK
The Times and Sunday Times Good University Guide 2018

Innovative and traditional teaching methods
Intercalated BSc built into 6-year MBBS

ENTRY REQUIREMENTS

See pages 62–63 for more information about the selection process.

A-LEVELS (A100 ONLY)

Minimum entry standards
AAA 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
A*A A (including A* in either Biology or Chemistry)

INTERNATIONAL BACCALAUREATE (A100 ONLY)

Minimum entry standards
38 points overall to include:

6 in Biology at higher level
6 in Chemistry at higher level

Typical offers
39 points (including 7 at higher level in Biology or Chemistry)

GRADUATE MBBS (A109)

2:1 BSc or PhD in a biological subject

ADDITIONAL CRITERIA

Standard level College English language requirement – see page 63

Interview – candidates 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

QUALIFICATION AND TITLE | UCAS CODE | LENGTH
---|---|---
MBBS/BSc Medicine | A100 | 6 years
MBBS/PhD Intercalated PhD (Medical students) | n/a* | 8/9 years
MBBS Graduate Medicine | A109 | 5 years
MBBS Medicine (delivered at Lee Kong Chian School of Medicine, Singapore) | n/a† | 5 years

* Apply initially for the MBBS/BSc (A100) or Graduate Medicine (A109).
† To apply for the MBBS delivered at LKCMedicine please use Nanyang Technological University, Singapore’s online application portal. Applications are open between October 2018 and April 2019; 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

Please note: successful applicants for Medicine at Imperial will need to undergo health assessments and a Disclosure and Barring Service (DBS) check before their place can be confirmed. You must also be aged 18 or over by the first day of term. For details see: www.imperial.ac.uk/study/ug/medicine

Successful applicants for the LKCMedicine programme will need to undergo health assessments and will be required to complete a Criminal Record Declaration.

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-pdf

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.
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.

Years one and two focus on the scientific basis of medicine and the foundations of clinical practice including early clinical experience.

**GRADUATE MBBS MEDICINE**

This course, for those who already have at least a 2:1 in an appropriate biological science degree, allows you to achieve the Bachelor of Medicine, Bachelor of Surgery (MBBS) qualification in five years.

The first two years focus on science and foundation clinical skills.

Years three to five follow years three, five and six of the six-year programme (see above). You are exempted from the BSc Honours year of the MBBS/BSc programme.

**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.

Final-year Medical Students engaging in role-play learning activities.

**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, graduates of the School have entered such diverse careers as biomedical research, the pharmaceutical industry, scientific journalism and healthcare management.

This information is correct at the time of printing (January 2018). Please be aware that regulations associated with Imperial’s MBBS degree are subject to change.

**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

**Full course information**

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

**Admissions team**

+44 (0)20 7594 7259

medicine.ug.admissions@imperial.ac.uk

Imperial is one of six institutions making up a new multidisciplinary UK Dementia Research Institute. In the coming years, Imperial researchers will explore the underlying causes of Alzheimer's disease and other neurodegenerative conditions, as part of a drive to improve treatment and prevention of dementias.

DID YOU KNOW?

Final-year Medical Students engaging in role-play learning activities.
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, among many others. 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 will also have access to data collected from major experiments such as CERN and from international space missions.

The Department’s strong links in industry are cemented by its Industry Club, which brings a number of direct benefits including supporting a third-year exchange programme with MIT (USA) and an annual recruitment fair.

QUALIFICATION AND TITLE

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</table>

* Apply initially for any BSc or MSci course within the Department of Physics.

International students applying for these courses require an ATAS certificate before they can apply for a student visa – see page 61.

PROFESSIONAL ACCREDITATION

These courses are accredited by the Institute of Physics (IOP).

Please note the curriculum for courses in this Department is currently under review and is likely to change – see pages 10–11. See www.imperial.ac.uk/study/ug/physics for the latest course information.

Additional criteria

- Standard level College English language requirement – see page 63
- A language qualification may be required for Year in Europe degree
- Interview – candidates 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.

International qualifications

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

Entry requirements

See pages 62–63 for more information about the selection process.

