



The University of
Nottingham

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Chemical and Environmental Engineering Undergraduate Study

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Front cover image: Chemical Engineering student Daryl Best working in the L3 laboratory.

Welcome to the Department of Chemical and Environmental Engineering

It is an exciting time to be studying chemical and environmental engineering.

Over the coming decades, society faces significant challenges related to energy supply, provision of healthcare, environmental sustainability, and food and water security. Undoubtedly, the contributions of both chemical and environmental engineers will be required to address these challenges.

At Nottingham our objective is to produce the highest quality graduates, with the skills that are demanded by the employers of today and tomorrow. Our blend of chemical and environmental engineering is unique in the UK and is highly attractive to employers.

Our courses are built around student-centred learning which means our students are strong, independent thinkers, with strong analytical, teamworking, communication and problem-solving skills. However, students also receive a thorough training in fundamental science and engineering in order to prepare them for the technical challenges that lie ahead.


Our staff have a wide range of expertise and experience in energy and chemical and environmental applications, working both at the global industry. Industry is truly at the forefront of all the Department's activities.

I hope you find the information contained within this brochure useful. If you have further questions please do not hesitate to contact us using the details on page 34.

With best wishes

Dr David Large

Head of the Department of Chemical and Environmental Engineering



Studying between lectures in the
Portland Building Baguette Bar,
University Park Campus

Why chemical engineering?

Careers in chemical engineering are creative and inspiring. The global challenges in energy, waste, food, water, health, sustainability and the environment means that there is a worldwide shortage of chemical and environmental engineering graduates. Engineers have impact and each one of our graduates can truly make a difference to society.



Just about every product you use at home or at work has had some involvement in its creation from a chemical engineer; from obtaining the raw materials through to production and transporting the product to you.

Chemical engineers are involved in the design and development of desirable new products (from sun lotion to catalytic converters) and the design, modification and operation of processes to produce those products.

Chemical engineers are also involved in solving some of the world's most pressing problems, including developing cleaner and more sustainable energy sources, renewable materials and developing and manufacturing new wonderdrugs to cure the world's diseases.

The environmental engineer is the key figure providing sustainable solutions to problems ranging from the location of renewable energy installations through to the development and implementation of recycling technologies.



Year-one Practical Assessment.

Potential job roles

Design engineers

Design engineers are responsible for the design and specification of all or part of a process. Examples could be the design of a new desulphurisation system for a coal-fired power station, specification of heat recovery equipment to reduce the carbon footprint in a food processing factory or the design of an entire pharmaceutical production process. As well as the technical chemical and environmental engineering knowledge, design engineers also need to consider safety, social, environmental, economic and sustainability factors in their designs. The UK is a major global centre for design engineers, and many of the major newbuild chemical processing complexes in the Far East are designed in the UK.

Operations engineers

Operations engineers work on-site within a factory or processing complex. This role can also be referred to as process or production engineers. They ensure that the process is producing the right amount of product to the correct specification and well within safety and environmental constraints. Operations engineers look for ways to improve the efficiency and safety of the processes that they run and are also responsible for managing and training teams of technicians and operators. Operations roles are found across all sectors, from waste management and recycling and water treatment through to petrochemical processing.

Environmental engineers

Environmental engineers are involved in the specification and design of technologies that maximise environmental benefit while minimising unwanted impact. Renewable energy, waste management and recycling technologies are all within the expertise of environmental engineers.

Project engineers

Project engineers organise and manage projects. These can be anything from managing a small modification to an existing process or facility, to overseeing the building of a brand new multibillion pound petrochemicals complex. Whether they specialise in chemical or environmental, most project engineers will manage changes that make a process more energy efficient, reduce carbon footprint or minimise waste and environmental impact. Project engineers work on tight schedules, interacting with engineers and technicians from many different disciplines to rapidly solve problems and minimise delays and cost overruns. There are lots of opportunities to experience and work on, a large number of different ventures, and the opportunity to travel and work all over the world.

Development engineers

Development engineers may be involved in developing new products or processes. These might include: formulating new hand creams for a pharmaceutical manufacturer; developing gas/liquid separation systems; improving safety on offshore oil installations; or assessing new catalysts to reduce the environmental impact of a plastics manufacturing plant. Development engineers often work closely with scientists and research organisations to develop and trial new technologies. As companies look to new innovations to remain competitive, there is a significant demand for development engineers, particularly in the UK, USA and western Europe.

Charlotte Holden, Chemical Engineering, works on her year-three project, waste water treatment.



Engineering consultants

Engineering consultants have specialist knowledge in a particular field. For example, an environmental consultant may specialise in renewable energy, reviewing and identifying the most appropriate technologies and processes to meet the specifications and requirements of the client.

The skills of chemical and environmental engineers set them apart from other graduates. They are highly numerate with strong analytical skills. They work in teams to solve complex problems and challenges and can manage projects, people and resources. These skills make chemical and environmental engineers highly employable in non-technical roles. Industries such as banking, finance, business and management are employers of engineering graduates.

Salaries

Chemical and environmental engineers are well-paid:

Average graduate salary

The average starting salaries for University of Nottingham chemical and environmental engineers was £28,909 in 2008/09*

Overall average salary: £50,000**

Average salary for chartered chemical engineers: £60,400**

Chemical engineering regularly comes third in the ranking lists for graduate salaries for all subjects, behind only medicine and dentistry***.

Source:

* Graduate Destinations survey.

** IChemE salary survey 2010.

*** EngineeringUK, 2010.

“ExxonMobil actively recruits from Nottingham due to the value the company places in the education provided by the University and the skills of the students.”

Gareth Mugeli

Development Engineer, ExxonMobil

Francis Anukam evaluating the efficiency of a distillation system.



