




mechanical, aerospace and civil engineering

engineering and physical sciences



the facts

A large, modern building with a curved facade and many windows. The building is green-tinted and has the word 'Manchester' visible on its side. It is situated on a street with a road and a sidewalk in front of it.

The School of Mechanical, Aerospace and Civil Engineering is one of Europe's leading Schools of Engineering, located in the Pariser and George Begg buildings –(nos 12 and 17 on the campus map). We have 80 teaching staff, about 1,000 undergraduates and 600 postgraduates. There are up to 350 undergraduate places each year. Sixty percent of graduates are awarded First or Upper Second class Honours degrees, and about 30% go on to higher degrees.



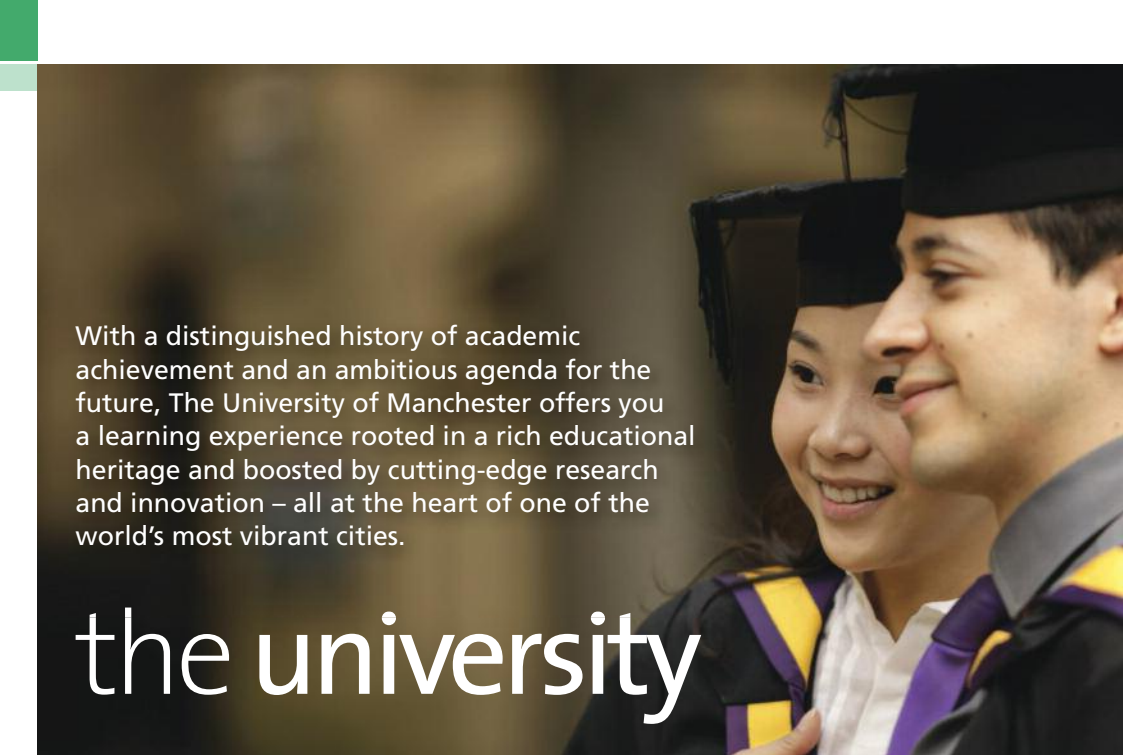


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'Manchester is a place for individuals, brilliant kids who like to do their own thing... and if you are ready it will release you to do the same...'



With a distinguished history of academic achievement and an ambitious agenda for the future, The University of Manchester offers you a learning experience rooted in a rich educational heritage and boosted by cutting-edge research and innovation – all at the heart of one of the world’s most vibrant cities.

the university

Part of the prestigious Russell Group of universities, Manchester has much to offer you. As well as the outstanding facilities, resources and opportunities found within an institution of this calibre, the University is highly respected amongst academic and business communities alike – a respect that is conferred upon its graduates.

Innovative

Our tradition of success in learning and research stretches back over 180 years, encompassing the birth of the modern computer, the splitting of the atom and the founding principles of present-day economics. All these and many more world-changing innovations have their roots here, at The University of Manchester.

Rated third in the UK in terms of ‘research power’ in the last Research Assessment Exercise, today we enjoy a global reputation for our pioneering research, which informs our problem-based approach to undergraduate learning.

Internationally renowned

Since 2005, the University has risen in the influential Academic Ranking of World Universities Survey conducted by Shanghai Jiao-Tong University, from 53rd to 44th in the world, and ninth in Europe – confirming us as a progressive and world-class teaching and research institution.

Our campus is home to more than 37,000 students from around 150 countries, creating a diverse and inclusive multicultural community.

Ambitious

Our mission is to become one of the top 25 universities in the world by 2015 and the preferred destination for the best teachers, researchers and students.

It’s a goal that we’re well on the way to achieving, backed by a multimillion-pound investment programme in facilities, staff and buildings. This includes a virtual learning environment that offers you flexible access to study resources 24/7, and the Alan Gilbert Learning Commons, a new £30 million resource centre for students opening in 2012.



Distinguished

More than 5,600 academic and research staff – many leaders in their fields, with international reputations – provide stimulating learning environments and excellent standards of teaching.

As a Manchester graduate, you will join a prestigious hall of fame, including 25 Nobel Prize winners among our current and former staff and students. We have more Nobel Prize winners on our current staff than any other UK university.

Sought after by employers

Employers actively target University of Manchester graduates, giving you excellent job prospects.

Our worldwide community of 240,000 graduates can be found in top positions in every imaginable field, including Sir Terry Leahy, former chief executive of Tesco; former Secretary General of Amnesty International Irene Khan; writer/performer Meera Syal and author Louis de Bernieres.

Full of opportunity

You can take advantage of countless exciting personal development opportunities at Manchester, including career development programmes run by a university careers service that has consistently been voted the best in the UK by graduate recruiters.

Choose The University of Manchester and you will join one of Britain's most forward-thinking universities, which builds on its success year on year – and invites you to do the same.

Find out more...

www.manchester.ac.uk/aboutus



mechanical, aerospace and civil engineering at manchester

Engineering is the art of applying scientific and mathematical knowledge, experience and judgement to produce things that benefit people. Engineers design bridges, aircraft and vehicles, as well as developing processes for cleaning up the environment to ensure a sustainable future. In other words, engineering is the process of producing a technical product or system to meet a specific need.

As an engineer, you can enable human potential more than any other professional, by helping to provide the complex infrastructure for a civilised society.

You will have many jobs to choose from as an engineer. You can become a research engineer, discovering new ideas; a design engineer, with creativity and imagination; a construction or production engineer, making products or systems; or a project manager, controlling complex products and constructions. The excitement is that you don't do the same thing day in and day out.



Nine reasons we should be your number one choice...

