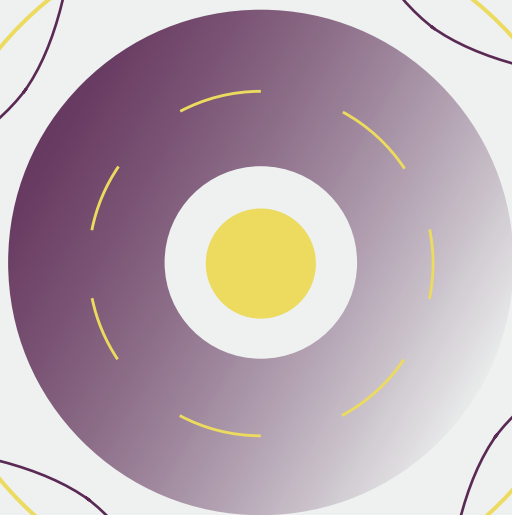


MANCHESTER
1824

The University of Manchester



**Civil
Engineering**

2020
Undergraduate brochure

Civil Engineering at Manchester



// As well as giving me the engineering skills needed to go into industry, the MEng Civil Engineering course gave me the research skills I need to confidently continue on to my current PhD research. //

Phoebe Young
MEng Civil Engineering, graduated 2018

The first English university to offer an engineering degree

Courses accredited through the Joint Board of Moderators (JBM) which is formed by four professional bodies; Institution of Civil Engineers, Institution of Structural Engineers, Chartered Institution of Highways and Transportation (CIHT), Institute of Highway Engineers.

Ranked 4th in the UK for Civil Engineering (QS World University Rankings 2019)

What is Civil Engineering?

Civil engineers can be involved in designing, building and maintaining towers, tunnels, bridges, dams, harbours, sports stadia, hospitals, airports, roads, railway networks and large structures.

Today, civilisation relies more than ever on inventive and resourceful engineers to design, build and maintain the sophisticated environment and the infrastructure in which we live. Infrastructure encompasses everything that supports modern daily life—things like roads, railways and airports, hospitals, access to drinking water and shelter. Infrastructure is important in maintaining our quality of life, and because it works, we can often take it for granted. But if any parts of our infrastructure fail or are taken away, we very quickly appreciate its value.

Civil engineers help to build a better world – from building bridges that connect communities, to piping clean water to remote communities. They improve the quality of life in our homes, they are needed after earthquakes, during droughts and at times of war. Making a positive difference by helping the local population rebuild or maintain the vital infrastructure that will keep them alive is what civil engineers do.

There's no telling where this qualification could take you!



Open days

Our open days provide an opportunity for you and your family to visit not only our Department but also the wider University.

During your visit you'll have the opportunity to talk to staff and current students, find out more about courses and subjects,

visit labs and take part in demonstrations.

If you aren't able to visit us in person, why not take a look around the Department and hear from some of our staff and students on our Virtual Open Day?

www.mace.manchester.ac.uk/study/open-days



Facilities & resources

Our well-equipped laboratories include state-of-the-art facilities such as:

- Heavy structures and concrete labs
- Hydraulics tanks
- Structural testing
- Fire testing labs.

Our courses are taught through a mixture of lectures, tutorials, example classes and laboratory sessions, supplemented by extensive online resource.



// We integrate emerging technologies such as Building Information Modelling (BIM) and 3D laser scanning in our undergraduate Civil Engineering Programmes, which helps to boost students' employability. //



Dr Mojgan Hadi Mosleh

Lecturer in Geoenvironmental Engineering





Learning support

Peer support scheme

Our peer support scheme is one of the largest in Europe. Peer mentors are higher-year students on the same degree programme as you, who will help you find your feet when you arrive here and adjust to student life. As they'll have already been a student at Manchester for at least a year, they should be able to help you with anything you might be worried or unsure about.

PASS (*Peer Assisted Study Sessions*)

All our first year students have a PASS group who they meet with weekly. Led by volunteer students, PASS sessions will often be based around a specific area of study. You'll have the opportunity to consolidate and build on your existing knowledge through discussion with other students in an informal and supportive environment, where you can compare notes, analyse, ask questions and talk through ideas.



Academic advisers

Our students are assigned an academic adviser who is there to give advice about any academic issues throughout the duration of the course. Your adviser will be able to help you with the transition from school or college to university – and can help you get to grips with studying and learning more independently. They'll also be able to help you develop your skills in academic writing or research, or any other skills that are specific to your degree programme.

Disability support

If you have additional needs arising from a medical condition, physical or sensory disability, a specific learning disability such as dyslexia, or a mental health difficulty that affects your study, we can provide support. Contact or visit our Disability Advisory and Support Office before you apply, to discuss your needs and the support available.

www.manchester.ac.uk/dass

Student welfare

Our Department has a dedicated Student Welfare team who are available to help and support with any queries, worries or issues you may face and provide advice and guidance around pastoral issues.