Chemical engineering at Nottingham

"We produce highly employable graduates with the skills needed to meet the global challenges in energy, waste, sustainability, water and global warming. Our courses manage the transition from your school/college to university and your career beyond. Teaching excellence, practical skills and experience, staff support and industry involvement are at the heart of everything we do."

Dr David Large
Head of Department

Industry links

To maximise structured industrial contact we use programmes of site visits, case studies and guest teachers from industry. Project work focuses on solving real industrial problems in energy, environment, water and waste.

You will be encouraged to undertake an industrial placement and our course structure has the flexibility to allow you to do this during your studies. There are also opportunities to spend a year studying abroad, either at our own overseas campuses in Malaysia and China or at our partner institutions in the USA, Canada and Australia.

Our strong partnership with industry ensures that placements are easily organised and in previous years there have been more placement opportunities available than students to fill them.

Students use our extensive industry links to develop their own interests and future career pathways. In addition, we organise two dedicated careers fairs for chemical and environmental engineering students in each year. All of the major global employers visit the Department at least once a year to highlight their activities and to discuss graduate careers and industrial placements.

"Industry is at the forefront of our activities. Our courses maximise exposure to industry from the first week right through to the final year. This structure gives our students the chance to experience, first-hand, a wide range of the opportunities and challenges that are encountered by chemical and environmental engineers."

Dr Ian Lowndes
Deputy Head of the Department of Chemical and Environmental Engineering

Teaching and learning

For most students starting their university engineering education there is a mixture of euphoria and apprehension. Euphoria based on their A level (or equivalent) success, apprehension about managing their learning. Here at Nottingham we will help you manage the learning transition. The core curriculum, delivered in years one and two, is taught by a team of highly qualified scientists and engineers who between them bring a vast experience gained in teaching science and engineering to students in schools, colleges of further education, foundation and other university courses.

Successful completion of the core subjects gives access to further teams of staff who deliver the higher-level modules and project work within years three and four. These teams are built around areas of specialist knowledge and contain staff who are world-leading experts in their field, with many years of industry experience.

Student Profile

Natalie Louis

Chemical Engineering (year in industry)

"The Department's industrial links helped me secure my place with BP."



Find out more about Natalie's experience at

www.nottingham.ac.uk/ugvideos/natalielouis

"The teaching team know and understand how you were taught before university. Their proven teaching skills deliver a blend of learning experiences designed to develop your confidence and understanding in new subject areas. They recognise the importance of getting to know you as an individual as they start you out on the journey from year-one students, used to a heavily teachercentred approach, to your final destination as highly employable graduates who drive their own learning."

Dr Vernon Collis,

Director of Studies for years one and two

Year 1

Year 2

Year 3

Year 4

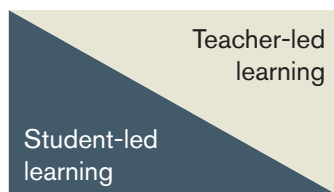


Diagram of transition between teacher-led and student-led learning.

Natalie Louis working in the Chemical Engineering laboratories.



Student support

By keeping student staff ratios small in tutorial and laboratory classes in the first two years, we are able to give immediate feedback and advice to students – essential for good progress. It also means we get to know students on an individual basis and can identify problems and offer support early on.

The tasks, assessments and feedback in tutorial sessions are vital for students' understanding of how different aspects of the curriculum interlink. Our graduates are highly valued because they have these skills.

Tutorial support in years three and four is centred on design and development projects, where student staff ratios of 1:1 to 6:1 are common. The staff team is also on hand to discuss career options and give advice on placements and job applications.

“At Nottingham we understand that success comes with working effectively. For us that means students have realistic workloads and our assessment and feedback mechanisms allow students to understand how they are progressing.”

Dr David Whitley
University Teacher

Skills development

“Industry needs graduates with more than just a technical knowledge of engineering. Engineers must have the ability to work as part of multidisciplinary teams, working together to solve complex problems. They need to be highly IT literate and have strong analytical skills, and must be able to manage people, projects and resources. Our course is structured so that students can learn, develop and demonstrate these key skills.”

Dr Sean Rigby
Director of Studies for years three and four

From the very start of the course you will work in teams and come face-to-face with a number of practical challenges. The Department has one of the most extensive laboratory facilities in the UK with a wide range of small- and large-scale industrial process equipment. By working with other students in a laboratory environment, you will learn the key skills in problem solving but also the different roles that are needed for a team to function effectively. By the end of the course you will have the experience and confidence to work within a group of people with different backgrounds and expertise.

Engineering graduates need to be able to manage complex projects, often within challenging timescales. You will have plenty of opportunities to practise and develop your project-management skills by undertaking projects in design, optimisation and innovation, which are problem-based and have practical and computer simulation elements. We also run a field course and a programme of site visits which students really enjoy.

“Staff are easily approachable and here to help you and your learning process.”