1. Quality of courses

Our courses are recognised by both employers and the Engineering Institutions as being of outstanding quality leading to the high employment rate of our graduates. The courses are taught by world recognised specialists in their fields and the quality is constantly monitored to ensure that the standard remains consistent and that material is relevant and up to date.

2. Employability & Careers

We are a dominant force in engineering and technology and are top-rated for graduate employment. Any one of our degrees will open up a whole range of opportunities to you. Our courses are practical-based to ensure you leave university with not just the theory behind mechanical, aerospace or civil engineering, but also the skills to put theory into practice. Find out more about our courses from page 10 onwards. The spectrum of jobs includes consultancy, construction, design, manufacturing and management. A degree from the School is an international currency; we have graduates in almost every country in the world.

As the field of Engineering is wide and diverse, so are the career opportunities on offer. From the conception of new ideas, planning and maintenance, or the managing of complex products and constructions, Engineering is an exciting profession, one in which an individual can take pride. It is a profession that can enable a graduate to broaden their horizons and realise their potential.

More detailed information on career progression and postgraduate study at the School is available by clicking on the specific course links on the School web pages.

3. Teamwork

Meet new friends, work in groups, learn from each other, and share your experiences. Teamwork plays a large part in the life of a MACE student, read on to find out more.....



4. Clubs and groups

We also help students to run their own Engineering Society, which organises industrial visits, lectures by guest speakers, a careers fair, sports and social functions. Currently in the School we have a Formula Student team; Civil & Construction Society, an Aerospace Society and a Mechanical Society.

5. Industrial partnership links experience opportunities

The University of Manchester has many collaborative alliances with leading businesses, meaning our courses and research are on the cutting edge of engineering advances. But also, those links can help students interested in either a summer vacation placement or students who wish to spend one year on an industrial placement – find opportunities.

6. Peer Assisted Study Scheme (PASS)

We encourage a relaxed and informal relationship between staff and students, founded on the personal tutorial system, our established students organise a peer group support and mentoring scheme for first-year groups. PASS has proven to be a huge benefit to students and helps resolve any worries or problems, as it ensures our students know that help is always at hand.

7. Excellent research rankings

In research, the School performed extremely well in the national 2008 RAE exercise, with 70% of research activity ranked as “internationally excellent”. The University is ranked third in the UK in terms of research power and we have a combined record of excellence that is among the strongest in the country. The Shanghai Jiao Tong 2010 places Manchester 44th in the world top 100 universities.

8. Extensive lab facilities

The teaching courses are supported by excellent experimental facilities, including a range of wind tunnels from low speed to hypersonic, available to all programmes.

Civil engineering students have a dedicated structural testing laboratory, a teaching-focused hydraulics and geotechnics laboratory, wind tunnels and a materials workshop. They also have access to leading research facilities, including; the largest university hydraulic tilting flume in the world; an extensive range of mechanical property and structural testing facilities at both room and high temperatures; and a range of fire-testing facilities.

Mechanical engineering students have access to state-of-the-art laser laboratories, explosive testing laboratories, as well as a superb environmental research centre. We also have a large collection of wind tunnels including very large and fast wind tunnels. Students studying both Mechanical and Aerospace Engineering get the opportunity to use one of our supersonic tunnels and the school also boasts one of the very few Hypersonic tunnels in the world (with a working speed up to Mach 6 (i.e. 6 times the speed of sound)).



Aerospace students have access to the School flight simulator used for teaching of aircraft flight across all years. This provides the link between theory and practice and offers insights into aircraft handling characteristics that would be different from academic work alone. Students can experiment with a range of aircraft types, developing and testing their own aircraft configurations. Apart from taught courses, this facility is also available for project work and gives students the opportunity to enter a national flight simulator competition. There is a strong emphasis on the use of small Unmanned Air Vehicles (UAVs) in the Aerospace course. In the first year, all students are given their own model glider to be used as part of the aircraft flight course. In the third year there are a number of projects available on the use of autonomous fixed and rotary wing UAVs, and fourth year MEng students are expected to design, build and test their own UAV system.

All students have the opportunity to join the Formula student programme – this is an entirely student run scheme, open to students in all years, in contrast to most universities, for more information see <http://racingteam.manchester.ac.uk>.

We also offer students the opportunity to become involved in a new carbon neutral ship competition. This is so new we have no specific details at the time of going to print – look at our web site for further details.

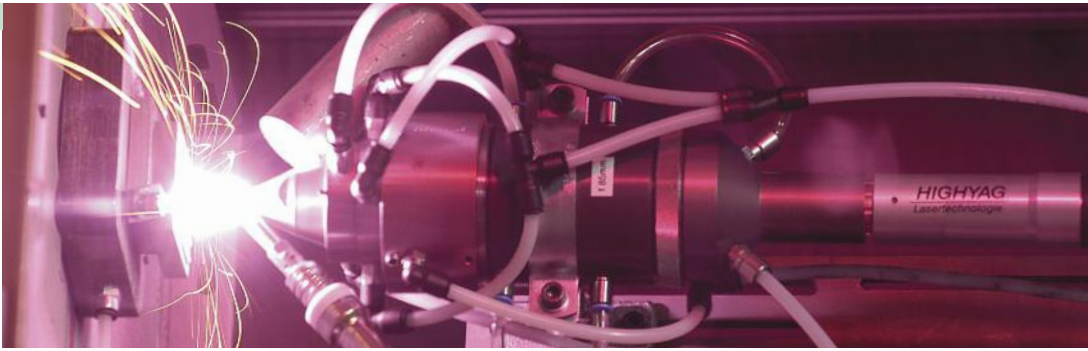
9. What makes us unique?

We are a combined school which allows us to give more cross-disciplinary input and allows students to get involved in cross-disciplinary research projects. Nevertheless, we still offer specific programmes in the separate disciplines to give our students the specialist knowledge they need to compete in the job market.

In Civil Engineering – we offer a wide range of options with specific strengths in structures, the environment, sustainability and management.

In Mechanical Engineering – we build on our historic routes at the forefront of the Industrial Revolution with a world-class course which gives a broad education in Mechanical Engineering.

In Aerospace Engineering - we cover the core Engineering science interspersed with specialist aerospace units through the course.



Awards

Susan Mackenzie and James Walker, who graduated in 2011 with First Class Honours MEng degrees in Civil and Structural Engineering, were recently awarded second prize in National TATA Steel BCSCA Student Awards for their design of a Aquatics Centre and Ice Rink Building.

The award was announced at the Structural Steel Design Awards 2011 Ceremony in London. The design submission was based on work completed by Susan and James as part of their Year 4 module in Bridge and Building Engineering in response to a competition brief supported also by the Steel Construction Institute.

On 6th April two Undergraduate students from School of MACE Deepthi Shanmugasundaram and Shaun Woo won awards in the Greater Manchester Area Heat (round) of the IMechE's 'Speak Out for Engineering' competition .

