Civil & Structural Engineering.

Undergraduate courses

www.sheffield.ac.uk/civil
If you want a career that could take you all over the world, solving problems and thinking creatively, civil engineering at Sheffield is a great first choice.
We’re one of the UK’s top civil and structural engineering departments. You’ll be taught by the best. Our academics will give you the extra push you need to achieve your full potential.

Built in 1886, the Sir Frederick Mappin Building is the home of civil engineering.
Civil engineering at Sheffield goes way beyond the traditional areas of the profession. Our teaching is based on the very latest world-leading research. You’ll be taught by experts in structural, water and geotechnical engineering. As you progress through your course you’ll develop the team working, project management and communication skills that all professional engineers need.

**How you benefit from our research strength**

Our staff are internationally respected. Their research feeds directly into our courses, so you’ll be familiar with the latest advances in areas such as structural, water, geotechnical, vibration and fire engineering.

So, when we say 100 per cent of our research is internationally recognised, that means you’ll be taught by the best. You’ll also have the opportunity for hands-on experience, working alongside researchers as part of your course.
Employers value our graduates

“We look for graduates who have a broad understanding of engineering in a technical, social and environmental context. Graduates who can help shape solutions to future challenges and help influence the world we want to live in. We value the University of Sheffield as they consistently develop graduates with excellent understanding of building design and place-making, recognising structural engineering integrated with architecture, building physics and infrastructure.”

Mark Phillip, Director, Buro Happold Ltd.

95% of our graduates are in professional employment

100% of our research is internationally recognised

Source: unistats.com

Source: Research Assessment Exercise 2008
Civil engineers help to create and protect the world we live in. Your career is going to be about improving people’s lives.

You could be responsible for developing bridges, tunnels and structures, controlling pollution or responding to natural disasters.

Civil engineering is at the forefront of improving the way we live. Whether it’s providing the facilities that keep our day-to-day lives running smoothly – from roads and railways to clean water supplies – or working to meet the ever changing needs of our society relating to sustainability, renewable energy and climate change.

There are many opportunities for working abroad and engineering projects often make a major contribution to a country’s economic and social wellbeing.

Geotechnical Engineers design wind turbine foundations for renewable energy generation.
We also cover lots of specialist subjects, so you can choose the direction you take.

You may want to be a designer, involved with construction, or a project leader. Whatever your interests are, we’ll teach you to think about problems from a sustainable point of view, so you’ll be the kind of civil engineer the world needs.

What we do for you

We give you a solid grounding in the fundamentals of civil engineering.

Water laboratory
Testing buoyancy forces on a submerged object.
Our academics are helping to reduce the UK’s environmental impact. In 2012 we invented a device that detects leaks in water pipes.
Sheffield structural academics were in the team that solved the problem of the wobbling Millennium Bridge.

The solution
91 dampers were used to control the bridge’s vibrations.
3. International students

Our international reputation attracts students from all over the world. Right now there are students from over 40 different countries in our department.
“We learn from brilliant academics. They try their best to help us develop our employability skills and get work experience during vacations.”

Zhanna Meritee, Estonia

“Being a civil engineer gives you the power to affect the world around you, both for today and for future generations.”

Ramon Husein, Barbados
What will my course be like?

You can expect to be challenged – we encourage you to make the most of your talents. And you can expect to have fun.

We’ll keep you busy five days a week with a lively mix of lectures, tutorials, laboratory and design classes. You’ll have at least one free afternoon a week. You can use it to study, play sport, join a society or spend time with friends – it’s up to you.

What we teach

We give you a solid grounding in the fundamentals of civil engineering mathematics, structural analysis, structural design, water and geotechnical engineering. You’ll also learn about engineering materials, sustainability, design and computational skills.

How we teach it

For the first two to three years, we gradually build up your knowledge of the fundamentals, introducing specialist topics as we go.

Later on, as you decide which areas you’re interested in, we offer specialist teaching to help you apply your knowledge and give you the opportunity to work on projects as you would in industry. In the fourth year you’ll get to showcase what you’ve learned in a research-focused individual dissertation project.

We ask you to come up with creative solutions to the kind of problems faced by professionals. You’ll learn what your strengths are and how to fit into a team. We’ll also teach you how to use industry-standard software and other essential engineering tools.

But that’s not enough on its own

We show you how to apply good engineering judgement, how to lead a team, and how to master the technical and managerial demands of the job – all the things you’ll need for a successful and rewarding career.
Choosing the right course

Civil Engineering
Civil and Structural Engineering
Civil Engineering with a Modern Language
Structural Engineering and Architecture
Architectural Engineering Design
Civil Engineering with a Foundation Year

For all our courses* you need AAA at A Level or equivalent, including maths and one other science subject.

*except Civil Engineering with a Foundation Year
MEng/BEng Civil Engineering

All our courses are designed to get you excited about civil engineering. We want you to think differently, be creative and come up with new ideas.