Alex Handsaker / BEng Chemical Engineering (third year)

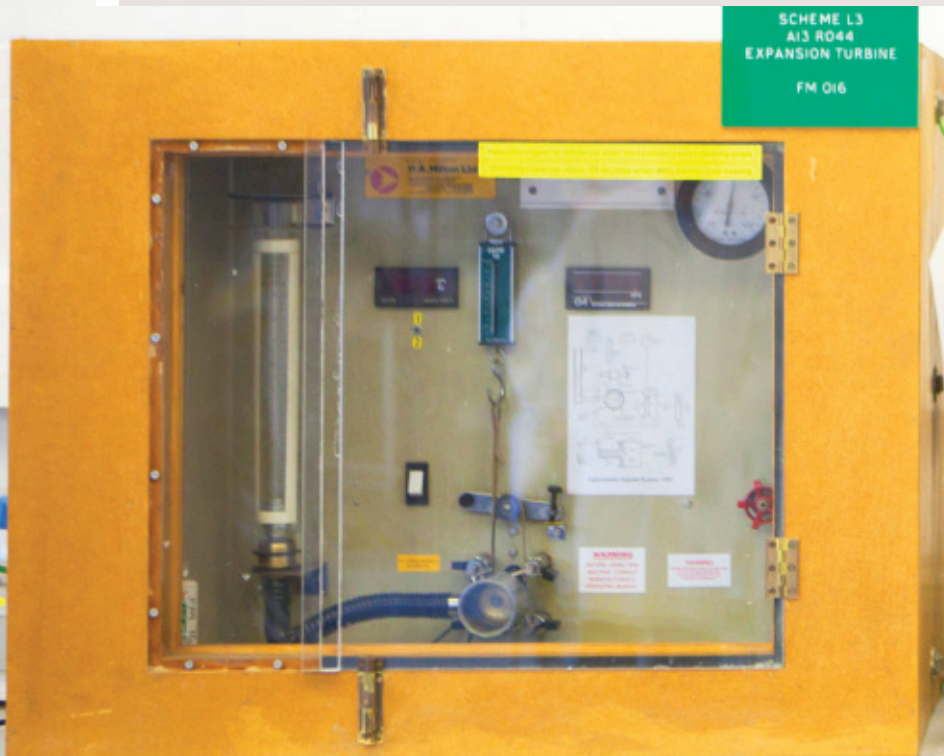


Find out more about Alex's experience at
[www.nottingham.ac.uk/ugvideos/
alexhandsakerexperience](http://www.nottingham.ac.uk/ugvideos/alexhandsakerexperience)



Scan the code to
watch this video
on your smart
phone.

Alex is in the second-year labs in separations processes.





Chemical and environmental engineering degree courses

At a glance

Cohort size: intake of 90 students for year one

Accredited by: courses are accredited by the Institution of Chemical Engineers and the Institute of Materials, Minerals and Mining

Teaching staff: 30 academic staff plus 10 technical support staff

Total undergraduate student staff ratio: 12:1

Teaching hours/contact time: average 24 hours per week contact time in year one

per cent practical activities in year one

Industrial placements: available to all students

Course flexibility

All our courses are available as three-year BEng and four-year MEng degree programmes. Both of these options will provide you with the same core engineering skills but the MEng option has greater innovative content, covering more advanced principles and with more substantial project components. MEng is the favoured option for those students wishing to pursue Chartered Engineer status.

At Nottingham we are unique in that we run a common first year for chemical engineering and environmental engineering degree programmes.

All degree courses at Nottingham are modular. Modules are self-contained units of study and provide you with some degree of flexibility in the way you construct your course. Some modules are compulsory, others are optional. Your personal tutor will be available throughout your time at Nottingham to advise and guide you through the academic pathways available.

Year in Industry

Many students elect to take an industrial placement at the end of their second or third year. Placements are typically with large, global organisations and allow students to practice and further develop their engineering skills. Industrial placements are competitive, but they are fully paid and lead to enhanced career prospects for the student. The department staff support students through all stages of obtaining a placement, from identifying suitable companies, application and interviews. The fee for the placement year is £500, and students remain fully registered with the university during this time.

Student profile

Peter Clough

Environmental Engineering (third year)

"The common first year allowed me to decide what I wanted to do and the appropriate course to study in year two."



Find out more about Peter's experience at

www.nottingham.ac.uk/ugvideos/peterclough

"It is important that our students have the opportunity to experience the wide variety of global opportunities, challenges and careers that are available to them within chemical and environmental engineering. This inevitably means that they may wish to alter the focus of their study or career direction based on their experiences in years one and two. We have made our courses as flexible as we can to allow students to transfer between different streams or specialise in a particular area."

Ed Lester

Professor of Chemical Technology

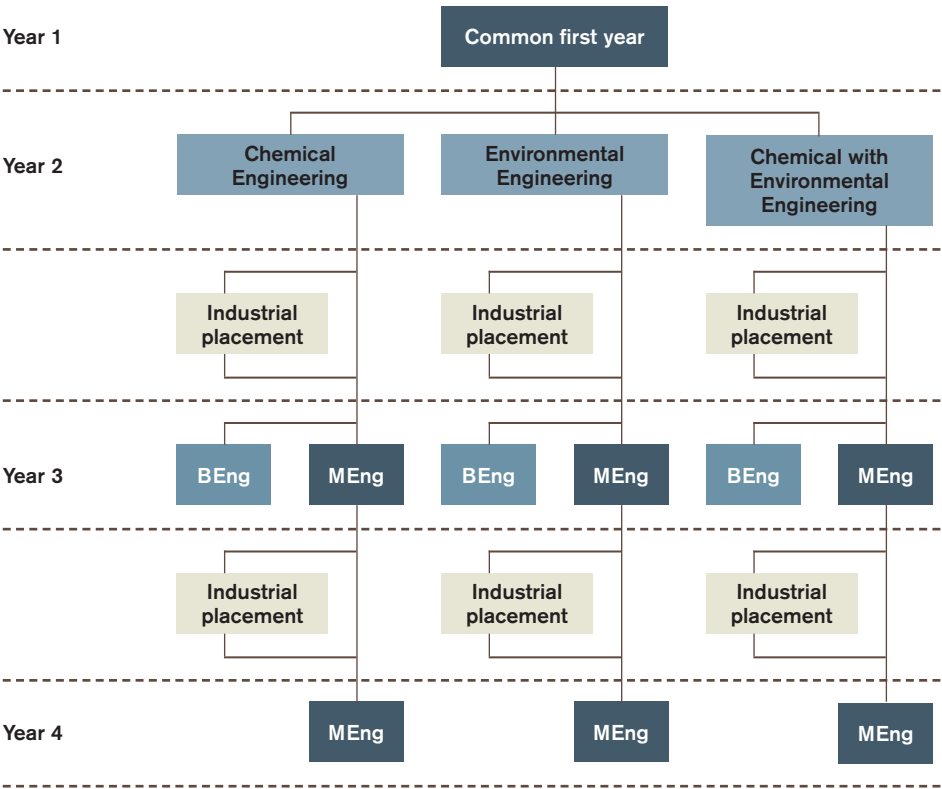


Illustration of the various course pathways in chemical and environmental engineering, including the optional industrial placements.