A-Levels

Minimum entry standards

A* A* A overall to include:

A* in Mathematics

A* / A in Physics

A* / A in a third subject

Typical offers

A* A* A

International Baccalaureate

Minimum entry standards

40 points overall to include:

7, 6, 6 at higher level which must include Mathematics and Physics

Typical offers

40 points

International Qualifications

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

Fast facts

Delivered by

Department of Physics

Total expected intake

240 (2019 entry)

Applications: admissions ratio

6:1 (based on 2017 entry data)

Option to gain Qualified Teacher Status (QTS)

Professionally accredited courses

Thinking of applying for more than one of these courses? Contact the Department for advice.
What our graduates do

Imperial’s Physics graduates are sought after by a wide range of employers – for example, the electronics industry needs physicists to design next-generation display technologies, lasers, optical fibres and advanced semiconductor devices.

Increasingly the energy sector looks to physicists to improve photovoltaic cells for solar energy generation, to optimise wave and wind power technologies, and to improve the efficiency of electrical components.

Recent graduates of the Department have become:

1. Research Analyst, National Physical Laboratory
2. Operational Researcher, Department of Energy and Climate Change
3. Research Engineer, A*STAR, Singapore
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, optics and thermodynamics provide a good grounding in the fundamental aspects of physics, mathematics and experimental methods.

We introduce more optional modules as the course progresses, giving you greater flexibility to follow your interests. Current areas covered in year three include astrophysics, medical imaging, plasma physics, cosmology, laser technology, X-rays and ultrasound and nuclear diagnostics and MRI. You may also choose a business or humanities module – see page 18. All our courses include a substantial final-year project, usually within one of our research groups.

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 include an additional mathematics module, and as the course progresses, a choice of theoretical optional modules in areas such as group theory, computational physics, general relativity and advanced particle physics. The final-year project is also on a theoretical topic.

PHYSICS WITH SCIENCE EDUCATION
This course allows you to gain ‘Qualified Teacher Status’ (QTS) alongside your Physics degree. On graduation, you will be able to teach in a secondary school as a newly qualified teacher. To be eligible, you must pass a suitability interview at the time of selection in year two. You have the same choice of optional physics modules in year three and year four (MSci) as students on the standard Physics courses. In addition, you attend teaching training courses, delivered at Imperial by Canterbury Christ Church University, and complete a series of in-school placements.

PHYSICS WITH A YEAR ABROAD
Students who are achieving at least a 2:1 standard by 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 or 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 cannot be guaranteed.

PHYSICS AND MUSIC PERFORMANCE
This course offers a unique opportunity to combine physics with a passion for music performance, preparing you for a professional career in either field.

Taught jointly by Imperial and the Royal College of Music (RCM), you will 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 will also complete the main performance elements of the RCM’s BMus degree on one principal instrument.

Because of the demanding workload the course is spread over four years.

Full course information
www.imperial.ac.uk/study/ug/physics
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 awards whereby 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.

Students on our six-year Bachelor of Medicine and Bachelor of Surgery (MBBS) course undertake a one-year intercalated Bachelor of Science (BSc) in the fourth year of the MBBS. This allows them to gain a further qualification in a subject related to medicine alongside their MBBS degree.

Joint Honours degrees, combining two disciplines, are available in certain subjects.

CHANGES TO OUR COURSES
For entry in the 2019 academic year, we’re 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 September 2019.

These changes are designed to enhance your learning experience and ensure you develop a range of skills that employers value.

We recommend checking our Study website before finalising your application and after submitting it as we will publish updated course information on our online course pages in our Study website and when the new course structures are ratified by College decision-making bodies.

These changes are being made in line with our new Learning and Teaching Strategy and in response to feedback from our students – see page 10.

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

TERM DATES
2019–20

Spring term: 4 January–20 March 2020
Summer term: 25 April–26 June 2020

These dates are provisional and may be amended. Some courses, for example those with a year abroad or with a year in industry, have different term dates.