This competition, was originally established in 1964 to challenge young engineers to prove that they could 'communicate effectively'. The heat in Manchester was organised by the IMechE Greater Manchester Young Members Panel (GMYMP). It attracted speakers from both industry and academia. In a two-hour competition, presentations by 4th year MEng Aerospace Engineering student Deepthi Shanmugasundaram and 2nd year Mechanical Engineering student Shaun Woo triumphed and were awarded the first and second prizes respectively.



I was invited to the AIAA Aerospace Sciences Meeting and New Horizons Forum in Orlando, Florida on 6th January 2011 to present my entry to the 'New Horizons' challenge, in which I was a runner-up.

The AIAA New Horizons Challenge entailed designing a demonstration competition, and naming a prize amount, that would inspire creative thinking and groundbreaking innovation. My idea for a prize was the 'Spaceplane Prize' – for \$15million. The prize would be awarded to the first group to demonstrate a single stage to orbit vehicle capable of reaching an altitude of 150km and performing one full orbit around the Earth before returning to land. Also stipulated was that the vehicle must be able to take off and land on a conventional runway and have a capacity of 3 people excluding crew, and be able to conduct two flights in a month.

I had a great time visiting Orlando, and was also able to attend many interesting talks at the conference. It was a great opportunity to meet academics and professionals involved in all aspects of aerospace science and listen to others' ideas on new and future challenges for aerospace technology.



Leo Teeney

Our 3rd Year MEng Aerospace Engineering student, won 2011 runner-up prize of the New Horizons Challenge organised by American Institute of Aeronautics and Astronautics AIAA.

Scholarships

The School has a range of scholarships available – see our webpages for details @ www.manchester.ac.uk/mace

Visiting us

The University of Manchester holds open days for prospective students. Further information can be found online: www.manchester.ac.uk/opendays. These are usually held in June and October and booking is essential for the talks and lab tours we offer in Mechanical, Aerospace and Civil Engineering.

We invite students who apply for our courses to attend a UCAS Visit Day in order to learn more about the School, our courses and career prospects in Mechanical, Aerospace and Civil Engineering.

course details

Mechanical Engineering BEng 3yrs

UCAS Code H300

Mechanical Engineering with Management BEng 3yrs

UCAS Code H3N1

Mechanical Engineering with Nuclear Engineering BEng 3yrs

UCAS Code H3H8

Mechanical Engineering MEng 4yrs

UCAS Code H303

Mechanical Engineering with Management MEng 4yrs

UCAS Code H3ND

Mechanical Engineering with Nuclear Engineering MEng 4yrs

UCAS Code H3HV

Mechanical Engineering with Industrial Experience MEng 5yrs

UCAS Code H301

Aerospace Engineering BEng 3 yrs

UCAS Code H400

Aerospace Engineering MEng 4yrs

UCAS Code H402

Aerospace Engineering with Management MEng 4yrs

UCAS Code H4ND

Aerospace Engineering with Industrial Experience MEng 5yrs

UCAS Code H406

Civil Engineering BEng 3yrs

UCAS Code H200

Civil Engineering MEng 4yrs

UCAS Code H201

Civil and Structural Engineering MEng 4yrs

UCAS Code H220

Civil Engineering with Study in North America MEng 4yrs

UCAS Code H2T7

Civil Engineering (Enterprise) MEng 4yrs

UCAS Code H204

Civil Engineering with Industrial Experience MEng 5yrs

UCAS Code H207

Entry requirements

BEng programmes

GCSE or equivalent

5 A-C grades, inc English Language, Maths and Physics or Dual Science

GCE A-level / Unit Grades

AAB Maths (must contain some applied/mechanics elements) and preferably Physics or Further Maths

GCE AS-level Acceptability

Two may be accepted in place of the third A level

BTEC National Diploma

DDM and A-level Maths at grade A

14-19 Diploma

We accept an overall grade B in the Progression Diploma plus grade A in A-level Maths

Welsh Baccalaureate (inc A-levels)

Pass and AB in Maths and Physics at A-level

Scottish Advanced Highers

AAB Maths and Physics

Irish Leaving Certificate

AAABB including AAB in Maths, Applied Maths and Physics at the Higher level

International Baccalaureate

35 points including Maths and Physics at Higher Level

MEng programmes

GCSE or equivalent

5 A-C grades English Language, Maths and Physics or Dual Science

GCE A-level / Unit Grades

AAA Maths (must contain some applied/ mechanics elements) and preferably Physics or Further Maths

GCE AS-level Acceptability

Two may be accepted in place of the third A-level

BTEC National Diploma

DDD and A-level Maths at grade A

14-19 Diploma

We accept an overall grade B in the Progression Diploma plus grade A in A-level Maths

Welsh Baccaulaeate (inc A-levels)

Pass and AA in Maths and Physics at A-level

Scottish Advanced Highers

AAA Maths and Physics

Irish Leaving Certificate

AAAAA inc AAA in Maths, Applied Maths and Physics all at Higher Level

International Baccaulaeate

37 points including Maths and Physics at Higher Level

International qualifications

Please visit www.manchester.ac.uk/international for information on the individual country qualifications that we accept.

Other subjects

General Studies is welcomed, but will NOT form part of the standard offer.

English language requirement

IELTS 6 (minimum of 5.5 in each component), TOEFL 550/220 computer based or 87 internet based



Direct entry to the Second Year

If you have completed learning equivalent to our first year, you could be considered for direct entry to our second year. Each case is considered individually. In order to be considered for second year direct entry please email transcripts of all coursework, exam results and pre-university qualifications (if applicable) to ug-mace@manchester.ac.uk.

MEng or BEng?

We offer a range of degree courses at both MEng (Master of Engineering) or BEng (Bachelor of Engineering) level. The most obvious difference between these is duration; four or five years for MEng and three years for BEng. Transfer between BEng and MEng is possible and subject to satisfactory progress. The first three years covers most of the Engineering science whereas the fourth year looks in more depth at particular applications. But what else could influence your choice?

Many students studying for a degree in engineering aim to become Chartered Engineers, and accredited MEng degree courses give you the required educational base to achieve this. Accredited BEng degree courses require you to complete further study in order to achieve the same status. This could take the form of full- or part-time postgraduate study, distance learning, or work-based learning.

Professional accreditation

All of our courses are accredited by the following relevant professional bodies:

Institution of Civil Engineers (ICE)
Institution of Mechanical Engineers (IMechE)
Institution of Structural Engineers (IStructE)
Royal Aeronautical Society (RAeS)

course details

Teaching and Learning

What teaching methods do we use?

Course unit structures may comprise;

- Lectures
- Tutorial and/or example classes
- Laboratory work
- Studio design work

Lectures

These are fundamental to our teaching process. We provide course notes in both printed and electronic format, the latter via our e-learning system. Your lecturers deliver material using a range of teaching media, such as PowerPoint, black/white boards, video and demonstrations. You will need to take notes to supplement those provided by the lecturer and you are encouraged to ask questions during lectures. There is usually time at the end of lectures to talk to the lecturer directly, or possibly to arrange a meeting if further discussion is needed.