Chemical Engineering

UCAS codes: H810 (BEng); H800 (MEng); H81B (BEng with Year in Industry); H81A (MEng with Year in Industry)

Qualification: BEng/MEng Hons

Duration: Three years (H810), four years (H800, H81B), or five years (H81A); full-time.

Typical A level offer for 2013 entry:
AAA-AAB

Typical IB score: 36-34

Entry requirements: A level or Higher Level (IB) in chemistry/physics and maths. General studies, critical thinking and citizenship studies not accepted.

Other qualifications: A range of other qualifications are accepted including European Baccalaureate, Scottish Advanced Highers, BTEC Extended Diploma and access to HE Diplomas.

Inter-campus exchanges available: Malaysia and China

Year one

All chemical and environmental engineers work together in a common first year with extensive staff support and formative feedback mechanisms. Your course will start with the basics of fundamental engineering sciences including heat and mass transfer, fluid mechanics, design, safety and environmental aspects, and professional skills.

We use various methods of content delivery from problem-based learning to tutorials and lab classes. At the end of year one you will have the opportunity to transfer to any of the three courses offered by the Department.

Year two

We build on year-one fundamentals by looking at applied-process engineering such as reaction engineering, separations, plant design and computer systems. You'll spend more time in the lab and links to industry will increase. Safety and environmental aspects are an important part of year two, which will also see you becoming more independent in your approach to learning.

At the end of year two you will decide whether to study for the BEng or MEng course, take a year out, work in industry or study abroad in countries such as Malaysia, Australia, America and China.

Year three

Year three will enable you to see how fundamental and applied knowledge allows you to control and/or design processes. Lab exercises are more open-ended, using larger-scale and industrial equipment. As well as technical content, business and management will be covered with significant input from industrial figures. You will also be able to choose optional modules, allowing you to specialise in a particular area according to your career choice.

You will undertake an industry-led, group design project which simulates a commercial environment in which companies tender for a design contract. This project will allow you to develop and demonstrate skills and competencies necessary to be a professional chemical engineer.

Year four (MEng only)

By year four you will emerge as an independent learner, developing specialist expertise through optional module choices. You will tackle a wide variety of complex, multidisciplinary problems and more advanced chemical engineering concepts. You will take on a year long project to develop advanced design practices and give you experience in developing new products and processes. You will also develop the more

advanced skills that set masters-level students apart from other graduates.

By the end of the course

You will have developed your knowledge of science and engineering, together with a wide range of transferable skills including IT, communication, analysis, problem solving, team working and management. As an all-rounder, you will be highly sought-after by companies worldwide to work in areas such as process and product design, management and consultancy.

Year one

- **Basics of process engineering**

Fluids, chemistry, maths principles, heat and mass transfer, environmental management, labs and practical skills

Year two

- **Applied process engineering**

Catalysis, particle mechanics, phase behaviour, maths techniques, plant design, materials, safety

Year three

- **Process design and control**

Process dynamics, reactor design, multicomponent systems, transport processes, project management, product design, options

Year four (MEng only)

- **Advanced chemical engineering**

Multiphase systems, advanced reaction engineering, computational fluid dynamics, advanced rheology, options

Industrial placements are usually taken at the end of year two for the BEng programme or after years two or three of the MEng programme.

Student Profile

Tanushree Kamdar

Chemical Engineering (year in industry)

"The University of Nottingham has opened doors to many opportunities."



Find out more about Tanushree's experience at

www.nottingham.ac.uk/ugvideos/tanushreekamdar

Environmental Engineering

UCAS code: H227 (BEng); H220 (MEng); H22B (BEng with Year in Industry); H22A (MEng with Year in Industry)

Qualification: BEng/MEng Hons

Duration: Three years (H227), four years (H220, H22B), or five years (H22A); full-time.

Typical A level offer for 2013 entry:
AAA-AAB

Typical IB score: 36-34

Entry requirements: A level or Higher Level (IB) in chemistry/physics and maths. General studies, critical thinking and citizenship studies not accepted.

Other qualifications: A range of other qualifications are accepted including European Baccalaureate, Scottish Advanced Highers, BTEC Extended Diploma and access to HE Diplomas.

Inter-campus exchanges available: China

Year one

Environmental engineers work together with chemical engineers in a common first year with extensive staff support and formative feedback mechanisms. Your course will start with the basics of fundamental engineering sciences including heat and mass transfer, fluid mechanics, safety and environmental aspects and professional skills. We use various methods of content delivery from problem-based learning to tutorials and lab classes. At the end of year one you will be able, if you wish, to transfer to any of the three courses offered by the Department.

Year two

A central part of year two is the field course where you'll spend a week out in various locations

gaining experience of the exciting challenges encountered by environmental engineers. You will also be developing your skills as an independent learner, sourcing material and content outside of lectures and practicals.

At the end of year two you will be able to choose between the BEng or MEng courses, take a year out, work in industry or study abroad in, for example, Malaysia, Australia, America or China.