This is our core course, the one that underpins all the others. It includes structural, water and geotechnical engineering, materials and management, all with a strong emphasis on sustainability.

You’ll learn the skills every civil engineer needs, and you’ll graduate with hands-on experience of problem solving across the full range of civil engineering applications.

MEng or BEng?

Both courses lead to a high quality degree. The four-year MEng meets all the academic requirements to become a Chartered Engineer (CEng).

The three-year BEng meets all the academic requirements to become an Incorporated Engineer (IEng). For Chartered Engineer status, you’ll need to complete a period of further learning, which could be a full-time postgraduate course or part-time study while you’re working.

Whether you choose MEng or BEng, you have the option to switch until the end of the second year.

UCAS codes H200 (MEng), H202 (BEng)

MEng Civil and Structural Engineering

Structural engineering, both design and analysis, is a specialism of ours. Our team of structural engineering staff is one of the best in the UK.

For the first two years you follow the same modules as the Civil Engineering course, so you get a comprehensive grounding in all the main areas of the profession.

Later in your course, you will study specialist modules in multi-storey building design and a variety of structural design and analysis modules, to prepare you for professional life.

The course is designed to prepare you for a career in design and construction, including major structural projects.

UCAS code H210

MEng Civil Engineering with a Modern Language

In a global careers market, the ability to work in more than one language is a valuable asset. If you can adapt to new situations and mix easily with people from different cultures, you can build your future anywhere in the world.

On this course, you choose one of four major European languages to study alongside the main disciplines of civil engineering. Throughout the four years you’ll take modules in the language and culture of your chosen country.

You spend your third year at a top university in Germany, France, Spain or Italy, studying civil engineering in your chosen language. It’s a great opportunity to develop your confidence and independence.

UCAS code H2T9
MEng Structural Engineering and Architecture

This is the only MEng course in the UK to be dual accredited by both the Royal Institute of British Architects and the Joint Board of Moderators (see page 18). That means you could pursue a career in structural engineering or architecture, or both!

The course combines the essentials of architecture and structural engineering in relation to buildings and structures. Each year, you take a mixture of modules from both subjects, so you’ll know what it feels like to be an architect or an engineer, and how the two work together.

Through project work and a dissertation, you’ll demonstrate your understanding of both disciplines and your ability to integrate them.

When you apply, the School of Architecture will ask to see a portfolio of your artwork. Please contact the civil engineering department for more information.

UCAS code HK21

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Spend a year working in industry

Relevant work experience can help you stand out in the graduate jobs market. You can take one of our MEng or BEng courses with a year in industry and this will give you valuable experience in the workplace. You’ll spend a year on placement with a company of your choice. You will be responsible for finding your own placement but we will support you in finding the right position, as well as helping you get the most out of your placement. Email or call us if you’d like to find out more.

MEng Architectural Engineering Design

This course focuses on sustainable building design. It is the only course in the UK accredited by both the Joint Board of Moderators and the Institution of Mechanical Engineers.

UK buildings account for about 40 per cent of carbon emissions. New regulations are aimed at driving this figure down. Industry needs designers who can adopt a holistic approach to the problem and combine skills from various disciplines.

Our course blends structural engineering, mechanical engineering and technical aspects of architecture. You’ll develop the knowledge and the skills to design buildings that make less of an impact on the environment.

UCAS code HK2D

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Civil Engineering with a Foundation Year

If you don’t have the right subjects at A Level you might be able to take a Foundation Year course.

The Foundation Year is an intensive course to bring you up to the required level. You’ll study physics, chemistry and maths, which will allow progression to any of our degree courses except Structural Engineering and Architecture.

Contact the department for further information and to find out about entry requirements.

UCAS code H201

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The Global Engineering Challenge

What challenges will you face as a professional engineer?
How will your decisions impact on the people around you and throughout the world?

In this week-long project, all first year engineering students in the faculty work in teams to find solutions to a real-life engineering problem faced by developing communities.

You could find yourself researching alternative fuel sources for a small community in India, or designing new water and sanitation systems.

At the end of the challenge you’ll present your ideas, showing you’ve considered the social, environmental and economic impacts.

Global skills

It’s the kind of thinking that will equip you for a career with impact – shaping and improving the world we live in. And in an increasingly international industry, you’ll be the kind of engineer that employers value highly.

Find out more about the Global Engineering Challenge: http://youtu.be/s1ij8AcsmCU

Integrated Design Project

A distinctive opportunity to work as part of a team on a realistic design project.

The Integrated Design Project is a feature of most of our undergraduate programmes. You’ll spend half of your third year working on it, giving you the opportunity to fully experience the breadth and depth of civil and structural engineering design.

So what does the project involve?

Devising plans for an entire urban regeneration project. Investigating new methods and materials. Developing detailed designs: elegant bridges, sustainable, efficient, environmentally sensitive multi-storey buildings, state-of-the-art sports venues. Not forgetting the drainage and foundations that are essential to make everything else work.

