Degree programmes in Civil Engineering

Civil Engineering BEng
Civil Engineering MEng
Civil Engineering with Sustainability BEng
Civil Engineering with Sustainability MEng
Our civil engineering courses aim to give you the experience and skills you need to create the next generation of essential facilities such as sustainable building construction, roads, bridges, tunnels, flood protection, waste recycling and construction management.

A core part of our ethos is sustainability, paralleling the ‘cradle-to-grave’ approach promoted by major national and international engineering organisations.

We believe in extending the boundaries of knowledge and have recently made major investment in equipment for our custom-designed technical facility, the Joseph Bazalgette Laboratories, so you have everything you need to put theory to the test.

We really hope to see you here soon.

Professor Hamid Bahai
Head of Department

Welcome

Civil Engineering BEng
H204
3 years (FT)
H206
4 years (FT) thick-sandwich

Civil Engineering with Sustainability BEng
H200
3 years (FT)
H201
4 years (FT) thick-sandwich

Civil Engineering MEng
H205
4 years (FT)
H207
5 years (FT) thick-sandwich

Civil Engineering with Sustainability MEng
H202
4 years (FT)
H203
5 years (FT) thick-sandwich

Brunel University London code
B84 BRUNL
Apply online at www.ucas.com

The qualifications you need

You will need one of the following:

For the BEng

GCE A-level ABB, including Maths and a Science subject (General Studies and Critical Thinking not accepted).

IB Diploma 31 points, including 5 in Higher Level Mathematics and 5 in a Higher Level Science subject.

BTEC Level 3 Extended Diploma D*DD, including Distinctions in Further Mathematics and Further or Advanced Mechanical Principles and Applications.

For BTEC Level 3 and A-level combinations please check the Civil Engineering page on our website.

Access to HE Diploma Complete and pass Access to Engineering course with 45 credits at Level 3, of which 30 credits must be at Distinction and 15 credits at Merit or higher. All Maths and Science units must be Distinctions at Level 3.

You will also need GCSE Maths and English at grade C or above.

For the MEng

GCE A-level AAA, including Maths and a Science subject (General Studies and Critical Thinking not accepted).

IB Diploma 34 points, including 6 in Higher Level Mathematics and 6 in a Higher Level Science subject.

BTEC Level 3 Extended Diploma D*D*D*, including Distinctions in Further Mathematics and Further or Advanced Mechanical Principles and Applications.

For BTEC Level 3 and A-level combination please check the Civil Engineering page on our website.

Access to HE Diploma courses are not accepted for MEng entry. Access students should apply for the BEng in this subject. Once you have achieved the progression requirements on the BEng programme you can transfer to MEng at the end of Year 2.

You will also need GCSE Maths and English at grade C or above.

www.brunel.ac.uk/courses

This information was correct as we went to print but it’s always a good idea to check the website www.brunel.ac.uk/courses for updates.
Why choose Civil Engineering?

The next few decades promise to be extremely challenging for the civil engineering community.

Rising populations, progressive urbanisation, ongoing economic development and climate change present many threats to infrastructure. Civil engineers will need to draw deeply on their knowledge, skills and creativity to provide essential, sustainable facilities.

There is a clear need for graduates trained in both traditional and cutting edge aspects of civil engineering to plan and create the infrastructure we will need in the 21st century.

Why choose Civil Engineering at Brunel?

Brunel University London is a world top 100 engineering university according to the Times Higher Education (THE) World University Rankings 2014/5.

We aim to produce the next generation of leading civil engineers, fully equipped to play key professional roles in industry and the wider community. We will introduce you to mainstream civil engineering knowledge, understanding and practice, ranging from geotechnical site assessment to the sustainable design and assessment of structures.

Our programme has been designed as a hands-on learning experience. You will take in fundamental theory and then test and apply that theory in the laboratory using advanced software, and during fieldwork.

All programmes are fully accredited by the major UK Civil Engineering professional institutions with direct input from industry experts and applied research.

The programmes are accredited by:

- Institution of Civil Engineers
- Institution of Structural Engineers
- Chartered Institution of Highways and Transportation
- Institute of Highway Engineers

Kyriakos Sotiriou,
(Civil Engineering with Sustainability BEng)

“I chose Brunel University due to its reputation in Engineering. Another contributing factor was the fact that it combined Civil Engineering with sustainability, a field currently lacking in industry in Cyprus.

Modules such as ‘Construction and Sustainability’, ‘Management and Sustainability’, ‘Civil Engineering Materials’, ‘Geotechnical Engineering’, ‘Structural Analysis’ and ‘Steel and Concrete’ have made me realise the importance of my field of study in the industry.

