MANCHESTER 1824
The University of Manchester

MECHANICAL, AEROSPACE AND CIVIL ENGINEERING

POSTGRADUATE COURSES

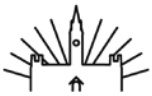
SHAPE YOUR FUTURE

Learn today, lead tomorrow

CONTENTS

SHAPE YOUR FUTURE: CAREERS

We are ranked 2nd in the UK for research power in Engineering. Overall research quality in REF 2021



Manchester has been named one of the World's Best Cities. Time Out Magazine, 2024

We have strong links with industry. Graduate employers include: Airbus, Siemens, and Jaguar Land Rover.

We are one of the Most Targeted Universities by top UK graduate employers. The Graduate Market, 2024

Read more about our rankings and reputation including REF results.

CAREER CATEGORIES

Master's courses at The University of Manchester are designed to build the specialist knowledge and skills you need to enhance your employability and tackle the challenges facing our world today.

Our degrees are delivered with sustainability at their core, to give you the best grounding for the careers of the future. There are common themes and ideas that underpin our master's, which we have illustrated throughout this brochure. Look out for the following across our courses:

A ENERGY CAREERS: our master's courses equip you with first-class analytical skills that prepare you for careers in a world that is working through the energy transition.
B BUILDING SUSTAINABLE FUTURES CAREERS: securing existing infrastructures and planning for future sustainable developments are key aspects of our postgraduate courses.
C LEADING CHANGE CAREERS: a changing world requires new leadership, and our master's courses develop you as decision-makers and forward-thinkers.
D INNOVATING TECHNOLOGY CAREERS: as global priorities evolve, so do technological solutions. Our master's degrees train you in the most current technology and encourage innovations for our future.
E RESEARCH FOR NEW HORIZONS: our master's courses can lead you to further study with postgraduate research programmes (PhDs) where you will investigate solutions and methods for future science and engineering practitioners.

CAREERS SERVICE

As a postgraduate student you may already have a career path in mind, but we'll do all we can to help you get there. We'll give you the opportunities to develop your skills and networks, and support tailored to your needs.

Our first-class Careers Service offers support and advice throughout your time at The University of Manchester, to help you make the most of your time here and best prepare you for your future. From CV and application advice to employer workshops and our job platform Career Connect, the Careers Service for students and graduates can help to put you in the best position to secure employment and act as a launchpad for your long-term career aspirations.

SUSTAINABILITY

LEADING THE WORLD ON SUSTAINABLE DEVELOPMENT

The quality and scale of our research, when compared against the UN's Sustainable Development Goals (SDGs), has been ranked top in the UK and Europe and second globally by the Times Higher Education University Impact Rankings in 2024.

The 17 SDGs are the world's call to action on the most pressing challenges and opportunities facing humanity and the natural world, and we are playing a leading role in tackling them.

As one of the world's leading research institutions, as well as being the only university in the UK to have social responsibility as a core goal, The University of Manchester is proactively tackling the SDGs in four ways – through our research, learning and students, public engagement activities and responsible campus operations.

OUR MASTER'S COURSES CONNECT WITH THE FOLLOWING UNITED NATIONS SUSTAINABILITY DEVELOPMENT GOALS:

- Goal 3: Health and Wellbeing
- Goal 7: Affordable and clean energy
- Goal 13: Climate action
- Goal 14: Life below water
- Goal 15: Life on land

FACILITIES AND RESOURCES

THE FUTURE OF LEARNING IN MANCHESTER

Meet The Nancy Rothwell Building, our Home for Engineering and Materials. Here, we're transforming the way our students study, research, and shape the world forever. Now, more than ever, is the time to study at The University of Manchester.

Designed to bring together disciplines from across both Science and Engineering, our dynamic, collaborative spaces make for a University experience which prepares you for both industry and research. The space supports a variety of teaching and learning styles, through blended lecture theatres, multi-purpose study spaces and over 250 state-of-the-art laboratories. There is also a range of technical spaces to help encourage students to shape their own learning environment.

We want our facilities to show ambition as well as recognise the real-world challenges that students will face in addressing some of the most pressing issues of our time. Our Home for Engineering and Materials boasts some of the most unique, industry-leading equipment and instrumentation in the sector to meet today's requirements and those of the future.

Explore Our Home for Engineering and Materials.