Example classes

These are interspersed with the lectures at appropriate points and help you to understand key topics. As with lectures, your entire class will be present as lecturers together with students, work through specific examples. You can have the chance to prepare for discussion, your own solutions before the class. Of course, you are encouraged to participate; asking questions in front of a large audience is an important skill for you to learn and become confident in.

'Clickers' may sometimes be used: this is the term for an in-class voting system that enables students to respond to specific questions. Feedback from this system is used by lecturers to judge the level of understanding of the class.

Laboratory exercises

Lab classes are designed to give students hands-on experience of practical work as well as to emphasise the material covered in the course.

Personal tutorials

You will meet your personal tutor on a weekly basis in a tutor group of no more than six students. These sessions will cover a mixture of transferable skills, pastoral care and specific help on material covered in lectures.

Project work

This runs through all years of your course.

A substantial feature of your third year is the individual research project, which allows you to show innovation and application of the knowledge and techniques you have learned.

In your fourth year, you will work on a team design project with four or five other students and academic and industry tutors.

We also use online resources, computational labs and demonstrations.

What ICE says.....

During your study of Civil Engineering (or a related topic) you will be given information about professional qualifications of Chartered and Incorporated Engineers through The Institution of Civil Engineers (ICE). The ICE offer guidance and support during your academic study on how to become professionally qualified later in your career, and the steps you should take during your academic study.

The University of Manchester maintains close links with ICE and you should take full advantage of any talks or meetings arranged by ICE as they will help in areas such as networking and your CV.

You should also take advantage of the free student membership of ICE by joining on line at www.ice.org.uk/students and if you require more information about ICE in the North West please contact icecube@ice.org.uk



Aerospace Engineering

Aerospace engineers are involved in every part of the design, development, testing and operation of aerospace vehicles and systems.

The aerospace industry offers exciting career opportunities at the forefront of new technologies. It is the largest industry in the UK manufacturing sector and serves the global economy. Major aerospace projects are massive in scale and involve international partnerships across a range of products from large commercial airliners, next-generation military aircraft, satellites, launch vehicles and interplanetary probes. There is also an emerging market for smaller unmanned air vehicles developed by smaller, agile start up companies.

What will you study?

The School offers a range of innovative degree courses in aerospace engineering that are supported by excellent computational and experimental facilities. All courses have been developed in consultation with industry. This ensures that they cover the fundamentals, as well as the key aerospace disciplines that are relevant to graduate careers and cutting edge research.

Particular strengths of a Manchester aerospace engineer are team-working, creativity and adaptability. This stems from the breadth of education and the range of enquiry-based learning that you receive.

Core degrees are the three-year BEng and the four-year MEng in Aerospace Engineering. There are MEng courses for students who wish to gain industrial experience, or to study more management.

The first year of study establishes a strategic overview of the main areas of aerospace engineering and introduces you to underlying science and

course details

mathematics. The second and third years develop the key technical knowledge and understanding that you need for entry into industry or postgraduate study. For MEng students, the fourth year provides specialisation in advanced engineering and consolidates practical experience via an advanced aerospace design project.

Throughout all years at Manchester, there is a strong focus on the attainment of transferable skills, such as analysis, design, modelling, organisation and problem-solving. This enables you to pursue careers in a range of high technology fields after graduation, as engineers, consultants, managers, or researchers.

The grid on pages 16 is indicative of the current units on the core aerospace engineering courses. These may not be the exact units offered for current entry, as we strive to ensure the content of our courses reflects the latest research and industrial developments, to ensure our graduates have the most appropriate skills-set to prepare them for their future careers. For more information about course content see: www.manchester.ac.uk/mace.

Degree courses in Aerospace Engineering

MEng (Hons) Aerospace Engineering

The course is available for students who wish to attain the highest level of education in aerospace engineering, up to and including specialisation in advanced topics. The grid on page 16 indicates the breadth of study that is involved.

Year One provides basic knowledge and skills that are applicable to all branches of engineering, such as mathematics, thermodynamics, structures and management. It also introduces the fundamental principles of aerospace vehicles and systems. This is supported by team-working exercises that set the context for aerospace design and develops an awareness of current issues, such as climate change.

Year Two starts the process of detailed education in key areas of aerospace engineering, including aircraft design, aircraft performance, flight dynamics and control engineering. Units in aerodynamics, propulsion, structures and dynamics provide the underlying scientific base.

Year Three completes the process via topics in flight control, propulsion, helicopters and a group engineering systems project that could take you to Mars on an interplanetary probe or across the Earth in a micro light. You undertake an individual research project, with the aim of fostering competence in research and communication.

Year Four includes a year long autonomous unmanned air vehicle group design, build and test project that consolidates previous learning. Teams operate a typical industry development lifecycle and have to flight demonstrate their vehicle at the end of the project. The remaining taught topics are optional and embody a high level of specialisation. These encourage you to adopt a critical approach to engineering, as appropriate to positions of leadership in future careers.

MEng (Hons) Aerospace Engineering with Management

If you have an ambition to become a project manager, you are able to follow a variant of the MEng courses, with more units dedicated to management. This shifts the focus slightly away from technical engineering and more towards project administration and enterprise management.

Your first year is common with the core MEng in Aerospace Engineering. In the second and third years, units on Accounting, Marketing and Strategy are pursued in lieu of engineering units.

Year Four incorporates the same group design project as for the core MEng cohort, but with the requirement that students 'with management' will act as the project managers, thereby giving hands-on experience of project leadership. In addition, there will be compulsory units in Project Finance and Risk Management.

MEng (Hons) Aerospace Engineering with Industrial Experience

The course offers the same programme of study provided by the MEng in Aerospace Engineering and adds one year of industrial experience via a structured placement. This can be taken between your second and third year, or between your third and fourth year, as preferred. During this period, day-to-day supervision will be provided by the host company and an academic tutor will maintain regular contact with the company to ensure that your personal and academic requirements are respected.

BEng (Hons) Aerospace Engineering

The core BEng course is identical with the first three years of the MEng course. This course achieves the same learning outcomes for those years. It is intended to provide you with the skills necessary for a successful career in industry. In addition, it provides a route into postgraduate learning that is tailored to individual areas of interest, as opposed to the wider range of topics that are available with the MEng programme.