My final year project ‘Joint and Connections in Composites and Hybrid Structures’ aimed to determine suitability of existing joints and connectors, to develop or modify connectors specific for composites and to design joints for composite to composite or composite to hybrid. The combination of different materials, the difference in materials’ performance under different environments (for example in an isotropic environment, concrete will move, but wood will move a little bit more), the inherent characteristics and the different stress modes, highlights the need for new joints and connectors for composites. My supervisor and I are currently working on developing this project with a view to publishing our findings, a prospect I find particularly exciting.”
Top in London for overall student satisfaction
‘National Student Survey (NSS) 2015’
Students benefit from well-equipped, modern laboratory facilities for geotechnical engineering, structural analysis and testing of innovative civil engineering materials.
What we teach

All BEng and MEng courses have a common first year. Here’s a taste of what you can look forward to:

**Civil Engineering BEng**

**Level one (year one)**
- Fundamentals of Structures
- Fundamentals of Fluid Mechanics
- Analytical Methods and Skills for Civil Engineers
- Fundamentals of Geotechnical Engineering and Surveying
- Construction and Sustainability
- Professional Skills

**Level two (year two)**
- Civil Engineering Hydraulics
- Civil Engineering Materials
- Structural Mechanics
- Geotechnical Engineering
- Structural Design
- Sustainable Construction and Professional Skills

**Level three (year three)**
- Major Individual Project
- Structural Analysis
- Steel and Concrete Design
- Innovation Construction Materials
- Construction Contracts, Business and Sustainability

**Civil Engineering with Sustainability BEng**

**Level one (year one)**
- Fundamentals of Structures
- Fundamentals of Fluid Mechanics
- Analytical Methods and Skills for Civil Engineers
- Fundamentals of Geotechnical Engineering and Surveying
- Construction and Sustainability
- Professional Skills

**Level two (year two)**
- Civil Engineering Hydraulics
- Civil Engineering Materials
- Structural Mechanics
- Geotechnical Engineering
- Structural Design
- Sustainable Infrastructure and Professional Skills

**Level three (year three)**
- Major Individual Project
- Water Engineering
- Steel and Concrete Design
- Sustainable Infrastructure Development
- Construction Contracts, Business and Sustainability

**Civil Engineering MEng**

**Level one (year one)**
- Fundamentals of Structures
- Fundamentals of Fluid Mechanics
- Analytical Methods and Skills for Civil Engineers
- Fundamentals of Geotechnical Engineering and Surveying
- Construction and Sustainability
- Professional Skills

**Level two (year two)**
- Civil Engineering Hydraulics
- Civil Engineering Materials
- Structural Mechanics
- Geotechnical Engineering
- Structural Design
- Sustainable Construction and Professional Skills

**Level three (year three)**
- Major Individual Project
- Structural Analysis
- Steel and Concrete Design
- Innovation Construction Materials
- Construction Contracts, Business and Sustainability

**Level five (year four)**
- Major Group Project
- Sustainable Project Management
- Structural Design and FEA
- Water Infrastructure Engineering
- Risk and Financial Management
- Structural Dynamics and Seismic Design

**Civil Engineering with Sustainability MEng**

**Level one (year one)**
- Fundamentals of Structures
- Fundamentals of Fluid Mechanics
- Analytical Methods and Skills for Civil Engineers
- Fundamentals of Geotechnical Engineering and Surveying
- Construction and Sustainability
- Professional Skills

**Level two (year two)**
- Civil Engineering Hydraulics
- Civil Engineering Materials
- Structural Mechanics
- Geotechnical Engineering
- Structural Design
- Sustainable Infrastructure and Professional Skills

**Level three (year three)**
- Major Individual Project
- Water Engineering
- Steel and Concrete Design
- Sustainable Infrastructure Development
- Construction Contracts, Business and Sustainability

**Level five (year four)**
- Major Group Project
- Sustainable Project Management
- Structural Design and FEA
- Geoenvironmental Engineering
- Water Process Engineering
- Sustainable Built Environment

Every effort has been made to ensure the accuracy of the information in this brochure and the University will take all reasonable action to deliver courses and services in accordance with the descriptions set out in it.
How we teach

Our philosophy is to underpin theoretical aspects of civil engineering with hands-on experience. You will be taught in lectures, laboratories and design studio sessions and will have one-to-one supervision for your final project.

You will undertake assignments, project work, essays, reports on laboratory practicals, oral presentations, short tests and exams. A residential field course forms part of Year 1.

Getting ready for work

Taking a Civil Engineering degree at Brunel will give you the transferable skills and knowledge you need to play a leading professional role in industry.

Opt for a sandwich degree and you’ll gain the kind of high-quality, paid, relevant professional experience highly valued by employers, putting yourself in a strong position as you enter the job market.