MSC ADVANCED MANUFACTURING TECHNOLOGY & SYSTEMS MANAGEMENT

Read more about this course

The world we live in would not exist without manufacturing. At the heart of the industrial economy, it's manufacturing engineers who create and sustain living standards now, and will continue to do so for the future. As one of the most well-established in the UK, this course provides you with the tools, knowledge, and understanding needed to propel this strong, ever-growing discipline forward.

Uniquely designed to encompass all areas of this multi-disciplinary field, you will be equipped to tackle even the most diverse, exciting set of challenges. This is reflected even in the structure of this course, requiring in-depth study across a range of topics - from the fundamentals of manufacturing processes to the management of manufacturing systems.

Once this foundation is laid, the opportunity for specialised study comes with your dissertation – requiring an individual research project of industrial relevance.

Here at The University of Manchester, our engineers learn more than excellent theoretical skill; we prioritise the highly prized practical elements too. Design, development, research – you will learn to analyse and investigate problems at every stage within modern manufacturing technology. Ideal for those wishing to pursue an industrial career, this course also prepares graduates for the management of manufacturing systems and for further research in the field.

The curriculum of this course addresses sustainable manufacturing, environmentally benign and low-energy machining, clean and healthy working environment, and much more. As a result, it has played a role in The University of Manchester being placed at the top of the THE Impact Ranking 2024.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

B BUILDING SUSTAINABLE FUTURES CAREERS
D INNOVATING TECHNOLOGY CAREERS
E RESEARCH FOR NEW HORIZONS

"After completing my Master's, I got the chance to start at Toyota in their graduate scheme in Brussels, Belgium. At Toyota, I am optimising operations/processes in production and logistics by applying the Toyota Production System. This MSc has definitely helped me to prepare for this challenge, and the University offers a great career service, which is more than happy to assist you with your application for industry and/or academia."

David Lanfermann
MSc in Advanced Manufacturing Technology and Systems Management
Now working at Toyota in their graduate scheme

COURSES IN RELATED SUBJECT AREAS:

MSc Mechanical Engineering Design, MSc Aerospace Engineering,
MSc Management of Projects, and MSc Engineering Project Management

WHERE DO OUR GRADUATES WORK?

- The University of Manchester
- Rolls-Royce Plc
- University of Derby
- Alstom Grid
- Ministry of Interior
- Airbus Operations Ltd
- Bic Violex SA
- NUST College of E & ME
- Bosch & Siemens home appliances
- Schindler Elevator Co, Ltd.

WHAT DO OUR GRADUATES DO?

- University Lecturer and Researcher
- Mechanical Engineer
- Associate Professor
- General Manager
- Operations Manager
- Assistant Manager Production Engineering
- Quality Assurance
- Assistant Manager
- Assistant Professor
- Automotive Engineer

ENTRY REQUIREMENTS AND PREREQUISITES:

The standard academic entry requirement for this Master's course is a minimum an Upper Second Class (2:1) Honours degree or international equivalent in a relevant science or engineering discipline (e.g. mechanics and physics). Please note that we consider grades achieved in key relevant modules in your undergraduate degree as well as the overall degree result.

IELTS: at least 7.0 overall with no sub-test below 6.5.

This course accredited by the Institution of Mechanical Engineers, laying the foundation for Chartered Status.

MSC AEROSPACE ENGINEERING

Read more about this course

At The University of Manchester, the sky is not the limit; it is only the beginning. As a graduate of MSc Aerospace Engineering, your specialist training will propel you into demand across both the engineering industries and linked consultancies. Encompassing a range of exciting engineering disciplines, our department is one of the largest in Europe, making Manchester the ideal place for your career to take flight.

Highly valued across many industries, Aerospace engineering graduates are currently in great demand and this course is designed specifically to serve this growing need. Suitable for engineering and science graduates alike, as well as engineering professionals working in technical and commercial management, this course can even be used for the conversion to Aerospace Engineering from specialties including Mechanics, Mathematics, and Physics.

With more than 200 years' expertise in teaching engineering, our industrial links spread far and wide, including Airbus, Rolls-Royce, EADS, Dstl, MBDA, and ESTEC/ESA. It is also an honour to be the preferred academic partner for BAE Systems, in experimental aerodynamics and dynamic loads. From this strong vantage point, many of our graduates go on to achieve excellence on the global stage.

The MSc in Aerospace Engineering demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

A ENERGY CAREERS **B BUILDING SUSTAINABLE FUTURES CAREERS**
D INNOVATING TECHNOLOGY CAREERS **E RESEARCH FOR NEW HORIZONS**

WHERE DO OUR GRADUATES WORK?