Project work and enquiry-based learning

A wide range of project-based and enquiry-based tasks are set over the duration of our degree courses. These are intended to develop different aspects of individual learning, set on the principle that students learn better by 'doing' than by just listening or watching. There are two main approaches; namely, group centric and student-centric, which address the need to cooperate and collaborate with others and the need to exhibit self-motivation and professional commitment, respectively.

course details

Year 1

Aerospace Systems (Part 1)
Aircraft Flight
Design 1
Dynamics 1
Energy Transport & Conversion
Fluid Mechanics
Mathematics 1 (two units)
Modelling and Simulation 1
Spacecraft Flight
Statics
Thermodynamics

Year 2

Aerospace Propulsion (Part 1)
Aerospace Structures (Part 1)
Aircraft Design
Aircraft Performance
Applied Fluid Mechanics
Control Engineering
Dynamics
Flight Dynamics
Management 2
Mathematics
Modelling and Simulation 2
Numerical Methods

Year 3

Aerodynamics (Part 2)
Aerospace Structures (Part 2)
Aerospace Systems (Part 2)
Design 3 (Aerospace Materials)
Individual Project
Management 3
Modelling and Simulation 3
Propulsion (Part 2)
Vibrations

With Management students take:
Strategy
Marketing & Advanced Technology
Enterprise instead of Vibrations,
Modelling & Simulation 3 and
Applied Engineering Maths

Year 4

Aerospace Group Design Project
Project Finance
Management 4
Risk Management

Remaining courses from:
Advanced Aerodynamics
Advanced Aero & Space Propulsion
Advanced Computational Fluid
Dynamics
Advanced Modelling and Simulation
Advanced Systems
Aeroacoustics
Aeroelasticity
Flight Simulation
Helicopter Flight
Hypersonic Flows and Physical Gas
Dynamics
Impact and Explosion Engineering
Management 4*

**optional for mainstream programme/
dependent on programme followed*

NB Information is correct at time of going to print; all units are subject to change.

Civil Engineering

‘Civil engineering’ was originally the term used for engineering that did not have any military applications. Today, it is one of the base disciplines of the construction industry.

“The world can only support one billion people. The fact that it is supporting almost seven billion is in part due to the resilience of nature, in part due to Civil Engineering.” David Bellamy

Civil engineering is about creating, improving and protecting the environment in which we live. Civil engineers are responsible for the design, project management and construction of everything in the built environment – bridges, roads, canals, hospitals, schools, airports, power stations, water supply, cleaning dirty water, railways, etc. Civil engineers are very much concerned with environmental and sustainability issues in flooding, renewable energy and regeneration, in nuclear waste disposal, sewage treatment and pollution generally.

What will you study?

A degree in civil engineering is vocational and provides the academic base for a professional career in the planning, design, construction and management of major projects. The skills learnt in the civil engineering degree courses produce an ability to analyse and solve complex problems by a rigorous approach and to communicate the results effectively. The degree leads to many other career opportunities; our graduates are in demand from all sectors of industry, professions, commerce and public service.

We aim to teach you to aspire to success in life not just for work, but also as a person who cares about others and the environment in which we all live.

Civil and structural engineers work on the design and construction of buildings, energy systems, bridges, transport systems, dams, tunnels, docks and harbours. We supply water and fuel and provide the infrastructure to clean up the waste products of our society.



We use scientific disciplines such as mathematics, physics, chemistry, geology, metallurgy and applied mechanics. We communicate by calculations, quantities, specifications, drawings, letters, reports and making technical and commercial presentations. We plan, budget, estimate and control finances, and work and interact with many people from other trades, professions and businesses.

Professionals have to work hard to learn the basic disciplines to become proficient in their wide-ranging professions. Our courses reflect this; they are challenging, but provide you with the right foundations.

All the Civil and Structural Engineering degree courses have a compulsory field course, currently in Year 2 in the English Lake District. There is an additional cost associated with the field course and you will be notified of this well in advance. The grid on page 20 is indicative of the current units on the civil engineering courses. These may not be the exact units offered each year, as we strive to ensure the content of our courses reflects the latest research and industrial developments, to ensure our graduates have the most appropriate skill set to prepare them for their future careers. More information about course content can be found online at:

www.manchester.ac.uk/mace

course details

Degree courses in Civil Engineering

MEng (Hons) Civil Engineering

This degree course focuses on general civil engineering practice through a broad range of core and optional course units.

Your first and second years are essentially common with the other civil and structural courses offered by the School; thus, transfer between courses is possible.

The first year provides a foundation for your engineering education by considering key elements, such as the nature and strength of engineering materials, geology, the characteristics of water flow and the behaviour of beams and trusses, along with the practical aspects of management. There are laboratory exercises, the opportunity to participate in professional development plus an option to include a foreign language, enterprise strategy and marketing, environmental technology, and building and environment.

Design and the effective communication of technical ideas, suitably backed up with scientific and engineering evidence, is encouraged throughout this degree course. The basic techniques of engineering drawing are developed and there is an introduction to the use of computers for engineering, including computer-aided design and programming. By the end of the first year, you will have acquired the basis of a range of engineering skills. Your second year develops theory and practice further using lectures, exercises and experimental work to give a better understanding of complex civil engineering systems. A number of core units continue in this year, including Computation, with the aim that by the end of the year you will be able to do scientific programming. Additional topics, such as Water Engineering, are introduced to broaden the spectrum of taught course units. Laboratory work consists of practical and experimental studies relating to the main engineering subjects and is undertaken working in small groups. Project work includes an exercise to design, make and test a model in a team competition.

There is a one-week residential field course in the English Lake District, combining surveying and an activity such as the design of a hydro-electrical power station or a mountain access road. This field course also gives you an ideal opportunity to develop a range of transferrable skills, such as leadership, team-working, management and communication.

Your third and fourth years develop your understanding of engineering science to an advanced level and utilise your interests and creativity in the tackling of design and research problems on realistic civil engineering projects.

In your third year, you will undertake a year-long individual research project, which will require you to carry out individual scientific experimentation and investigation and give you freedom to express your creativity and flair.

In the fourth year, you work in small teams to tackle real-life multidisciplinary design projects run in collaboration with industrial partners.

Design, Management, Geotechnics, Hydraulics and Water Engineering, Structural Analysis and Design, and Construction Materials are taught as core course units throughout the courses. Benefiting from our strong research base within the school, a range of optional course units is provided to enable you to develop up-to-date specialist knowledge in a variety of research areas.

MEng (Hons) Civil and Structural Engineering

This degree course is designed for those students who may eventually wish to specialise in Structural Engineering as manifested, for example, in bridges and large buildings. The emphasis in the later years of the course is on structural theory and design using different materials and you are introduced to the effects of large loads, such as those due to earthquakes, wind and fire.

Although emphasising aspects of structural engineering, the core course units cover the same subjects as the Civil Engineering degree course. The first two years of the course are the same as the Civil Engineering degree described before.

In the third and fourth years, you undertake numerically demanding research and design exercises relating to a wide range of structures. Expertise gained from these exercises can be supplemented by the careful selection of design and research projects, and by the choice of options.

MEng (Hons) Civil Engineering (Enterprise)

This degree course broadens the Civil Engineering course described above by providing valuable and transferable skills in project and business management and enterprise. Graduates can become world class engineers who not only understand the fundamental principles that underpin the science of engineering, but also have the ability to apply that knowledge within modern business environments.

MEng (Hons) Civil Engineering with Industrial Experience

Some students find it highly beneficial, both to their overall university education and their subsequent employability, to break off their academic studies for a year and work in industry. Recognising the benefits of this approach, the School offers you the opportunity to work in industry for a year, after completing the first two or three years of the Civil Engineering course.



