



# Mechanical Engineering

UNDERGRADUATE BROCHURE

Step into the world of Mechanical Engineering and learn the most fundamental engineering branch there is. From the way we heat our homes to how supermarkets keep their produce cool, or from the engines that drive our cars to the steam and gas turbines that generate our energy – mechanical engineers shape our daily life.

As automation and machines increasingly impact our modern industries and lives, the demand for mechanical engineers continues to grow. Study

this degree and not only will you understand how mechanical things work, but also the development, operational and testing processes that any machinery with moving parts requires.

With our focus on your future, you will develop the range of skills and expertise that a professional engineer must possess. In addition, you will also learn the project management skills to produce expert business plans, meaning our graduates stand out to potential employers.



## Why Manchester



Graduate from an accredited course suitable for those interested in gaining chartered engineering status.



Undertake design projects in each year, and study both core subjects such as structural and fluid mechanics, materials and manufacturing and emerging subjects that address today's key issues, like climate change.



We have strong industry links with companies such as AECOM, Rolls Royce, EDF Energy, and our graduates go on to work for the biggest names in engineering and beyond.

*"It's in the makerspace that we come together, and our ideas come to life! You can tell it's designed with Engineering and Materials students in mind, because it's the perfect place to collaborate, connect, and create with each other!"*

Olivia Del Pino Herrera,  
Engineering Student

## Our campus

Come to our new home for Engineering and Materials; a place like no other. This is where engineers, material scientists and fashion students collaborate, innovate and make their mark on the world. Unleash your potential in our creative, academic playground that signals the evolution of a proud history of innovation spanning almost 200 years.

In this very special place, we're ripping up the rule book, offering you a truly innovative teaching and learning experience. As well as our creative classrooms, you'll also have access to world-leading sustainable research facilities. There are a world of possibilities, whether you are interested in aerospace, robotics, or sustainable fashion, there's a home for you here.

Manchester is synonymous with the Worker Bee and our Makerspace will be the hive of activity. It's led by students, for students, as the place to connect and tackle real-life challenges together with support from across our disciplines.

Our new home for Engineering and Materials is equipped and ready for students to unleash their potential.

[uom.link/ug-mech-campus](https://uom.link/ug-mech-campus)

Read more about why Manchester should be your first choice here: [uom.link/ug-mech-why-mcr](https://uom.link/ug-mech-why-mcr)



### Our courses

Mechanical Engineering BEng

Mechanical Engineering MEng

Mechanical Engineering with Industrial Experience MEng

Mechanical Engineering with Management BEng

Mechanical Engineering with Management MEng

Mechanical Engineering with an Integrated Foundation Year

#### FLEXIBLE OPTIONS

Our courses have a largely common first and second year, giving students the flexibility to transfer to their chosen course up to the end of Year 2, when they are better informed about the pathways and have a deeper understanding of each specialisation.

#### FOUNDATION YEAR AVAILABLE

You can prepare for the full degree course if you do not have the appropriate qualifications for direct entry by undertaking our foundation course first.

Find out more about the different courses and options on offer on our department website: [uom.link/ug-mech](https://uom.link/ug-mech)



## What you'll learn

Mechanical engineering applies science and technology to real-world problems. The most fundamental of all engineering areas, this degree provides an excellent springboard into a variety of careers within engineering, technology, business, and management.

Our syllabus is incredibly diverse, with topics covering everything from fluids and structures to manufacturing, modelling, and design. As you progress through the years, you can specialise in advanced modules such as nuclear engineering, renewable systems, or advanced modelling and simulation.

This diversity of topics is reflected by our variety of teaching styles, including lectures, tutorials, practical lab and computer-based sessions, with specialist software.

Your third year will feature an individual project – where you'll undertake a major investigative project by yourself. Not only will this require scientific investigations, but you'll learn from an expert academic in your field of research as you work alongside one-another.