Year three

Year three will allow you to see how fundamental and applied knowledge allows you to measure and remediate environmental issues such as air pollution and waste water. You'll also tackle an environmental project in a topical area requiring environmental engineering solutions. Energy and sustainability also remain key priorities. As well as technical content, business, management and accounting is covered with significant input from industrial figures. You will also be able to choose an optional module allowing you to specialise in a particular area according to your career choice.

Year four (MEng only)

By year four you will emerge as an independent learner, developing specialist expertise through optional module choices. Contaminated land and resource management are key subjects and your individual design project will be the major piece of work that calls on all the environmental skills and knowledge acquired in the previous three years. This is the year that will allow you to develop the more advanced skills that set masters-level students apart from other graduates.

By the end of the course

You will have developed your knowledge of science and technology at the heart of environmental engineering, together with a wide range of transferable skills including IT, communication, analysis, problem solving, team working and management. As an all rounder, you will be highly sought-after by companies worldwide to work in areas such as environmental

monitoring and remediation, management and consultancy.

Year one

- **Basics of process engineering**

Fluids, chemistry, maths principles, heat and mass transfer, environmental management, labs and practical skills

Year two

- **Environmental techniques**

Hydrology and geotechnics, analytical measurement, environmental assessment and site investigation, safety and waste management

Year three

- **Pollution and remediation**

Process dynamics, reactor design, multicomponent systems, transport processes, project management, product design, options

Year four (MEng only)

- **Advanced resource management and technology**

Contaminated land, environmental project management, advanced resource technologies, individual design project

Industrial placements are usually taken at the end of year two for the BEng programme or after years two or three of the MEng programme.

Student Profile

Daryl Best

On industrial placement

"The technical knowledge gained during the course plus the skills I have developed in project management have really come to the fore during my placement."



Find out more about Daryl's experience at

www.nottingham.ac.uk/ugvideos/darylbest

Chemical Engineering with Environmental Engineering

UCAS code: H8HF (BEng); H8H2 (MEng); HVH2 (BEng with Year in Industry); H8HG (MEng with Year in Industry)

Qualification: BEng/MEng Hons

Duration: Three years (H8HF), four years (H8H2, HVH2) or five years (H8HG), full-time

Typical A level offer for 2013 entry: AAA-AAB

Typical IB score: 36-34

Entry requirements: A level or Higher Level (IB) in chemistry/physics and maths. General studies, critical thinking and citizenship studies not accepted.

Other qualifications: A range of other qualifications is accepted including European Baccalaureate, Scottish Advanced Highers, BTEC Extended Diploma and access to HE Diplomas.

Inter-campus exchanges available: Malaysia

Year one

All chemical and environmental engineers will work together in a common first year with extensive staff support and formative feedback mechanisms. Your course will start with the basics of fundamental engineering sciences including heat and mass transfer and fluid mechanics, safety and environmental aspects and professional skills. We use various methods of content delivery from problem-based learning to tutorials and laboratory classes. At the end of year one you will be able to transfer to any of the three courses offered by the Department.

Year two

We build on year-one fundamentals by looking at applied process engineering such as reaction engineering, separations, plant design and computer systems. You'll spend more time in the lab and links to industry and cutting edge research will increase. Safety and environmental aspects are an important part of year two, with a particular focus on site investigation and analytical measurement.

A central part of year two is the field course, where you'll spend a week out in various locations gaining experience of the exciting challenges encountered by chemical and environmental engineers.

At the end of year two you will be able to choose between the BEng or MEng course, take a year out, work in industry or study abroad in, for example, Malaysia, Australia, America or China.

Year three

Year three will show you how fundamental and applied knowledge allows you to control and/or design processes and the environmental aspects treatment. Lab exercises are more open-ended, using larger-scale and industrial equipment. As well as technical content, business and management are covered with significant input from industrial figures. You will also be able to choose optional modules, allowing you to specialise in a particular area according to your career choice.

You will undertake an industry-led group design project, which will simulate a commercial environment where companies tender for a design contract. This project will allow you to develop and demonstrate skills and competencies necessary to be professional chemical engineers.

Year four (MEng only)

By year four you will emerge as an independent learner, developing specialist expertise through optional module choices. You will also be tackling a wide variety of complex, multidisciplinary problems (such as air pollution monitoring and remediation) and more advanced chemical engineering concepts. The final year will also allow you to take on a year long project to develop advanced design practices and give you experience in developing new products and processes.. Year four will give you the opportunity to develop the more advanced skills that set masters-level students apart from other graduates.

By the end of the course

You will have developed your knowledge of science and engineering, together with a wide range of transferable skills including IT, communication, analysis, problem solving, team working and management. As an all rounder with experience in process and environmental engineering, you will be highly sought-after by companies worldwide to work in areas such as process and product design, management and consultancy.

Student Profile

Josh Pilkington
Chemical Engineering with Environmental Engineering

"The projects are very exciting and you get to work with people in cutting-edge areas of research."



Find out more about Josh's experience at

www.nottingham.ac.uk/ugvideos/joshpilkington

Year one

▪ Basics of process engineering

Fluids, chemistry, maths principles, heat and mass transfer, environmental management, experimental labs

Year two

▪ Applied process engineering in the environment

Site investigation, particle mechanics, analytical measurements, phase behaviour, maths techniques, plant design, materials, safety

Year three

▪ Sustainability, process design and management

Chem eng labs, dynamics and control, reactor design, multicomponent systems, sustainability, project management, water treatment, options

Year four (MEng only)

▪ Process engineering solutions and environmental monitoring

Pollution control, carbon capture, advanced reaction engineering, computational fluid dynamics, advanced rheology, options

Industrial placements are usually taken at the end of year two for the BEng programme or after years two or three of the MEng programme.