This is a structured placement in the civil engineering profession. An academic tutor from the School visits you at your place of work. While the School and the university assist you in the search for suitable placements, it is ultimately your responsibility to secure the professional placement. Please note that this course is of five years duration, to include the industrial experience year.

MEng (Hons) Civil Engineering with Study in North America

This degree course is for those students who wish to pursue a career in civil engineering and have an insight into North American practice. Your third year is spent in Canada, where we have developed a special link with the University of Calgary.

The first two years of the degree course are the same as the first two years of the other MEng courses. Once in Calgary (year three), you continue to follow the core areas of the home MEng courses, along with options relating to North American design and construction practice. Your fourth year will be the same as the other civil engineering courses.

BEng (Hons) Civil Engineering

The first and second years are common with those of the MEng course in Civil Engineering. Subject to satisfactory performance, it is possible to transfer to one of the MEng courses.

course details

Year 1

Computation 1
Design 1
Geotechnics 1
Hydraulics 1
Management 1
Materials 1
Mathematics 1 (two units)
Mechanics
Structures 1

Plus two options from:

Semester 1

Building and Environment#
Entrepreneurial Skills A#
Language (20 credits)#

Semester 2

Entrepreneurial Skills B#
Environmental Technology#

Year 2

Computation 2
Design 2 (including a field course)
Geotechnics 2
Hydraulics 2
Management 2
Materials 2
Mathematics 2 (two units)
Steel and concrete structures
Structures 2
Surveying
Tools & Techniques
(•only Enterprise students)
Water Engineering
(•all except Enterprise students)

*Year 4 Civil Engineering – either Computational Mechanics or Computational Hydraulics must be taken

• Compulsory # Elective for all other students

NB Information is correct at time of going to print; all units are subject to change.

Year 3

Design 3
Geotechnics 3
Geotechnics 4
Hydraulics 3
Individual project throughout year
Management 3
Materials 3
Structures 3
Structures 4

Plus options from:

Strategy

Advanced Technology Enterprise
(•MEng Civil with Enterprise students#)

Highway Engineering

Nuclear Systems

Renewable Energy Systems

Solid Waste Management

Sustainable Development

Year 4

Group Design Project throughout year (double credits)
Design 4
Computational Mechanics*
(•MEng Civil & Structural students #)
Computational Hydraulics*

Plus options from:

Bridge and Building Design

(•MEng Civil & Structural students #)

Earthquake Engineering

Environmental Assessment

(•MEng Civil students #)

Enterprise, Strategy & Marketing

(•MEng Civil with Enterprise students #)

Fire Engineering

Infrastructure

Legal Issues

Sustainable Waste Management

Water Engineering 2

Mechanical Engineering

Mechanical engineering is a broad discipline that has a strong impact on our everyday life. Automobiles, jet-engines, trains, ships, power stations, water supply pumps, air-conditioning equipment, home appliances, life-saving medical equipment and implants, and machines of all conceivable shapes, sizes and complexity are all created by mechanical engineers.

The economic impact of mechanical engineering is enormous and there is no major economy that does not have a dynamic and vibrant mechanical engineering industry. It is a highly challenging topic to study that stretches students of the highest intellect.

A professional mechanical engineer needs a sound understanding of the engineering science, strong analytical skills, practical judgement, creativity and the ability to work with and manage people.

What will you study?

The mechanical engineering degree courses aim to produce graduates that are highly valued by employers. The courses are delivered in a variety of teaching styles that reflect the diversity of topics covered in modern mechanical engineering and also the range of skills and expertise that a professional engineer must develop.

In addition to the main mechanical engineering degree courses, the School offers courses in mechanical engineering combined with management, and mechanical engineering with a year's industrial experience, as well as mechanical engineering with nuclear engineering. There is commonality across these courses, especially in years one and two, so transfer between courses is possible.

The grid on pages 24-25 is indicative of the current units on the core mechanical engineering courses. These may not be the exact units offered for current entry, as we strive to ensure the content of our courses reflect the latest research and industry developments, to ensure our graduates have the most appropriate skills-set to prepare them for future careers. For more information about course content, see: www.manchester.ac.uk/mace.



Degree courses in Mechanical Engineering

MEng (Hons) Mechanical Engineering

The aim of the Mechanical Engineering degree course is to provide the mechanical engineers of the future with an education that covers the breadth of the subject, strong analytical and problem-solving skills and a high degree of competence in engineering design.

Basic engineering knowledge and skills are taught in a core syllabus over all years of the course, with the third and fourth years also offering a range of options, so that you can select subjects to suit your individual needs, interests and career aspirations.

Options cover many theoretical and practical aspects of industrially relevant topics and include some of the latest developments in mechanical engineering.

You carry out a substantial individual project in your third year, and a group project in your fourth year.

The first two years of this degree course include the main mechanical engineering subjects of Thermodynamics, Fluid Mechanics, Mechanics of Solids and Structures, Manufacturing and Materials, Statics, Dynamics and Control, Mechanical Systems and Drawing and Design, and also Mathematics, Numerical Methods, Modelling and Simulation, elements of Electrical Engineering and Electronics, IT and Computer Programming and Project Management.

course details

Design is viewed as an especially important activity, as it provides the means of integrating the engineering topics across the degree course. The School's excellent computer-aided design (CAD) facilities are extensively used. Modelling and Simulation introduces you to the synthesis of CAD mathematical analysis and numerical methods that result in computer simulations that are increasingly used in High Technology Engineering. These course units bring together contributions from all areas of specialism in the School.

In the third year, you choose one individual investigative project from a wide range of projects that reflect the expertise and research interests of the academic staff. You also take course units in Management, Design, Fluid Mechanics, Structures and Integrity, Engineering Thermodynamics, Manufacturing and Modelling and Simulation, which build on the corresponding first and second year courses. In addition, new core elements, such as Heat Transfer and Instrumentation and Measurement, are introduced.

MEng students also study Applied Engineering Mathematics (an optional course for BEng students). BEng students choose two options and MEng students choose one from a list of seven.

In the fourth year, MEng students participate in a major group design project. They also have compulsory units in Management and Modelling and Simulation that complete the taught material in these areas. All the course units are 50% larger than those in the first three years.

Your four optional units are streamed within the three major disciplines of Thermo-fluids, Structures and Manufacturing. This reflects the fact that these courses are almost all part of Master of Science programmes taught by the School. You select four optional units from amongst these, choosing at least one from each discipline. Many of these advanced topics provide a higher level of specialisation for some of the topics covered in the third year. Others introduce new topics, at a high level.

The School prides itself on being research-intensive; this is reflected by the range and content of the options provided at both third and fourth year levels.

MEng (Hons) Mechanical Engineering with Management

The subject of mechanical engineering is concerned not only with technology, but also with people, money and organisations. Projects must be planned, costed and managed and products must be designed, manufactured and marketed in the real world.

Most professional engineers will find themselves in positions of responsibility not only for a project, but also for the project team. An engineer is thus often required to possess skills in management, decision-making and finance and financial reporting.