## Special features

#### 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. 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.

#### WITH MANAGEMENT

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 to offer degree courses with management, which provides our students with additional knowledge and skills in engineering management. [Read more about your options: uom.link/ug-mech-study](https://uom.link/ug-mech-study)

#### MECHANICAL ENGINEERING (NUCLEAR ENGINEERING)

From Year 2 you'll have the option to choose to take a range of nuclear engineering related course units and undertake your third year project in that area. This gives you an opportunity to specialise in this expanding and important area, gaining knowledge and skills directly relevant to the nuclear industries.

#### FACILITIES

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

- Extensive laboratory space and equipment for subjects such as Dynamics, Materials, Control and Thermofluids
- A National Instruments lab which is equipped with excellent computer facilities allowing students to design, build and run robotics.

#### OUR STUDENT COMMUNITY

We have numerous societies and groups that you can get involved with offering activities from volunteering and quiz nights to netball and football. Our student run MechSoc (Mechanical Engineering Society) also organise extra-curricular activities such as industry visits, networking events and talks.

WES (Women in Engineering Society) promotes women in all specialties of engineering and organises social events, mentoring schemes, networking opportunities and outreach programmes. [uom.link/ug-mech-student-union](https://uom.link/ug-mech-student-union)

### Open days

The University holds undergraduate open days regularly where you have the opportunity to find out more about our courses, the support we offer and see our facilities. Attending an open day is a great way to find out what studying at Manchester and to hear from our staff and students.

For information about our open days visit: [uom.link/ug-mech-open-days](https://uom.link/ug-mech-open-days)



"The University of Manchester is really well-ranked for Mechanical Engineering. We have access to amazing facilities on campus, especially the clusters that provide us with updated engineering software. It's good to get hands-on experience with software we're likely to use in the workplace in our future career."

Chloe Coradetti / Mechanical Engineering MEng

Read and watch why our current students chose Manchester: [uom.link/ug-mech-students](https://uom.link/ug-mech-students)

## Employability and careers

Mechanical engineers are needed throughout the world, and a Mechanical Engineering degree from Manchester is your ticket into almost any industry you can think of. Within the first 15 months, 95% of graduates are successfully employed or engaged in further study (Graduate Outcomes Survey).

With our fantastic learning environment, world-class academics, and strong, long-established links to industry, we offer an excellent opportunity for you to fulfil your potential and progress confidently along your chosen career path.

From coming up with new ideas to managing complex systems, career opportunities for our Mechanical Engineering graduates are as diverse as the field itself. Our graduates go into careers in the automotive, power generation, biomechanics, and manufacturing industries, as well as further study or research.

#### WHAT OUR GRADUATES DO

- Automation Engineer Consultant
- Design Engineer
- Instrumentation Engineer
- Mechanical Engineer
- Project Manager
- Research And Development Engineer

#### WHERE OUR GRADUATES WORK

- BP
- AECOM
- Bosch
- Schneider Electric
- Microsoft
- Amazon
- General Motors
- Rolls Royce

Find out about the careers opportunities the University and our department offer, so that you graduate with a range of skills and experience: [uom.link/ug-mech-careers](https://uom.link/ug-mech-careers)

### Get in touch

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#### DISCLAIMER

This brochure was produced in 2022. It has therefore been produced in advance of course starting dates. For this reason, course information, including course content, may be amended prior to your applying for a place on a course of study. There are a number of reasons why changes to course information and/or published term dates may need to be made prior to your applying for a place on a course. These may include, but are not limited to: the need to make reasonable changes to the content and teaching offered in relation to any course for operational and/or academic reasons; the withdrawal of courses due to insufficient numbers; a course not receiving the required accreditation; and/or interruption or loss of key services due to circumstances beyond our control, including fire, flood or other operational issues.

Prospective students are therefore reminded that they are responsible for ensuring, prior to applying to study at The University of Manchester, that they review up-to-date information by searching for the relevant course at [uom.link/fse-ug-courses](https://uom.link/fse-ug-courses)

#### INDUSTRIAL EXPERIENCE DISCLAIMER

Some aspects of the industrial experience programmes may continue to be impacted by the COVID-19 pandemic. The situation is fast-moving and dynamic and may require adjustments at short notice.

For up-to-date information please visit: [uom.link/fse-ug-study](https://uom.link/fse-ug-study)

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