- GMF AeroAsia
- Zodiac Aerospace
- Airbus
- Jaguar Land Rover
- UUM
- Sudlows
- RGIS
- Areen Enterprises

WHAT DO OUR GRADUATES DO?

- Aerospace Engineer
- Engineer
- Mechanical Engineer
- Software Engineer
- Development Engineer
- Lecturer
- Design Engineer

"UoM is a place of endless opportunities for budding Aerospace Engineers who strive to learn everyday".

Yasaswini Edupuganti MSc Aerospace Engineering graduate
Now works with GE Aviation in their graduate program
(Edison Engineering development program)

COURSES IN RELATED SUBJECT AREAS:

MSc Thermal Power and Fluid Engineering, MSc Mechanical Engineering Design, and MSc Advanced Manufacturing and Systems Management

ENTRY REQUIREMENTS AND PREREQUISITES:

The standard academic entry requirement for this course is an Upper Second-Class (2:1) Honours degree (or international equivalent) in a relevant science or engineering discipline (e.g., Aerospace Engineering; Mechanical Engineering, Thermal Power Physics, Mathematics or Actuarial Science).

IELTS: at least 7.0 overall with no sub-test below 6.5. Or, an acceptable equivalent English Language qualification.

This course is accredited by the Royal Aeronautical Society and Institution of Mechanical Engineers

MSC COMMERCIAL PROJECT MANAGEMENT

Read more about this course

Prepare for a professional role in the management of commercial projects, with a thorough understanding of both the technical requirements and interpersonal skills required.

On this sought-after course, you will gain indispensable insight to the organisational and strategic aspects set to determine an excellent outcome for your projects. Marketing, sales, financial organisation, procurement, bidding, contract management – in Commercial Project Management, no stone is left unturned.

This MSc is one of four within the Management of Projects group of courses. Our other MSc courses are Management of Projects, Construction Project Management, and Engineering Project Management – each establishing an invaluable head-start in the field, contextualised with additional specialised training.

Our department has an especially pioneering history in the delivery of project management master's courses. The staff you will work with during your study not only draw from a wide variety of industrial experience and backgrounds, but are continually recognised for their contribution to the field.

Our MSc in Commercial Project Management demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

B BUILDING SUSTAINABLE FUTURES CAREERS
C LEADING CHANGE CAREERS

WHERE DO OUR GRADUATES WORK?

- Atkins
- The University of Manchester
- Poly Real Estate Company
- Independent
- University of Central Lancashire
- Arcadis
- LIKO Hardware Company Limited
- AECOM
- Sense Cost Consultancy
- BAE Systems

"This course taught be how to run a project both smoothly and successfully. In fact, I left this course having learned anything can be a project in life!"

Xiaoyu Jin
MSc Commercial Project Management graduate
Now working as a Senior Associate, Deloitte UK Audit Service Line.

COURSES IN RELATED SUBJECT AREAS:

MSc Management of Projects, MSc Construction Project Management, MSc Engineering Project Management, MSc Structural Engineering

WHAT DO OUR GRADUATES DO?

- Project Manager
- Associate
- Project Director
- Operations Support Assistant
- Investment Banker
- Subcontract Procurement
- Manager/Administrator
- Assistant General Manager
- Marketing Assistant
- Assistant project manager
- Senior Associate

ENTRY REQUIREMENTS AND PREREQUISITES:

The minimum academic entry requirement for this Master's course is an Upper Second Class (2:1) Honours degree or international equivalent in a relevant subject, such as the built environment, relevant engineering, science, or management disciplines.

IELTS: at least 7.0 overall with no other sub-test less than 6.5. Or, an acceptable equivalent English Language qualification.

This course is listed by the Joint Board of Moderators (JBM) as an Approved Further Learning Schemes for Chartered Engineer.

MSC CONSTRUCTION PROJECT MANAGEMENT

Read more about this course

Prepare for a professional role in the management of construction projects, with a thorough understanding of both the technical requirements and interpersonal skills required to succeed.

Exploring the theoretical and conceptual issues involved in construction projects, balanced with the essential practical aspects, students emerge from this course ready to build the future. From project control mechanisms, resource management, IT applications, and information management, to budgeting, cost management, stakeholder management, and contract organisation, on this course you will pave the foundations for a rewarding, sought-after career.

Engagement with important and emerging construction industry issues is built into your course unit learning and assessment activities. In fact, the core Construction Project Management Professional Practice unit is delivered in partnership with industry partner organisations, so you will be exposed to the challenging, exciting environment of contemporary civil engineering and construction projects.