To fulfil this requirement, the School collaborates with Manchester Business School in offering the MEng degree course in Mechanical Engineering with Management. The engineering aspects of the course cover mechanical and manufacturing engineering. The management aspects cover industrial organisation and financial reporting and management of people and systems.

In your first two years, there is a great degree of commonality with the Mechanical Engineering course, but with course units such as Marketing and Financial Reporting replacing some engineering units.

Your third year brings in greater management content, with further course units in Technology Enterprise and Strategy as well as an Individual Project which will include a strong management element. The fourth year of study ensures that the full range of engineering and management subjects are covered in sufficient depth to be truly valuable.

The breadth of expertise gained by graduates from this degree course means they are particularly sought after by industry.

MEng (Hons) Mechanical Engineering with Nuclear Engineering

For over 50 years, nuclear power has provided a reliable and large-scale source of safe, low-carbon energy. However, whilst nuclear power stations are relatively cheap to operate, they are expensive to build. For much of the last 20 years, the availability of low cost gas and coal in Europe and the USA has meant that building new nuclear plants was not economic. This situation has now changed dramatically. The price of fossil fuels has risen sharply, and the environmental damage associated with carbon emissions has only recently been fully appreciated. Moreover, the security of energy supplies has also been recognised as a major concern. These factors have combined to underline the importance of maintaining nuclear power in the future energy mix.

In order to maintain a significant component of nuclear power in the UK, it will be necessary to replace our ageing fleet of AGR and Magnox reactors. Several companies have declared plans to construct a new fleet of nuclear power stations in the UK. Internationally, many other countries are also planning to replace and expand their current nuclear stations, including: the USA, France, China, India, Finland, South Korea and Japan. This unprecedented need for global nuclear energy supply requires reactor and nuclear fuel plant, designers, builders, operators and regulators as well as engineers and scientists involved in research and development. In addition there is the requirement to decommission and safely dispose of old nuclear plant and their associated waste.

This course is designed to give mechanical engineers a strong background in nuclear reactor and fuel cycle technology that will prepare them to contribute to design, operation and final disposal of nuclear plant. For the first year students follow the same path as all Mechanical Engineering programmes.

The second year provides an introduction to nuclear engineering and control systems. This is aimed at giving the student a broad-based understanding of how nuclear energy rose to importance from its beginnings in the 1940s. In addition, the fundamental aspects of nuclear engineering and nuclear power plant designs are introduced.



The third year provides a greater depth of study, covering: Applied Nuclear Physics, Reactor Systems, Nuclear Materials, Irradiation Damage, Irradiation Chemistry, Thermo-hydraulics and Power Engineering Systems/Cycles, Nuclear Civil Structures and Seismic Assessment. Students will be expected to undertake a nuclear-based individual project during this year.

In the fourth year MEng students will undertake a group project, either purely mechanical or nuclear based. The students will study nuclear fuel design and the nuclear fuel cycle. Nuclear decommissioning and waste management will also be covered and illustrated by case studies.

MEng (Hons) Mechanical Engineering with Industrial Experience

Some students find it highly beneficial, both to their overall university education and their subsequent employability, to integrate a substantial period in industry with their academic studies for a year. Recognising the benefits of this approach, the School offers you the opportunity to work in industry for a year, after completing the first three years of the Mechanical Engineering degree course. This is a structured placement in a mechanical engineering industry. An academic tutor from the School visits you at your place of work. While the School and the University assists you in your search for suitable placements, it is ultimately your responsibility to secure the industrial placement.

Please note that this course is of five years duration, to include the industrial experience year.

course details

BEng (Hons) Mechanical Engineering / Mechanical Engineering with Management/Mechanical Engineering with Nuclear Engineering

The first and second years of the BEng courses are common with those of the MEng courses in Mechanical Engineering/Mechanical Engineering with Management and with Nuclear Engineering. Subject to satisfactory performance, it is possible to transfer to one of the MEng courses.

The final year of this course places considerable emphasis on individual work, with a major investigative project undertaken individually by all students. This project may require scientific experiments and investigations, but will also include a strong management or nuclear engineering element as appropriate.

Year 1

Circuit Analysis
Design 1 (Mech)
Dynamics 1
Engineering Systems
Entrepreneurial Skills in Year
(•for 'with Management students')
Fluid Mechanics 1
Manufacturing 1
Mathematics 1 (two units)
Mechanical Materials
Solids and Structures 1
Statics
Thermodynamics 1

Year 2

Applied Fluid Mechanics
Applied Thermodynamics
Computing, Modelling and Simulation
Control Engineering
Design 2 (Mech)
Dynamics 2
Engineering Manufacturing
Engineering Materials 2
Financial Reporting
(•for 'with Management students')
Introduction to Nuclear Engineering
(•for "with Nuclear students")
Marketing
(•for 'with Management students')
Mathematics 2
Numerical Methods
Project Finance, Planning and Control
Solids and Structures 2

Year 3

Applied Engineering Maths
(•for MEng students)
Applied Nuclear Physics *
(•for “with Nuclear students”)
Advanced Production Processes
Advanced Technology Enterprise *
(•for ‘with Management students’)
Design 3 (Mech)
Engineering Thermodynamics (Choose
either Engineering Thermodynamics or
Fluid Mechanics)
Fluid Mechanics
Heat Transfer
Individual project through the year
Instrumentation and Measurement
Management 3 – Operations
Management
Modelling and Simulation 3 *
Nuclear Materials: Irradiation Damage,
Irradiation Chemistry
(•for “with Nuclear students”)
Reactor Systems
(•for “with Nuclear students”)
Solids, Structures and Integrity
Strategy *
(•for ‘with Management students’)

*Options list***

Applied Engineering Maths (BEng)#
Nuclear Systems#
Power Plant#
Renewable Energy Systems#
Vibrations#

Plus:

Sustainable Development#

** BEng choose two options

MEng choose one option

* Dependent on the course of study

Year 4

Advanced Modelling and Simulation
Engineering Foresight, and/or *
Legal Issues#
Nuclear Fuels *
(•for “with Nuclear students”)
Nuclear Decommissioning
(•for “with Nuclear students”)
Mechanical Group Design Project

*Thermo-fluids Options list***

Advanced Computational Fluid
Dynamics#

Advanced Heat Transfer#

Advanced Engineering
Thermodynamics#

Aero-acoustics#

*Manufacturing options list***

3D Product Modelling, Reverse
Engineering and Rapid Manufacture#

Advanced Machining Technology#

Micro-and Nano-Fabrication#

*Structures options list***

Advanced Vibrations

Composites#

Impact and Explosion Engineering#

Introduction to Structural Integrity#

Reliability and Maintainability#

** Choose four, at least one from
each list


* Dependent on the course of study

* optional for mainstream programme/dependent
on programme followed

• Compulsory

Elective for all other students

NB Information is correct at time of going
to print; all units are subject to change.



