



The University of
Nottingham

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Nottingham

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For general undergraduate
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The Enquiry Centre
t: +44 (0)115 951 5559
e: undergraduate-enquires@nottingham.ac.uk
w: www.nottingham.ac.uk

Civil Engineering Undergraduate Study

www.nottingham.ac.uk/civeng



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Front cover image: Lisa Brown, Civil Engineering MEng, prepares asphalt samples for tensile testing

Welcome to the Department of Civil Engineering

The fact that you are reading this suggests that you are attracted by the wonders of civil engineering. You are probably someone who loves to find out how and why things work. You are intellectually curious. The profession interests you because it is a question of mankind and nature acting in harmony. Nowadays, the profession is challenged as never before, for example by climate change, seismic risk, increased traffic congestion and by the need in all we do for environmental, economic and social sustainability.

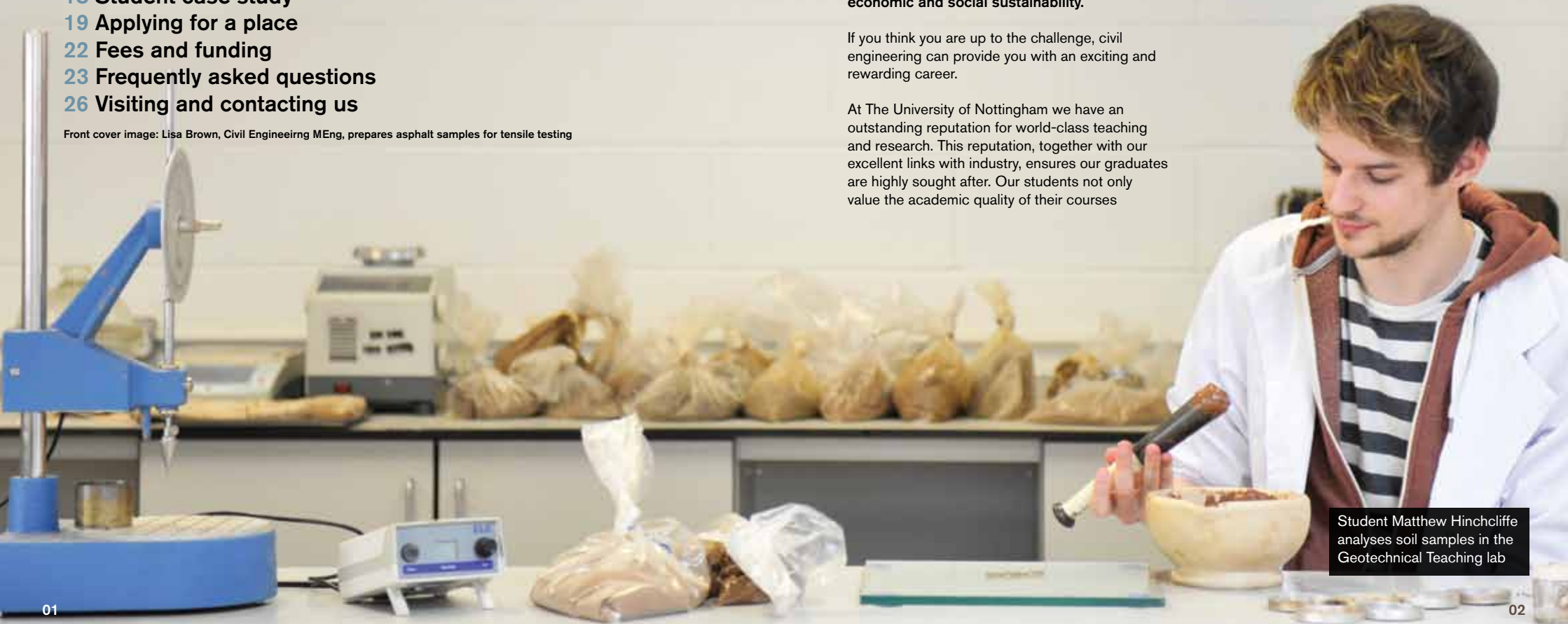
If you think you are up to the challenge, civil engineering can provide you with an exciting and rewarding career.