Potential careers include contractor and consultant positions on large infrastructure projects such as bridges, tall buildings, tunnels, flood and coastal defence schemes, transport, water treatment and low-carbon power generation. Some graduates go on to posts of responsibility with national and local government agencies or major firms of consulting engineers. Others specialise in construction, sustainability, innovative materials, foundation engineering, tunneling, geotechnical exploration or building services engineering. Recent destinations have included Aecom, Arup, Atkins, Clancy Docwra, Heathrow Airport, Mace and Thames Water.

Bedir Bekar,
(Civil Engineering with Sustainability BEng)

“What drew me to the course was, first, the sandwich placement scheme it offered, and second, Brunel’s reputation for Engineering. My first year proved an enjoyable challenge. From the beginning of the course there were plenty of opportunities to get stuck in. My favorite aspect was the high volume of practical work we took part in, particularly the field trip to Dorset to study coastal defenses and geology and the mid-term multidisciplinary project collaborating with Design & Engineering students to build and enter fully functioning robotic rover units in an inter-departmental competition.

The emphasis on sound practical understanding to accompany the taught theory was heightened even more in second year, resulting in even more enjoyable practical laboratory sessions. Although the emphasis on independent learning is strong, I can always go and seek personal help from my lecturers. Although I have felt challenged at times, I have never felt lost.”
Specialism

Civil Engineering with Sustainability BEng/MEng

Sustainability is at the heart of modern Civil Engineering. Increasing demand, higher standards, risk exposure and finite resources mean engineers who can combine technical expertise with creativity and professionalism are needed.

This course provides a mainstream education in Civil Engineering, with a particular focus on sustainable infrastructure design and development. We will introduce you to essential technical knowledge, ranging from surveying and site assessment to designing structures and environmental engineering.

Our course is a hands-on learning experience. You will be taught fundamental theory, then test and apply that theory in the laboratory using advanced software. You’ll also put your knowledge to the test in fieldwork.

Our connections with industry mean you are also taught by professional engineers working with major clients, consultancies and contractors who bring real-world experience to course teaching.

Water Engineering and Sustainable Infrastructure Development are course options and if you take the MEng, your Year 4 year includes:

- Major Group Project
- Sustainable Project Management
- Structural Design and FEA
- Sustainable Built Environment
- Geo-environmental Management
- Water Process Engineering.

For more information please go to [www.brunel.ac.uk/civilenginsus-beng](http://www.brunel.ac.uk/civilenginsus-beng)
Come and visit

The best way to get a real feel for Brunel’s buzzing atmosphere is to come visit us, explore campus and meet our staff and students.

Open days
We run regular Open Days where you can chat with students and lecturers and explore the campus. Check our website for dates www.brunel.ac.uk/openday

Campus tours
We run Campus Tours where our student ambassadors will show you around campus and answer your questions about student life at Brunel. Check our website for dates www.brunel.ac.uk/openday

Individual visits
If you can’t make an Open Day, feel free to contact us on openday.booking@brunel.ac.uk and we’ll happily arrange for you to come in and chat with a member of staff.

Getting here
Details on how to find us are online at www.brunel.ac.uk/directions

Useful information

Accommodation
As a first year undergraduate you’re guaranteed a room on campus. We accommodate over 4500 students in five different complexes which creates a fantastic live/study atmosphere.

Flats come in different sizes accommodating from 4 to 16, and 30 of our 33 halls have en-suite facilities. The Isambard complex incorporates studio flats for co-habiting couples. Adapted and disabled rooms are available in the Isambard Complex, Mill Hall and Fleming Hall.

All rooms are fully furnished with bed and bedding, a desk, chest of drawers, wardrobe and free wifi. Accommodation costs vary between £104.00 to £132.50 a week (based on 2014-15 costs).

Find out more at www.brunel.ac.uk/accommodation or take a look at our Flickr account www.flickr.com/photos/accom

Fees and funding
For information about fees and scholarships, go to www.brunel.ac.uk/ugfees

Disability and dyslexia support
We want you to make the most of life at Brunel and fulfil your potential.
Please get in touch www.brunel.ac.uk/disability
Every effort has been made to ensure the accuracy of the information in this brochure and the University will take all reasonable action to deliver courses and services in accordance with the descriptions set out in it. A contract is made at the point when an applicant accepts an offer from Brunel, meeting any conditions, and the acceptance is communicated to Brunel or the clearing system acting for Brunel, and this contract is confirmed. All students are required, as a condition of registration, to abide by and submit to the University’s statutes, ordinances, regulations and rules, which are published on the University’s website (a hard copy is available from the Registry at the Uxbridge address). Note: the information contained within this course brochure is correct at the time of going to print (June 2015).