Graduate profiles

The skills that our students learn, develop and demonstrate during their time with us sets them apart from other graduates. Many of our students have job offers after industrial placements or at the beginning of their final year. Over 80 per cent go directly into engineering-related careers.

"My time at Nottingham gave me a strong platform to perform at a professional level, equipping me with not only the technical skills I needed but with the chance to develop aspects of leadership through giving presentations and leading group tasks and the more practical elements of the course. Just as importantly, Nottingham supported my desire to take a year out and complete an industrial placement and kept in contact during my time away. My Nottingham experience set me up to succeed as a graduate and equipped me with the tools to continue to develop long into the future."

David Taylor

Process Engineer, BP Chemicals
MEng Chemical Engineering (2008)

"The environmental engineering course was very attractive as there were so many different disciplines that it could lead to. The increasing profile of environmental issues made me think that it could present many exciting opportunities in the future, as well as providing good job satisfaction. My final year project was a review of groundsource heat pump systems, including example designs. During the project I had the opportunity to go on site visits and meet various people in the industry."

Philip Harrison

Engineering Consultant, WorleyParsons
MEng Environmental Engineering (2005)

“As part of the degree course I had the opportunity to solve a real problem for a quarrying company that formed my dissertation project. The project involved the design of a process for removing clay fines from aggregates for an operating road-stone quarry in Staffordshire. The purpose of the project was to increase the quality of the road stone, increasing the efficiency of the plant process and reducing the volume of waste produced by the quarry. The project involved both desk study and laboratory research with presentations to the quarry management and regional directors. This project helped me to apply my knowledge gained throughout the degree course and I developed many skills transferable to my current profession, such as problem solving, data interpretation reporting and presentation.”

Jo Steele

Environmental Consultant, Conestoga-Rovers & Associates (Europe) Ltd
MEng Environmental Engineering (2005)

“When I attended Nottingham for my interview I immediately knew I wanted to study at the University. The campus setting was amazing and it was somewhere I knew I would be happy to spend my university years. The friendly staff and students only embedded this into me further. You have to see it, to feel it – there is simply a buzz around campus. It’s the Nottingham experience!”

Kamlesh Vadukul

Heating and Renewables Specialist, Daikin
BEng Environmental Engineering (2008)

“The chemical engineering course at Nottingham was a well-grounded degree, with exposure to many aspects of the real engineering world. The skills are transferable to many different sectors of society, both within and outside of the world of chemical engineering. I particularly enjoyed the laboratory R&D project and the final-year design project. Both of these started with a very limited definition which allowed my group and me to decide the direction and detail of the work to achieve the final goal.”

Kieran Channon

Production Support Engineer, Dow Corning
MEng Chemical Engineering (2007)

Why choose The University of Nottingham?

There are a lot of factors to consider when applying to university and some will be more important to you than others. We're proud that thousands of students apply to us every year – below are some of the reasons they give for choosing us.

An inspiring environment...

A commitment to academic excellence drives everything we do and has earned us international recognition. It is evident in our teaching and research and our recent results speak for themselves: in independent teaching assessments, 39 of our subjects were awarded "excellent" ratings of between 22 and 24 out of 24. Our scores in the latest Research Assessment Exercise rank Nottingham seventh in the UK in terms of "research power" and in 2010, we were runner-up for the Sunday Times University of the Year award.

...with great career prospects

Our high standards mean that a University of Nottingham degree is respected by both UK and foreign employers and the employment record of our graduates is one of the best in the country. If you want to improve your career prospects further, you can speak to experts in our Careers and Employability Service, gain recognition for your extracurricular achievements through the Nottingham Advantage Award or set up your own business with the help of our EnterpriseLab.

...not-to-be-missed opportunities

Outside of lectures, the opportunities at Nottingham are numerous and varied. All our campuses have a strong community spirit and our Students' Union (SU) offers over 250 societies and sports clubs. It's through them that you can pursue an existing interest or take up something new with like-minded people, develop valuable skills and generally make your time at university as rewarding and memorable as possible.

...access to a dynamic city

The city of Nottingham is another rich source of entertainment. Its attractions include bars, boutiques, the Capital FM Arena, shopping centres, an arboretum, pubs, theatres, an ice skating rink, cafes, markets, art galleries, concert halls, mainstream and independent cinemas, two professional football clubs, nightclubs, a climbing centre and national watersports centre. Finding "your Nottingham" is an exciting part of student life.

...and options for exploring the world

If you're hoping to broaden your horizons further while at university, we have the connections to help you experience new cultures first-hand. As well as exchange opportunities at our campuses in China and Malaysia we have developed links with more than 320 partner universities in over 40 countries.

We hope this information has given you an insight into life at Nottingham and why so many students choose to study here. The next step is to book onto one of our open days, which take place in June and September. Attracting 35,000 visitors annually, these events are an opportunity to explore our campuses, chat to staff and current students and most importantly, get a feel for whether you will be happy here. To book your place, please see www.nottingham.ac.uk/opendays

We look forward to showing you around.

You can download our lively and informative city guide from www.nottingham.ac.uk/ugstudy/downloads

You can also find information about the city at www.nottingham.ac.uk/nottinghamlife

Students relax on University Park Campus, a beautiful green campus with period buildings and a large boating lake.



Study abroad

The University of Nottingham is a truly international university with campuses in Nottingham, Malaysia and China. The Faculty of Engineering seeks to emulate this philosophy by offering our students the opportunity to participate in exchange programmes all over the world. The Faculty is constantly working to ensure our graduates gain an advantage when they go into the job market; we see study abroad as another way to make our graduates stand out from the crowd.