You’ll get to unleash your creativity on a grand scale. And you’ll gain invaluable practical experience for your career in civil and structural engineering.
6. Study abroad

You could spend part of your course at a top university in Europe, North America, Australia, Singapore or Hong Kong.

If you take the Civil Engineering with a Modern Language course (page 12) you will spend your entire third year studying civil engineering at a European university.

If you take the MEng Civil Engineering or the MEng Civil and Structural Engineering you could spend three months at a European university, working on a design or research project. We have Erasmus exchange agreements with universities in France, Italy, Spain, Germany and other countries.

Or you could spend your third year at a leading university in Australia, Canada, Hong Kong, Singapore or the USA, through the Study Abroad programme.

“Civil engineering is exciting and my study abroad year in Australia helped me to stand out from the crowd.”

Amy Ellis, MEng Civil Engineering
Field trip
Investigating geological rock formations for a first year design project.

Geotechnical laboratory
Classifying soil types and strengths.
In our heavy structures laboratory we test concrete beams to failure, to understand their behaviour and improve design.
The Joint Board of Moderators is: the Institution of Civil Engineers, the Institution of Structural Engineers, the Chartered Institution of Highways and Transportation, and the Institute of Highway Engineers.

Our Structural Engineering and Architecture course is also accredited by the Royal Institute of British Architects (part 1). The Architectural Engineering Design course is also accredited by the Institution of Mechanical Engineers.

The MEng meets all the academic requirements you need to become a Chartered Engineer (CEng), while the BEng satisfies the requirements for Incorporated Engineer (IEng) status.

It is possible to gain chartered status by doing a BEng degree (three years) but you will have to obtain additional qualifications prior to taking your Professional Review (a one year postgraduate MSc, for example).

**Becoming a professional engineer**

After graduation, you’ll need to undertake a period of Initial Professional Development followed by a Professional Review.

Initial Professional Development bridges the gap between your education and your professional qualification.

The Professional Review is the final stage – your chance to show that you have all the attributes required to become a professional engineer.

**Links to professional bodies**

We have strong links with the Institution of Civil Engineers, the Institution of Structural Engineers and the Chartered Institution of Water and Environmental Management. As a student, you’re encouraged to join at least one of the institutions and to attend evening meetings held in the department.
We have strong links with industry. Our Industrial Advisory Board keeps our teaching relevant to meet industry needs.

We also have a number of industrial partners, whose staff are involved in teaching, design classes and undergraduate projects. They may offer to arrange work experience during the summer vacation.

As well as your own personal tutor, you’ll be assigned an industrial tutor, a working professional who meets with you to discuss their work, on site or in a design office.
Department of Civil and Structural Engineering

9.

Your career in civil engineering

Careers in civil engineering come in different shapes and sizes, and can take you anywhere in the world.

You might choose a career with a consultancy, designing and planning projects. You may go to work for a contractor, planning and managing the construction work itself. Or you may go to work for a public service organisation, working with contractors and consultants for local authorities or the government.

Civil engineers often work in teams on projects that take years to complete, from design through to construction, such as facilities for major sporting events or the UK high speed rail network.

It's a rewarding profession. Civil engineering is the opportunity to do something positive and make a big difference to the world we live in.

Our graduates work for leading international firms of consulting and contracting engineers.

Nicholas Aitken graduated in 2010 and is employed by Thornton Tomasetti in the USA as a Structural Engineer. He has been involved in the design of a multi-storey office building.
Geotechnical centrifuge
You can test your designs using our centrifuge, which simulates full-scale ground stress conditions.

What our graduates have achieved

“Since I graduated, I’ve worked for Buro Happold Consulting Engineers as a Structural Engineer. I started off on a 20-storey concrete frame tower in Leeds, then worked on stadia in the UK, USA and Trinidad and Tobago. I’ve worked in New York and Los Angeles but I’m currently based in Hong Kong, working on the West Kowloon XRL High Speed Rail Terminus.”

Rob May
MEng Civil and Structural Engineering

“I’m a Geotechnical Engineer for a consultancy called Coffey Geotechnics, based in Sydney, Australia. I’ve been involved in a range of projects since I left Sheffield, including design work on retaining walls, reinforced earth structures and highways; research reports on ground anchorages and sustainability, site investigations and construction supervision.”

Dan Gorman
MEng Civil and Structural Engineering
Open days

If we offer you a place on a course, we’ll ask you to come to a civil engineering open day. It’s worth coming, even if you’ve already visited the University. You get to tour the department, talk to staff and students and visit student accommodation. We usually hold open days between November and March.

Contact

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civilugadmissions@sheffield.ac.uk
civilsheffield

Or visit our website
www.sheffield.ac.uk/civil

How to apply

Online at www.ucas.ac.uk