Our University website holds a wealth of information on the many varied aspects of student life. Below are some of the most popular topics – use the web links for full details...

find out more

Accommodation

As long as you apply by our deadline, all first-year students holding an unconditional offer are guaranteed an offer of a place in university accommodation. For international students, this promise is extended to the full duration of your studies. We are proud to offer more spaces in university-managed accommodation than practically any other UK university.

Discover our diverse range of university accommodation, bustling student areas, halls of residence visits, private accommodation options and more:

www.manchester.ac.uk/accommodation
www.manchesterstudenthomes.com

Admissions and applications

We welcome applications from people of all backgrounds, and are fully committed to equality of opportunity. All applications for full-time undergraduate courses in higher education are coordinated by the Universities and Colleges Admissions Service (UCAS). You must apply online at www.ucas.com. If you are unable to access the internet, contact the UCAS Customer Service Unit on +44 (0)871 468 0468.

Find out more about the application process, policies, procedures and support:

www.manchester.ac.uk/ug/howtoapply

Careers Service

Our award-winning Careers Service will work in partnership with you throughout your degree to improve your employability and prepare you for the competitive jobs market. It will help you find part-time jobs, volunteering and work experience opportunities.

Since Manchester is one of the most targeted universities by graduate recruiters, you will meet many employers on campus. You might also take part in the unique Manchester Leadership Programme, to help you develop skills and boost your CV.

Find out more about careers events, mentoring programmes, accredited course units and a whole range of other services:

www.manchester.ac.uk/careers
www.manchester.ac.uk/mlp

Childcare

There are two centres associated with the University for children between six months and five years of age: Dryden Street Nursery and Echoes Nursery. Find out more about funding options, private nurseries, playgroups and schools:

www.manchester.ac.uk/studentnet/crucial-guide/personal-life/student-parents/student-parents

City of Manchester

One of the great benefits of being a student at Manchester is that all the joys of Britain's number one student city are right on your doorstep. You'll be spoilt for choice for food, drink, culture, music, history, nightlife, festivals, shopping, sport and much more – with the quiet countryside of two beautiful national parks also within easy reach when you want to get away from it all. Find out what one of our current students has to say about the capital of the North West:

www.manchester.ac.uk/ug/studentlife/socialife/manchester



Disability support/applicants with additional support needs

We welcome applications from people with additional support needs and all such applications are considered on exactly the same academic grounds as other applications. If you have additional needs arising from a medical condition, a physical or sensory disability, or a specific learning disability, you are strongly encouraged to contact the University's DSO to discuss your needs, any arrangements that may be necessary and the extent to which appropriate support is available:

www.manchester.ac.uk/dso

Information is also available from the Students' Union Welfare Officer:

www.umsu.manchester.ac.uk

Funding and finance

The University of Manchester will charge a headline fee of £9,000 per year to UK and EU undergraduates from September 2012, following changes to university tuition fees approved by Parliament in 2010. This fee will enable the University to maintain the quality of a Manchester degree, invest in the wider student experience and offer a range of bursaries and discounts for students from less well-off backgrounds.

However, more than one-third of all students who successfully apply to study here will receive bursaries of up to £3,000 per year – and many will be offered even more generous support. Students who are eligible will be able to choose how they receive this support – either as a cash bursary, or as a discount on their fees or accommodation bill.

For the most up-to-date details, including information on our proposed bursaries, scholarships and fee discounts, see our website:

www.manchester.ac.uk/studentfinance

International students

The University is a multicultural environment and home to more than 9,500 international students from around 160 countries. A range of services is available for international students, to help you both before and during your studies. This includes an airport collection service, orientation courses and specialist student advisers.

Find out more, including information specific to students from your country, such as entry requirements and useful contacts:

www.manchester.ac.uk/international

IT services

As a student at Manchester, you will have access to a huge range of up-to-date IT services, including: online and mobile learning, PC clusters with a wide range of software, extensive WiFi networks, halls of residence internet service, email and technical help and support.

www.manchester.ac.uk/its

Library

The John Rylands University Library (JRUL) is one of the best-resourced academic libraries in the UK and is widely recognised as one of the world's great research libraries, with diverse special collections and electronic resources unrivalled within UK universities. In 2009,



the Main Library underwent a large-scale refurbishment to the ground floor, improving access both to the building and to the collections and also introducing new social and learning spaces to cater for a range of learning styles.

Find out more about the information services and resources available to you:

www.manchester.ac.uk/library

Maps

Get to grips with your future home and take a closer look at our campus, the city and University accommodation by viewing our maps:

www.manchester.ac.uk/aboutus/travel/maps

Prospectus

Our 2012 undergraduate prospectus offers a comprehensive overview of The University of Manchester. You can view a copy online:

www.manchester.ac.uk/ug/courses/prospectus

Religious support

There are two chaplaincy centres for the major Christian churches. St Peter's House provides chaplains for the Anglican, Baptist, Methodist and United Reformed Churches, while the Roman Catholic Chaplaincy is at Avila House. Hillel House provides facilities for Jewish worship. There are prayer facilities on campus for Muslim students and student societies for many religions.

Sport

We have an exciting sport and fitness scene with something for everyone at every level, from complete

beginner to high performance athlete. Discover more than 40 sports clubs; a vibrant 'Campus Sport' programme, allowing you to play in friendly, recreational leagues; a huge variety of health and fitness classes; plus sport volunteering and scholarship opportunities.

Find out more about our superb sport facilities and opportunities to get active in Manchester:

www.manchester.ac.uk/sport

Student support

Whatever the issue – financial, academic, personal, or administrative – we have experienced and sympathetic people, support groups and advice centres to help you. Find out about counselling, academic advice and various other student support services:

www.manchester.ac.uk/studentnet/crucial-guide

Students' Union

The University of Manchester Students' Union (UMSU) is the largest Students' Union in Europe, offering everything from live bands to welfare advice, cheap stationery to student representation. UMSU has some of the largest and most active student societies in the country, as well as support and welfare services, student media, shops and bars and the famous Manchester Academy. Have a look at the SU website:

www.umsu.manchester.ac.uk

Video library

Watch and listen to our students and staff introducing various aspects of student life and The University of Manchester with our selection of online videos:

www.manchester.ac.uk/aboutus/video



contact details



For further information about our courses, or about qualifications, please contact:

address

Student Recruitment and Admissions Office
School of Mechanical, Aerospace and Civil
Engineering
The University of Manchester
Pariser Building
Sackville Street
Manchester
M13 9PL
United Kingdom

tel +44 (0)161 306 9210

email ug-mace@manchester.ac.uk

All information is subject to change so for the most up-to-date course information please visit our website

www.manchester.ac.uk/mace

Disclaimer

This brochure is prepared well in advance of the academic year to which it relates. Consequently, details of courses may vary with staff changes. The University therefore reserves the right to make such alterations to courses as are found to be necessary. If the University makes an offer of a place, it is essential that you are aware of the current terms on which the offer is based. If you are in any doubt, please feel free to ask for confirmation of the precise position for the year in question, before you accept the offer.

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