Find out more about the personal and academic support available to you throughout your studies:
www.manchester.ac.uk/study/experience/student-life/university/student-support

Apply

How to apply

All applications for entry onto our undergraduate courses are made online through UCAS, where you should include details of your qualifications and your personal statement. A teacher or tutor will then provide a reference and details of any predicted grades.

We **do not** hold interviews as part of our admissions process, however if we have any queries about your application or qualifications, we will contact you by email to request further information in order to consider your application.

www.manchester.ac.uk/study/undergraduate/applications

Please note that the course units listed in this brochure only represent a sample of the full breadth of available units for each course. Units are reviewed on an annual basis and as such may vary slightly to those advertised.

For up-to-date course information, including unit detail and entry requirements in full, visit our course finder:

www.manchester.ac.uk/undergraduate

Typical offer

BEng

A-level: AAB including Mathematics and Physics

IB: 35 points including 665 at Higher Level to include Mathematics, Physics and one other subject and 5 in English Language at Standard Level

MEng

A-level: AAA including Mathematics and Physics

IB: 36 points including 666 at Higher Level to include Mathematics, Physics and one other subject and 5 in English Language at Standard Level

For full details of our entry requirements:

www.manchester.ac.uk/ugcourses



Our courses

Civil Engineering	BEng	3 years
	MEng	4 years
Civil and Structural Engineering	MEng	4 years
Civil Engineering (Enterprise)	MEng	4 years
Civil Engineering with Industrial Experience	MEng	5 years



Which course?

Choosing your course

Studying for one of our degrees means gaining the opportunity to enhance your employability by taking on valuable, exciting industrial experience.

Our Master of Engineering (MEng) is a four-year course. The addition of a fourth year includes options for more specialised topics and a major group design project.

The MEng can be extended to five years of study with the extra year spent in industry, enabling you to graduate as an experienced engineer.

Industrial experience

Competition in the graduate job market has risen dramatically over the last ten years, and students are increasingly looking for ways to differentiate themselves.

An excellent way to do this is by choosing an industrial placement as part of your degree course. This involves spending a year working in industry, typically after your third year of study. As well as the salary that you earn during your placement, you also gain practical experience that can be invaluable both in your final-year project and when competing for graduate jobs.

Enterprise

Many professional engineers will find themselves in positions of responsibility. Projects must be planned, costed and managed, and products must be designed, manufactured and marketed in the real world. An engineer is thus often required to possess skills in management, decision-making and finance.

We collaborate with the Alliance Manchester Business School in order to offer Civil Engineering (Enterprise), which provides our students with additional knowledge and skills in engineering management.


Read more about industrial placements and studying with Enterprise:
www.mace.manchester.ac.uk/study/undergraduate/industrial-experience

Civil Engineering

Our Civil Engineering courses give our students an excellent grounding in the knowledge and experience necessary to prepare them for a variety of careers in engineering, technology, business, and management. Both the BEng and MEng courses cover topics such as structural, fluid and soil mechanics, engineering design, and maths, as well as emerging subjects crucial to the future of society such as climate change; resource usage and management, and intelligent and futureproof infrastructure. The first years share a common syllabus, which allows students to transfer between them (subject to academic performance).

Course overview

- Our degrees follow a flexible common pathway during the first two years, which allows transfer between the BEng and MEng, subject to academic performance
- Design projects in every year, taught alongside core civil engineering subjects such as structures, geotechnics, hydraulics, project management, construction materials, surveying, amongst others
- All our courses are accredited by the Joint Board of Moderators and are developed in consultation with industry.

UCAS code	BEng	3y	H200	 <small>Institution of Structural Engineers</small>
	MEng	4y	H201	

Year	Sample course units
1	<ul style="list-style-type: none"> > Sustainability & Built Environment > Structures and Materials > Geotechnics
2	<ul style="list-style-type: none"> > Water Engineering > Steel and Concrete Structures > Surveying
3	<ul style="list-style-type: none"> > Renewable Energy Systems > Structural Design & Materials > Operations Management
4	Year in Industry



Our courses focus on developing first-principles understanding of civil engineering phenomena. Computer programming is embedded in the curriculum and you will leave knowing not only how to use software, but how to develop it.

Dr Andrew Foster
Lecturer in Structural Engineering

Civil and Structural Engineering

This course is designed for students who may eventually wish to specialise in structural engineering - as manifested, for example, in bridges and large buildings.

The course introduces you to the effects of large loads, such as those due to earthquakes, wind and fire. Later course years place emphasis on structural theory and design using different materials.