At The University of Nottingham we have an outstanding reputation for world-class teaching and research. This reputation, together with our excellent links with industry, ensures our graduates are highly sought after. Our students not only value the academic quality of their courses

and our excellent facilities, but also the friendly atmosphere and relaxed environment in which they study.

So please read on and learn about civil engineering at Nottingham. You can always visit www.nottingham.ac.uk/civil for more detailed information.

Dr John S. Owen
Head of the Department of Civil Engineering



Student Matthew Hinchcliffe analyses soil samples in the Geotechnical Teaching lab

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 our 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 overseas 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 Centre for Career Development, 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

Extracurricular activities and 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, mainstream and independent cinemas, two football grounds, nightclubs and a climbing 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 Malaysia and China we have developed links to 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. If you have not already done so please 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.

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



Why choose Civil Engineering?

“A vital art, working with the great sources of power in nature for the wealth and wellbeing of the whole of society. Its essential feature is the exercise of imagination to engineer the products and processes, and develop the people needed to create and maintain a sustainable natural and built environment. It requires a broad understanding of scientific principles, a knowledge of materials and the

art of analysis and synthesis. It also requires research, team working, leadership and business skills.”

The definition of civil engineering from The Institution of Civil Engineers.

Everyday we all rely on some aspect of civil engineering to enable us to live our lives. It encompasses just about every kind of structure

you can think of: bridges, roads, tunnels, skyscrapers, water supply facilities and even the coast and flood defences that protect homes. Civil Engineering is fundamental to the world around us and underpins a modern society. To find out more, why not visit the Institution of Civil Engineers website: www.ice.org.uk

A career in civil engineering gives you the

opportunity to be part of this, playing your part in shaping the built environment for generations to come. A career in civil engineering offers you responsibility, from the safety of others to the success of your project. A career in civil engineering is both rewarding and fulfilling; average starting salaries for civil engineering graduates are significantly higher than for other professions.



Civil Engineering students David Le Blancq and Mohamed Elmaghrbi working in the Fluids Lab.

Civil engineering at Nottingham

All of our civil engineering courses at Nottingham will provide you with essential skills whilst giving you the opportunity to study at one of the UK's leading universities.

Reputation and teaching environment

Over the years we have been rated consistently in the top civil engineering departments in the country. We have excellent facilities and laboratories, which we recently spent over £1.5m upgrading. We have dedicated teaching labs for structures, geotechnics and fluid mechanics. We also have a large geotechnical centrifuge facility, leading-edge GPS surveying and laser scanning equipment, the largest road materials testing facility in the UK and a new strong floor facility for major structural testing.

High demand for Nottingham graduates

As a Nottingham graduate you will be in high demand and Nottingham graduates attain high positions in industry, both in the civil engineering profession and in other sectors. A degree in civil engineering from Nottingham demonstrates that you can think critically, solve complex problems and work effectively, so demand is also high from other professions such as finance and accountancy, education, marketing and management consultancy. We have a wide range of excellent contacts in industry and have produced a database of many of the companies who have recruited our graduates, sponsored our students or provided work experience for them in recent years. We stage events such as careers presentations by companies, site visits, and careers fairs, in addition to running our own Industrial Sponsorship Scheme for students.

Engineering Adviser Scheme

We seek to build links with practising engineers throughout our undergraduate degree programmes. We have a network of local engineers, our "engineering advisers", who can arrange site visits and provide helpful advice as well as offering a professional's perspective on much of our project work.

Optional modules

All undergraduates are offered a wide range of module options both within the department and in other disciplines. This provides greater opportunity for the student in finding areas of interest as well as making them a more rounded graduate for the world of work.

International travel

Undergraduates at The University of Nottingham have many opportunities to study abroad; we have partner institutions in Europe and North America and we are members of Universitas 21, which provides study abroad opportunities around the world including Australasia. Our undergraduates can also study at our overseas campus in Malaysia.



Dimitrios Kostovasilis, Civil Engineering BEng, working on the Strong Floor of the Civil Engineering Department.