Studying abroad provides students with the unique opportunity to:

- See your academic subject from a different perspective in a new academic environment
- Acquire invaluable life skills
- Meet a wide variety of people and make an international network of friends
- Discover new strengths and abilities, conquer new challenges and solve new problems
- Gain global awareness to prepare yourself for a career abroad

The Faculty participates in the following exchange schemes:

- U21/university-wide exchange
- Inter-campus exchange to Malaysia and China
- Erasmus exchange

These cover institutions from America, Canada, Australia, New Zealand, Korea, Singapore, Malaysia, Sweden, France, Germany and Italy. Your choice of exchange partner will depend on your department and the course you are registered on. Eligibility for exchange schemes will depend upon meeting academic criteria.

Inter-campus exchange

Malaysia

The University of Nottingham Malaysia Campus opened in September 2000 to become the first branch campus of a British university in Malaysia and one of the first in the world. A friendly

atmosphere, world-class teaching and extensive facilities make it a popular choice for Malaysian and international students, as well as exchange students from Nottingham; students represent around 70 different nationalities.

The Malaysia Campus is situated near the town of Semenyih, 45 minutes drive from the capital Kuala Lumpur. The purpose-built campus provides accommodation, free sports facilities (including an outdoor swimming pool), and a multi-level library, as well as state-of-the-art teaching and learning facilities.

China

In 2004, Nottingham was the first foreign university to establish a campus in China. The University of Nottingham Ningbo China offers the same high standard of teaching as the UK campuses and has internationalisation at its heart: of more than 5,000 students there are more than 300 international students from at least 40 countries.

The China Campus is situated in Ningbo - a city of over five million people situated on the East coast of China. Ningbo is just a one hour flight from Shanghai and two hours by air from Beijing. The campus at Ningbo provides accommodation, sports facilities and a shopping street.

For those courses where inter-campus exchange is available, it is indicated in the fact file on the course page in this brochure.

Finance

The University is committed to offering reduced tuition fees for students participating in study abroad during the year of their exchange. We advise to check the University website for up to date information on fees but hope to continue this policy for 2013 entry.

For further up to date information, please visit:
www.nottingham.ac.uk/fees/tuitionfees/exceptionalfees.aspx

Engineering students
in Malaysia



Applying for a place

All applications for undergraduate courses at Nottingham must come through the Universities and Colleges Admissions Service (UCAS), whose website is www.ucas.ac.uk. The UCAS deadline for applications is usually 15 January.

Make sure you write the code relating to the course you want to study on the UCAS application form – the codes are shown on pages 17-21 of this brochure. The UCAS code for The University of Nottingham is N84.

We look at every application individually. When we receive your application from UCAS, our subsequent decision will be based on academic potential and personal qualities, along with your previous academic record and referee's statement.

International students

In most cases, international students can apply for courses right up until the summer. International students should also apply through UCAS. Your school, an agent or your local British Council can help you with the UCAS application process. The UCAS website has a useful step-by-step video guide for international undergraduate students: www.ucas.com/students/wheretostart/nonukstudents

Mature students

We want to widen participation in our courses as far as possible; therefore, our admissions are more flexible if you're a mature student. Please contact the Admissions Tutor before applying through UCAS.

English as a second language

International students whose first language is not English must have an appropriate level in an approved test, for example:

- IELTS 6.0 (no less than 5.5 in any element) or any equivalent English Language qualification accepted by the University of Nottingham

If you have not reached the IELTS score (or equivalent) you could apply to attend a full-time English language course at the University's Centre for English Language Education (CELE) before registering for your degree. For more information see www.nottingham.ac.uk/cele

For information on English language requirements visit www.nottingham.ac.uk/ugstudy/applying/entryrequirements.aspx

Student Profile

Tom Lakey
Chemical and Environmental Engineering (third year)

"It was very easy and flexible for me to apply."



Find out more about Tom's experience at

www.nottingham.ac.uk/ugvideos/tomlakey

Year-two environmental field course
in the Derbyshire Peak District.



Frequently asked questions

Can I live in halls of residence or other University accommodation?

All full-time first-year students are guaranteed a place in University accommodation provided they make Nottingham their firm choice and return their accommodation application before the 1 August deadline. For more details, please see www.nottingham.ac.uk/accommodation

A wide variety of privately managed accommodation is available within walking distance of the Department and University facilities

Can I take a year in industry?

You will be encouraged to undertake industrial placements, usually at the end of year two. Between September and December the larger industry-based organisations come to the Department to recruit students for industrial placements and department staff use their extensive industrial links to provide placement opportunities for students. The 'Year in Industry' scheme is a not-for-profit organisation that provides placements for students. They have an office within the Faculty of Engineering and a website: www.yini.org.uk

How much practical work will I do?

Practical work is an integral part of the course and includes laboratory, field work and industrial visits. We use labs to develop analytical, problemsolving and team-working skills. The amount of practical work undertaken is high in the first year: typically 20 per cent of the course.

What staff support is available during the course?

The Department runs an academic tutorial system. First-year students see their tutor on a weekly basis. In later years tutors advise on module/course choices and career options. Personal tutors are also assigned to act in a pastoral role if necessary.

Will I get exposure to industry?

Industry is at the heart of everything we do. Staff have industrial backgrounds or work with industry on a day-to-day basis through their research activities.

Our labs mirror many industrial processes and we use guest lecturers to deliver material within several course modules. We run a programme of industrial visits and most of our modules involve industrial case studies.

The design and development projects are focused on providing solutions to problems in energy, environment, water and waste. All of these projects have direct involvement with industry.

What are the job prospects at the end of the course?