Although emphasising aspects of structural engineering, the core course units cover the same subjects as the civil engineering degree, thus satisfying the academic requirements for entry to both the Institution of Civil Engineers and the Institution of Structural Engineers. The first years of the course are, therefore, the same as the MEng in Civil Engineering.

MEng Civil and Structural Engineering provides you with a basic preparation for professional careers in the built environment sector (including design, construction, local authority and specialist work), as well as in other areas such as project management and finance.

We aim to instil not just knowledge of engineering science, but also a base of practical skills, an understanding of design, comprehension of the commercial world and competence in transferable skills (problem solving, team working, creativity, communications and IT).

Course overview

- Specialises in structural theory and design
- Course tailored for those who intend to become structural engineers, but is also suitable for those seeking careers in civil engineering
- Industry-supervised realistic group design projects in final year, accompanied by advanced structural design and analysis units.

UCAS code	MEng	4y	H220	ice Institution of Civil Engineers	The Institution of Structural Engineers
-----------	------	----	------	---------------------------------------	---

Year	Sample course units
1	<ul style="list-style-type: none"> > Sustainability & Built Environment > Structures and Materials > Geotechnics
2	<ul style="list-style-type: none"> > Water Engineering > Steel and Concrete Structures > Surveying
3	<ul style="list-style-type: none"> > Renewable Energy Systems > Structural Design & Materials > Operations Management
4	<ul style="list-style-type: none"> > Environmental Assessment > Advanced Structural Analysis > Earthquake & Fire Engineering

Civil Engineering (Enterprise)

Engineering is not just about technology. It is about people, companies, manufacturing and commerce. Engineering decisions must normally be made within a commercial context and engineers are often found in senior management positions where they are required to be leaders and strategic planners, as well as problem-solvers and designers. Therefore, we also offer our Civil Engineering (Enterprise) master's which is designed for those students wanting to gain a sound engineering background, coupled with studying units in business, finance and project management.

Course overview

- Degree specialising in civil engineering coupled with specialisms in business, finance and project management
- Extensive laboratory facilities (wave flumes, geotechnics centrifuge, materials testing, 3D laser scanners for surveying)
- Industry-supervised realistic group design projects in final year.

Year	Sample course units
1	<ul style="list-style-type: none">> Sustainability & Built Environment> Structures and Materials> Exploring Enterprise
2	<ul style="list-style-type: none">> Water Engineering> Steel and Concrete Structures> Surveying
3	<ul style="list-style-type: none">> Renewable Energy Systems> Structural Design & Materials> Operations Management
4	<ul style="list-style-type: none">> Environmental Assessment> Enterprise Strategy and Marketing> Legal Issues



UCAS code	MEng	4y	H204	ice	The Institution of Structural Engineers
-----------	------	----	------	-----	---



Civil Engineering with Industrial Experience

During the first two years, the course is broad-based and covers topics such as structural analysis, hydraulics, geotechnics, construction materials, engineering design, project management and mathematics. In later years, you have considerable flexibility to steer your degree towards your interests by taking optional subjects such as renewable energy systems, fire engineering, earthquake engineering and computational hydraulics.

Students find an integrated industrial year, taken after your second or third year, highly beneficial both to their university education and subsequent employability. This is a structured industrial placement monitored by the Department, with support in finding a placement provided.

In your final year, you'll undertake an industry-supervised group design project and advanced units on civil engineering design and water engineering.

Course overview

- Five-year integrated master's degree which includes a placement year working in industry
- Provides the opportunity to gain valuable work experience and boost your employability
- All our courses are accredited by the Joint Board of Moderators and are developed in consultation with industry.

Year	Sample course units
1	<ul style="list-style-type: none"> > Sustainability & Built Environment > Structures and Materials > Geotechnics
2	<ul style="list-style-type: none"> > Water Engineering > Steel and Concrete Structures > Surveying
3	<ul style="list-style-type: none"> > Renewable Energy Systems > Structural Design & Materials > Operations Management
4	Year in Industry
5	<ul style="list-style-type: none"> > Environmental Assessment > Earthquake and Fire Engineering > Computational Hydraulics

UCAS code	MEng	5y	H207	ice Institution of Civil Engineers
-----------	------	----	------	---------------------------------------

Career opportunities

Civil Engineering graduates from The University of Manchester :



Salaries



Further study options

MSc – 60%
PhD – 20%

MSc
Structural
Engineering



Most popular qualifications

Most popular course title

Most popular institution

What our graduates do:

Engineering
Operations
Business Development
Education
Research

Where our graduates work:

Arup
Rolls-Royce
Atkins
AECOM
Mott MacDonald
Jacobs
WSP

Source: HESA, Destinations of Leavers from Higher Education (DLHE)





Women in Engineering

Very few engineering departments around the world are led by a female academic who holds diversity and equality as central values. Under the direction of Professor Alice Larkin, our Department is driving forward rapidly with a range of initiatives to improve diversity and representation of female staff and students. Our students are taught and inspired by our female staff, we hold networking events and talks to celebrate women in engineering, and we run award-winning peer-to-peer mentor schemes where gender balance is a critical part of ensuring a positive experience for all our students.