Student Jack Glauser surveys buildings on the University's Jubilee Campus.

Civil engineering degree courses

Title	UCAS Code	Page
Civil Engineering	H201 (BEng) H200 (MEng)	11
Civil and Environmental Engineering	H294 (BEng) H295 (MEng)	12

MEng and BEng degree programmes

All of our courses are offered at both MEng and BEng levels. The MEng degree is a four-year programme that fully satisfies the educational requirements to become a chartered civil, structural or highway engineer. The BEng degree is a three-year programme and students following this route will need to complete some further study if they wish to become chartered engineers. Many students, especially those from overseas, choose to do our BEng and then stay to complete one of our MSc degrees.

Accreditation

MEng Accredited CEng (Full)

This degree is accredited as fully satisfying the educational base for a Chartered Engineer (CEng).

BEng (Hons) Accredited CEng (Partial)

This degree is accredited as:

1. fully satisfying the educational base for an Incorporated Engineer (IEng).
2. partially satisfying the educational base for a Chartered Engineer (CEng). A programme of accredited Further Learning will be required to complete the educational base for CEng.

See www.jbm.org.uk for further information and details.

Civil Engineering

UCAS code: H201 (BEng); H200 (MEng)

Qualification: BEng/MEng Hons

Duration: single honours three (BEng) or four (MEng) years full-time

Typical A level offer: ABB (BEng); AAA (MEng)

Typical IB score: 32-30 points (including 5 in maths and a science, preferably physics, at Higher Level) (BEng); 36-34 (including 6 in maths and a science, preferably physics, at Higher Level) (MEng)

Entry requirements: Including A level maths and a science (preferably Physics) at A level.

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

Course overview

Our flagship civil engineering courses provide a solid grounding in the core disciplines of structures, environmental fluid mechanics, geotechnics, materials, surveying and construction management. There is an emphasis on project work throughout and a wide range of optional modules to develop your specialist knowledge in later years.

Year one

Introduction to the core disciplines and the context of civil engineering ▪ engineering design introduced through project work ▪ residential

surveying field course ▪ opportunity to follow optional modules

Year two

Core subjects developed in greater depth alongside further optional modules ▪ major design-based project to help you see the application of your studies.

Year three

Core subjects continue alongside a range of optional modules ▪ individual investigative project (BEng only) ▪ Engineering in Context project with an industrial link or theme (MEng only).

Year four (MEng only)

Choice of a wide range of elective modules ▪ major group design project ▪ individual investigative project.

By the end of the course

Students will be equipped to embark on a career in civil engineering, or other disciplines that require numerate problem-solving graduates. MEng graduates will have the breadth and depth of knowledge to reach the top in their chosen career.

Civil and Environmental Engineering

UCAS code: H294 (BEng); H295 (MEng)

Qualification: BEng/MEng Hons

Duration: single honours three (BEng) or four (MEng) years full-time

Typical A level offer: ABB (BEng); AAA (MEng)

Typical IB score: 32-30 points (including 5 in maths and a science, preferably physics, at Higher Level) (BEng); 36-34 (including 6 in maths and a science, preferably physics, at Higher Level) (MEng)

Entry requirements: Including A level maths and a science (preferably Physics) at A level.

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

Course overview

Students on the Civil and Environmental Engineering course also follow the core modules from the Civil Engineering course, but their choice of optional modules is prescribed to give the necessary grounding in environmental engineering. They must also choose an environmental topic for their projects in the third and fourth years.

Year one

Similar course content to H200/H201, but you will also study an introduction to environmental civil engineering and infrastructure construction issues

Year two

In addition to the civil engineering core, you will study air quality and noise and water in the environments and follow an environmentally related design project.

Year three

Core subjects including specialist modules on an environmental theme, e.g. sustainable construction and environmental geotechnology ▪ an individual investigative project on an environmental engineering topic (BEng only) ▪ an engineering in context project on an environmental topic (MEng only).

Year 4 (MEng only)

Choice of a wide range of optional modules ▪ major group design project focusing on environmental issues ▪ individual investigative project on an environmental engineering problem.