TERMS AND CONDITIONS

The information given in this printed prospectus may change following its publication in January 2018. In particular (without limitation) the following details may change:

- The College will be making changes to the taught course and assessment structures as explained further on pages 10–11 and page 138 and may make other changes to available 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 in line with any increases to the fee caps set by the government.
- EU students currently pay the Home rate of tuition and this will also increase in line with any increases to the fee caps set by the government. As the UK has voted to leave the EU, it is not currently known how long that process will take or the impact that it will have on EU students’ tuition fees. However, we expect EU students to continue to pay the Home rate of tuition as long as the UK remains in the EU, and for the duration of their course, provided this remains lawful. Further information will be published on the Study website in due course.
- Fees for International students as well as those for students from the Channel Islands and the Isle of Man are set annually in the summer before a course commences and will increase each academic year.
- The College may amend the bursaries offered each year, for reasons such as (among other things) to ensure that funding is effectively meeting the needs of students. In addition, the timing and number of payments may change in response to student feedback.

Please check the Undergraduate Study website for the latest information:

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

ENTRY REQUIREMENTS
The entry requirements listed in the prospectus are based on offers made in 2016–17 to at least 85% of applicants who studied A-levels or International Baccalaureate.

Achievement of 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
South Kensington Campus

Main walkway
Accessible route

1. Beit Quadrangle
2. Imperial College Union
3. Elthoe Sports Centre
4. Prince's Gdns, North Side
5. Weeks Hall
6. Blackett Laboratory
7. Roderic Hill Building
8. Bone Building
9. Royal School of Mines
10. Aston Webb
11. Bessemer Building
12. Goldsmiths Building
13. Huxley Building
14. ACE Extension
15. William Penney Laboratory
16. Electrical Engineering
17. Business School
18. 53 Prince's Gate
19. Eastside
20. Sheppard Building
21. Student Hub
22. Conference Office
23. Grantham Institute – Climate Change and the Environment
24. Faculty Building
25. 58 Prince’s Gate
26. Central Library
27. Queen's Tower
28. Shempton Building
29. City and Guilds Building
30. Southside
31. Sir Ernst Chain Building – Wolfson Laboratories
32. Flowers Building
33. Chemistry Building
34. Chemistry RCS
35. S2 Prince’s Gate
36. Alumni Visitor Centre
37. Observatory Building
38. Dyson Building of Design Engineering

Buildings where wheelchair access is not possible at this time:
1. Beit Quadrangle
2. Imperial College Union
3. Ethos Sports Centre
4. Weeks Hall
5. Blackett Laboratory
6. Roderic Hill Building
7. Bone Building
8. Royal School of Mines
9. Aston Webb
10. Bessemer Building
11. Goldsmiths Building
12. Huxley Building
13. ACE Extension
14. William Penney Laboratory
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30. Sir Ernst Chain Building – Wolfson Laboratories
31. Flowers Building
32. Chemistry Building
33. Chemistry RCS
34. S2 Prince’s Gate
35. Alumni Visitor Centre
36. Observatory Building
37. Dyson Building of Design Engineering
## A–Z COURSE DIRECTORY

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IMPERIAL COLLEGE LONDON UNDERGRADUATE PROSPECTUS
## COURSE DIRECTORY

<table>
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<tr>
<th>UCAS CODE</th>
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### NOTES

1. Apply initially for MEng Aeronautical Engineering (H401)
2. Apply initially for BSc Biochemistry (C700)
3. Apply initially for BSc Biological Sciences (C100)
4. Apply initially for MEng Biomedical Engineering (B100)
5. Apply initially for BSc Biotechnology (C700)
6. Apply initially for MEng Chemical Engineering (H801)
7. Apply initially for MEng Electronic and Electrical Engineering (H604)
8. Apply initially for MEng Electronic and Information Engineering (G166)
9. Apply initially for Mathematics BSc (G100) or MSci (G103)
10. Apply initially for BSc Mechanical Engineering (H501)
11. Apply initially for the MBBS/BS (A100) or Graduate Medicine (A101)
12. Awarded jointly by Imperial College London and Nanyang Technological University
13. Apply initially for any BSc or MSci course within the Department of Physics

### UNDERGRADUATE STUDY WEBSITE

The information in this prospectus, including the above course list, is correct at the time of going to print (January 2018). For the latest information, including courses offered for 2019 entry, please see our Undergraduate Study website: [www.imperial.ac.uk/study/ug/courses](http://www.imperial.ac.uk/study/ug/courses)

If you have any questions about the course you are interested in, please contact the relevant department directly. You can find contact details for each department on pages 68–137.

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Saturday 15 September 2018

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