Read about our Women of Wonder:

www.se.manchester.ac.uk/people/women-of-wonder

Watch the stories of some of the women in our Faculty:

www.mub.eps.manchester.ac.uk/science-engineering/2017/03/06/women-of-wonder



“ Misconceptions you may hear about women in engineering might include: ‘they won’t find it interesting’, ‘they won’t be so good at the creative and practical elements’, or, ‘they won’t be physically strong enough to conduct activities in workshops and with machinery’ – all nonsense!

The future looks bright for women in engineering. The workplace is changing rapidly, and increasingly engineering organisations are recognising the huge value in having a diverse workforce. Furthermore, the societal importance of engineering, and ensuring that there are clear opportunities to make a difference, is helping to inspire more women to take up this exciting and impactful career path.

Diversity is a great thing – and one that can only benefit engineering and help to solve societal challenges. At the moment, the majority of engineering graduates are male – but it doesn’t have to be that way. Come to Manchester and be a part of that change!

Alice Larkin

Head of Department and Professor of Climate Science and Energy Policy

Make your mark with Stellify

// I wanted to try something completely new. Transforming unused and overgrown land into areas where fruit and vegetables can be grown gave my volunteering an environmental focus.

Volunteering is a different experience from study. For me, as a chemical engineering student, it's enabled me to think outside my discipline, which by its nature is very technical.

Here at Manchester, volunteering is embedded in the very heart of the University's culture – there are so many opportunities to try something new, which in turn can have such a positive impact on our communities.

Alessia Xu
MEng Chemical Engineering
with Industrial Experience

Read Alessia's story at:
www.manchester.ac.uk/make-your-mark

At Manchester you'll find a whole host of transformational academic and extracurricular activities to help you stand out and make your mark on the world. You could even prove your abilities to potential employers by gaining a prestigious award.

We call this process **Stellify**: to change, or be changed, into a star.

Stellify offers you opportunities to develop and grow at a university leading the way in social responsibility. Here's how.



Learn without boundaries

Enjoy interdisciplinary, international and entrepreneurial study options outside your course.



Understand the issues that matter

Become ethically, socially and politically informed on some of humanity's most pressing global issues.



Make a difference

Contribute to and learn from local and global communities through volunteering.



Step up and lead

Gain confidence and experience by assisting and inspiring your peers.



Create your future

Explore countless opportunities for professional career development.

STELLIFY

www.manchester.ac.uk/stellify

Manchester engineering campus development

A world-leading campus for teaching, learning and research, providing a brand new home for the next generation of engineers and material scientists.

It's a playground for engineers! It's got facilities and spaces - some social, some very technical - to let you work with other people to do some really amazing things.

Its workshops and lab spaces will become amplified centres of creativity, innovation and identity, allowing students to solve problems collaboratively to reflect the way industry works.

Learning will not be confined to the classroom - it will deliver a variety of adaptable and innovative learning spaces, recognising that there is no one right teaching and learning style.

Engineering is about creativity and the first thing you will see when you come into the building is students 'making' and 'doing'.

Our new campus reflects our pride in Manchester's rich academic and civic heritage, while showcasing our ongoing evolution of education and research.



The University of Manchester

Department of Mechanical, Aerospace and Civil Engineering
George Begg Building
Manchester
M1 3BB
United Kingdom

t +44 (0)161 306 9210
e ug-mace@manchester.ac.uk
w manchester.ac.uk/mace

 [@UOMMACE](https://www.facebook.com/UOMMACE)

 [@UOM_MACE](https://twitter.com/UOM_MACE)

This brochure was printed in 2019 for the purposes of the 2020 intake. It has therefore been printed in advance of course starting dates and for this reason, course information may be amended prior to you applying for a place. There are a number of reasons why changes to course information and/or published term dates may need to be made prior to you applying for a place – more details can be found on our website. Prospective students are therefore reminded that they are responsible for ensuring, prior to applying to study, that they review up-to-date course information by searching for the relevant course at:

www.manchester.ac.uk/undergraduate/courses

Further information describing the teaching, examination, assessment and other educational services offered by The University of Manchester is available at:

www.manchester.ac.uk/undergraduate

Royal Charter Number RC000797