By the end of the course

Students will be equipped to embark on a career in civil engineering and will have the specialist knowledge to meet the growing demand for environmental specialists in the water and construction industries.

BEng course structure

Year one

Core modules

Structural Mechanics
Industry and Profession
Communications: Drawing & CAD
Surveying
Management
Hydraulics
Geotechnics
Structures
Vibration
Materials
Mathematics

Optional modules

Introduction to Environmental Civil Engineering*
Transport issues
Construction issues*

Conceptual design project

This project concludes the Engineering Communication module and involves groups of students on the conceptual design of a bridge, station, tower or other structure.

Surveying field course

Students work on group exercises in surveying, mapping and setting out. This is a six day residential course during the Easter holidays. It incurs an extra cost of around £150 or so.

* Compulsory in H294

Year two

Core modules

Structures
Materials
Hydraulics
Geotechnics
Surveying
Construction Management
Mathematics
Civil Engineering Design

Optional modules

Introduction to Air Quality and Noise*
Forms of Transport
Water in the Environment*

Civil engineering design project

Students are introduced to the design process by a year-long project that follows the design of a civil engineering project from initial concepts through to detailed design. Students work individually and in groups to produce a design portfolio that includes outline solutions, project appraisal, loading calculations and engineering drawings. The project provides students with opportunities to hone their written and oral presentation skills.

* Compulsory in H294

Year three

Core modules

Structures
Materials
Hydraulics
Geotechnics
Construction Management

Optional modules

Pavement Engineering
Steel Structures
Geospatial Engineering 1
Sustainable Construction*
Environmental Geotechnology*
Railway Engineering

Individual investigative project

Students choose a project in their preferred discipline and plan a detailed investigation. Typically projects involve lab work, field investigations or computer modelling, and require data collection and analysis. Once the investigation is complete, a detailed report is prepared.

* Compulsory in H294

MEng course structure

Year one

Core modules

Structural Mechanics
Industry and Profession
Communications: Drawing & CAD
Surveying
Management
Hydraulics
Geotechnics
Structures
Vibration
Materials
Mathematics

Optional modules

Introduction to Environmental Civil Engineering*
Transport issues
Construction issues*

Conceptual design project

This project concludes the Engineering Communication module and involves groups of students on the conceptual design of a bridge, station, tower or other structure.

Surveying field course

Students work on group exercises in surveying, mapping and setting out. This is a six day residential course during the Easter holidays. It incurs an extra cost of around £150 or so.

* Compulsory in H295

Year two

Core modules

Structures
Materials
Hydraulics
Geotechnics
Surveying
Construction Management
Mathematics
Civil Engineering Design

Optional modules

Introduction to Air Quality and Noise*
Forms of Transport
Water in the Environment*

Civil engineering design project

Students are introduced to the design process by a year long project that follows the design of a civil engineering project from initial concepts through to detailed design. Students work individually and in groups to produce a design portfolio that includes outline solutions, project appraisal, loading calculations and engineering drawings. The project provides students with plenty of opportunities to hone their written and oral presentation skills.

* Compulsory in H294

Year three

Core modules

Structures
Materials
Hydraulics
Geotechnics
Construction management

Optional modules

Pavement Engineering
Steel Structures
Geospatial Engineering 1
Sustainable Construction*
Environmental Geotechnology*
Railway Engineering

Engineering in context project

In this project students choose a particular aspect of civil engineering and investigate how it is carried out in practice in the current construction industry. Students are encouraged to draw on their own experience from vacation employment and to exploit the department's links with its engineering advisers.

* Compulsory in H294

Year four

Optional modules

Coastal Engineering
Natural Hazards and Environmental Fluid Mechanics
Advanced Pavement Materials
Advanced Concrete Structures
Earthquake Engineering and Structural Dynamics
Finite Element Analysis
Critical State Soil Mechanics
Geology for Civil Engineers
Advanced Properties of Concrete
Plates and Shells
Traffic Engineering
Survey Field Course
Geospatial Engineering 2
Construction Practice
Applied Construction Project Management
Construction Planning and Processes
System Reliability Engineering
Infrastructure Asset Management

Group design project

Students work in groups on the design and planning of a civil engineering project that aims to integrate all the disciplines covered on the course. Typical projects include: water works, major highway schemes and retail parks. Staff and visiting professional engineers provide guidance.