The majority of our students who want jobs get them within six months of the end of their course. Many get head-hunted well before the end of their final year. Chemical and environmental engineering degrees offer excellent and varied careers. Their analytical, team-working and problem-solving nature means they are in demand from non-engineering sectors (for example, management and finance) as well as in technical scientific and engineering roles.

Can I switch between courses?

We run a common first year, after which students choose between chemical, chemical with environmental or environmental engineering. Students can switch to or from year in industry courses at the end of each year.

You will be able to switch between BEng and MEng degrees at the end of year two. You will need an overall average of 55 per cent at the end of year two in order to qualify for the MEng

I haven't studied the correct subjects-is there any way I can do engineering?

We require maths plus either of physics/chemistry at A level. If you are not studying these subjects you could consider applying for the Engineering Foundation Year Programme. For more details, please see:
www.nottingham.ac.uk/foundationyear

How much are the fees?

Like many universities in England, Nottingham charges full-time UK and EU students an annual tuition fee, which in 2012-13 was £9,000. However, you will not have to pay your fees while studying – the government will lend eligible students the money, which you will start to pay back once you have left university and are earning at least £21,000. For more information, please see www.nottingham.ac.uk/fees

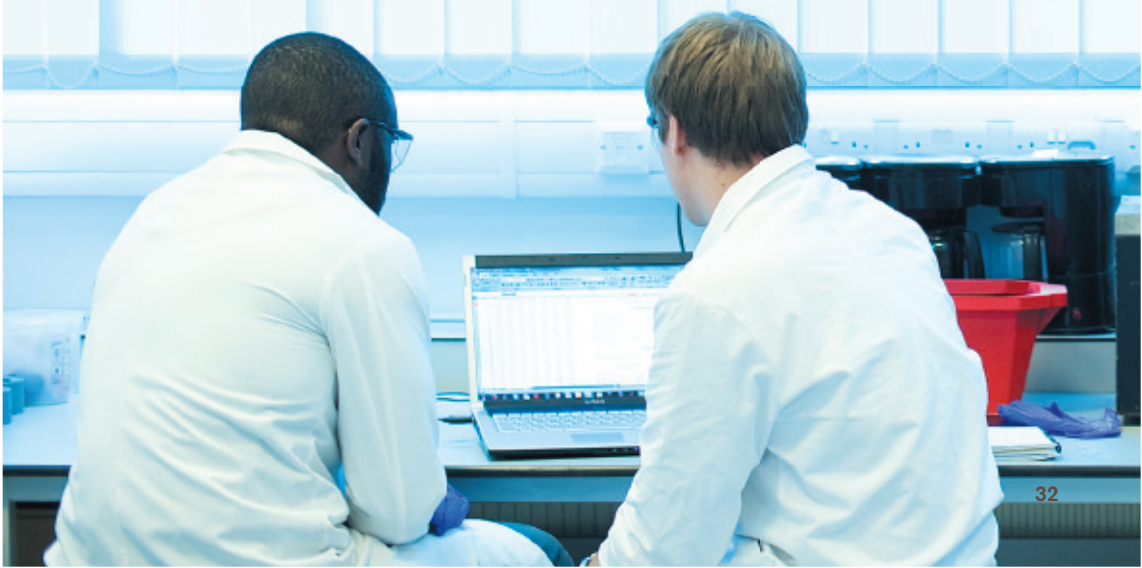
Fees for students from outside the EU vary from subject to subject. For more information, please see the "New international students" section on www.nottingham.ac.uk/fees

The fee for the year in industry is £500, and this applies to both UK and international students. Students remain registered with the university during this year, and can typically earn £15-£20k for the year.

What bursaries and scholarships are available?

Around a third of students at Nottingham are likely to be eligible for a non-repayable University of Nottingham Core Bursary. Some students will also be eligible for support through Nottingham Potential Bursaries and the National Scholarship Programme. These are in addition to any support you may receive from the government. For more information please see
www.nottingham.ac.uk/financialsupport

If you are an international applicant (outside of the EU), please see the "New international students" section on www.nottingham.ac.uk/fees



Taking a break in the Trent Building's
quadrangle, University Park Campus



Visiting and contacting us

We are always keen to welcome prospective undergraduates and their families onto our beautiful campus, be it on one of our open days, a campus tour day, or any other day of the week.

UCAS visit days

After a preliminary selection, applicants will be invited to join one of our UCAS visit days. These provide an opportunity to tour the Department and the University campus. They also include a visit to a hall of residence, as well as interviews with members of academic staff. There are presentations on the University, departments and courses and a special programme for parents and guardians. You will also be able to talk to current students.

Open days

We recommend that you attend one of the University-wide open days, held every year in June and September. That way you can see for yourself the wonderful campus and meet staff and current students. Find out more

www.nottingham.ac.uk/opensdays

Campus tour days

The University runs tours of University Park Campus on some Wednesdays throughout the year. For further information or to book a place on a campus tour day, please contact the Enquiry Centre:

t: +44 (0)115 951 5559 or

e: undergraduate-enquiries@nottingham.ac.uk

If you require this publication in an alternative format, please contact us.

t: +44 (0)115 951 4591

e: alternativeformats@nottingham.ac.uk

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For international student enquiries, please contact:

International Office

t: +44 (0)115 951 5247

f: +44 (0)115 951 5155

e: international-office@nottingham.ac.uk

w: www.nottingham.ac.uk/international

You can also follow us through our social media channels, all of which can be accessed via www.nottingham.ac.uk/connect



All information in this brochure was correct at time of print but is subject to change – for the latest information, please see www.nottingham.ac.uk

In recognition of
good employment
practice for
women students,
researchers and
staff working in
the Faculty of
Engineering





The University of
Nottingham

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e: undergraduate-enquiries@nottingham.ac.uk

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