Individual investigative project

Students choose a project in their preferred discipline and plan a detailed investigation. Typically projects involve lab work, field investigations or computer modelling, and require data collection and analysis. Once the investigation is complete, a detailed report is prepared.

“The outstanding aspect of the course is undoubtedly the quality of the academic staff. Lecturers with key experience gained in industry and at the cutting edge of research are very approachable and go out of their way to offer help and support.”

Austin Sependa / MEng Civil Engineering (fourth year)



Find out more about Austin's experience at
www.nottingham.ac.uk/ugvideos/engineering



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

Austin is determining shear force in a beam
experimentally, in the Small Structures Lab.

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 – all the codes for our courses feature on page 10 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)
- TOEFL iBT 87 (with no less than 21 in listening, 22 in reading, 23 in speaking and 21 in writing)
- Pearson Test of English Academic (PTE Academic) 55 (min 51)

If you have not reached the IELTS or TOEFL score 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

Students in the Engineering and Science Learning Centre (ESLC) atrium, University Park



“We are currently investing £90m in teaching and learning to ensure that our students continue to enjoy the very best facilities during their studies at The University of Nottingham. The new fee levels we are proposing will allow us to replace the cuts in government expenditure and build on this investment, and build on what we can offer to students who aspire to a world-class education, while maintaining the financial sustainability of the University”.

Professor David Greenaway
Vice-Chancellor, The University of Nottingham

Fees and funding

UK and EU students

In April 2011, The University of Nottingham announced plans to set undergraduate fees at £9,000 from 2012, subject to agreement by the Office for Fair Access (OFFA). The fees will apply to full-time UK and EU students on all undergraduate degree courses.

A substantial and increased package of financial aid will be available to students to ensure that the University continues to attract the best and the brightest students, whatever their background. Well over a third of our students will be eligible for our core bursaries, which offer up to £3,000 for each year of undergraduate study.

This broad and progressive package of financial aid will include direct support for students' living costs and additional provision will be targeted towards foundation-year students, local students, students with disabilities, those with responsibilities as carers and students formerly in care.

Information about fees, including a frequently asked questions section, can be found on www.nottingham.ac.uk/fees

International students

The increases in University tuition fees does not apply to international students. International tuition fees for students commencing their studies from 2012 onwards will continue to be subject only to a small inflationary increase each year. The University operates a fixed tuition-fee policy where students pay the same fee level for the duration of their studies. Details of tuition fees and scholarships for international students are published on www.nottingham.ac.uk/fees

Faculty of Engineering undergraduate scholarships

The Faculty of Engineering is keen to attract students who are determined to do the best for themselves and we are committed to supporting them on their path to success. We have developed a generous package of scholarship, details of which can be found on www.nottingham.ac.uk/engineering/funding

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/accomodation

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

Can I take an industrial placement or a year in industry?

We encourage our students to apply to take industrial placements during vacations and we run an industrial sponsorship scheme with about ten firms participating. The scheme is open for first, second and , if doing an MEng, third year students. Placements with successful outcomes at the end are normally awarded with sponsorship for the subsequent academic year. Students are also able to spend a year working in industry and possibly qualify for an extra award of an industrial diploma.

Can I study abroad as part of my degree?

You will be able to study at the University's Malaysia Campus or partner universities in the USA, Australia or Canada. Our Malaysia Campus offers the same course programme as in the UK and all teaching is done in English.

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, problem-solving 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.

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. Our 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.

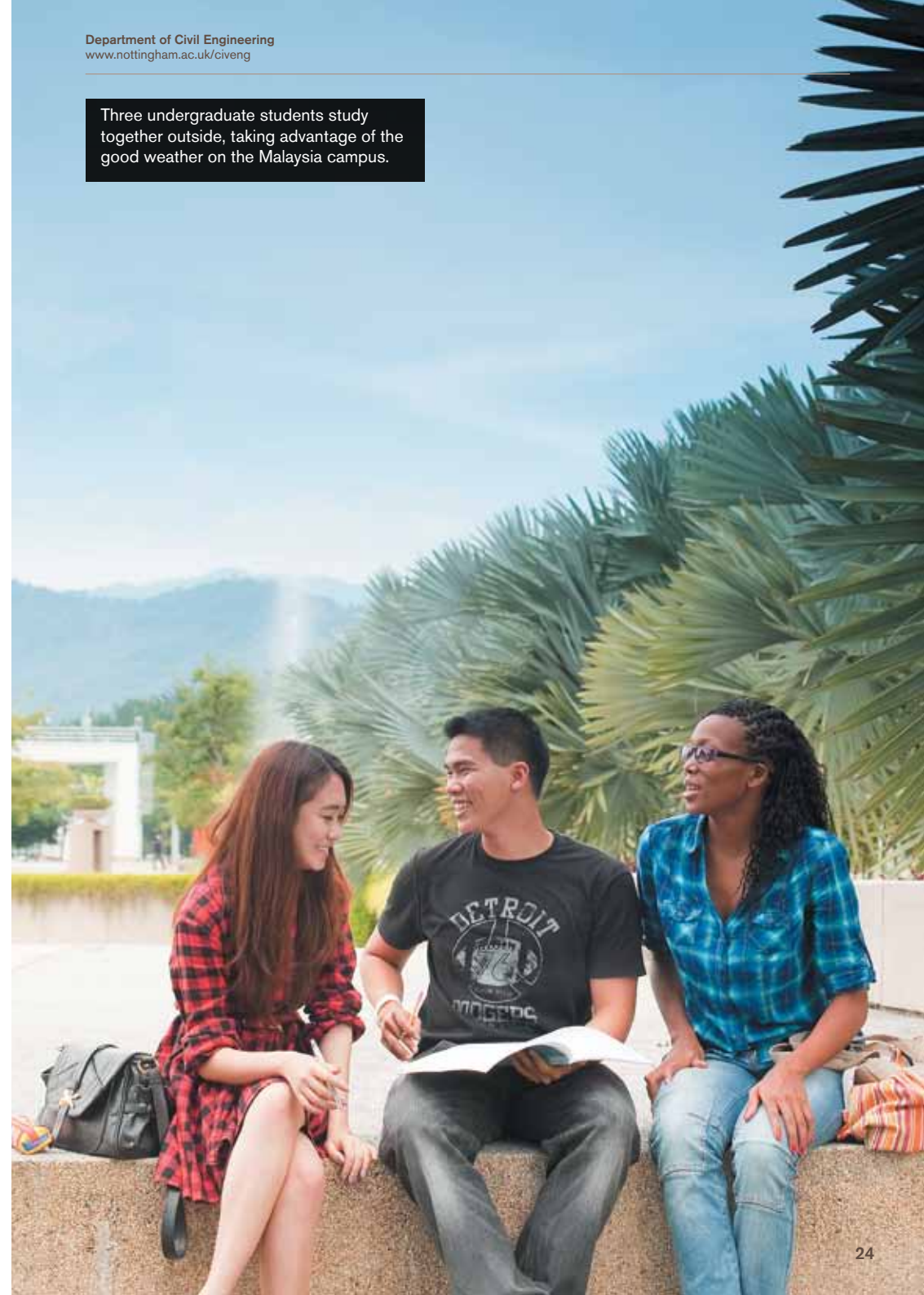
Can I switch between courses?

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 and a science A level. If you have not these subjects you could consider applying for the Engineering Foundation Year Programme. For more details, please see www.nottingham.ac.uk/foundation_year

Three undergraduate students study together outside, taking advantage of the good weather on the Malaysia campus.



Undergraduate students
study on the grass outside
Cripps Halls of Residence

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/opendays

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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Contact us

For further information please contact:

Department of Civil Engineering
The University of Nottingham
University Park
Nottingham
NG7 2RD

t: +44 (0)115 951 3907

e: civeng-reception@nottingham.ac.uk

w: www.nottingham.ac.uk/civeng

For additional general information for international students, please contact:

The 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