Our department has an especially pioneering history in the delivery of project management master's courses. The staff you will work with during your study not only draw from a wide variety of industrial experience and backgrounds, but are continually recognised for their contribution to the field.

Our MSc in Construction Project Management demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024. The module on Environmental Assessment speaks directly to issues of sustainability in construction.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

B BUILDING SUSTAINABLE FUTURES CAREERS **C LEADING CHANGE CAREERS**

"From construction to finance, project management is an integral component of most job positions, across all domains. The skillset and experiences I have obtained through my studies at The University of Manchester have enabled me to become a competitive candidate both in the Construction and the Banking/ Finance Industry. The MSc has provided me not only with the education but also with real-world knowledge useful for any project management or related career. I am incredibly grateful for the experience I have gained during the year of my MSc and the people I met during my studies, many of which have become incredibly good friends."

Thelma Mavromichali
MSc Construction Project Management graduate
Now working as an Account Manager at Eurobank Cyprus Ltd

COURSES IN RELATED SUBJECT AREAS:

MSc Structural Engineering, MSc Management of Projects,
MSc Commercial Project Management, and Msc Engineering Project Management

WHERE DO OUR GRADUATES WORK?

- AECOM
- Cushman & Wakefield
- Joannou & Paraskevaides
- MANJU FOUNDATIONS PVT LTD-INDIA
- Tarkeez
- Pt. Metraya Pratama
- AASE
- Kiriakidis Vas Sa
- Aga Khan University
- O'Neill & Brennan

WHAT DO OUR GRADUATES DO?

- Project Manager
- Civil Engineer
- Project Engineer
- Managing Director
- Director
- University Lecturer and Researcher
- Project Coordinator
- Construction Project Manager
- Assistant project manager

This MSc is one of four within the Management of Projects group of courses. Our other MSc courses are Management of Projects, Commercial Project Management, and Engineering Project Management – each establishing an invaluable head-start in the field, contextualised with additional specialised training.

ENTRY REQUIREMENTS AND PREREQUISITES:

The minimum academic entry requirement for this Master's course is an Upper Second Class (2:1) Honours degree (or international equivalent) in a relevant subject, such as the built environment, relevant engineering, science, or management disciplines (e.g., Civil Engineering, Construction Management, Architecture, Economic and Social Studies, Mechanical Engineering etc)

IELTS: at least 7.0 overall with no other sub-test less than 6.5. Or, an acceptable equivalent English Language qualification.

This course is accredited by the RICS Project Management Faculty, and the department has a partnership arrangement with the Royal Institution of Chartered Surveyors (RICS). This course is listed by the Joint Board of Moderators (JBM) as an Approved Further Learning Scheme for Chartered Engineer.

MSC ENGINEERING PROJECT MANAGEMENT

Read more about this course

Prepare for a professional role in the management of projects, with a thorough understanding of both the technical requirements and interpersonal skills required. On our flagship Management of Projects course, you will gain indispensable insight to the organisational, strategic aspects set to determine an excellent outcome for your projects. Spanning everything from project planning and control, to risk management and environmental assessment, as a graduate of this course you are well-equipped for a career in project management across a range of sectors.

This MSc is one of four within the Management of Projects group of courses. Our other MSc courses are Commercial Project Management, Construction Project Management, and Engineering Project Management – each establishing an invaluable head-start in the field, contextualised with additional specialised training.

Our department has an especially pioneering history in the delivery of project management master's courses. The staff you will work with during your study not only draw from a wide variety of industrial experience and backgrounds, but are continually recognised for their contribution to the field.

Our MSc in Management of Projects demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024. The module on Environmental Assessment speaks directly to issues of sustainability in construction.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

B BUILDING SUSTAINABLE FUTURES CAREERS
C LEADING CHANGE CAREERS

WHERE DO OUR GRADUATES WORK?

- Saudi Aramco
- Network Rail
- ExxonMobil
- Petronas
- Arcadis
- Jacobs
- Subsea 7
- Khilari Infrastructure pvt ltd
- Airport Management Group

WHAT DO OUR GRADUATES DO?

- Project Manager
- Civil Engineer
- Project Engineer
- Graduate Project Manager
- Consultant
- Project Coordinator
- Site Engineer
- Graduate Civil Engineer
- General Manager

COURSES IN RELATED SUBJECT AREAS:

MSc Management of Projects, MSc Commercial Project Management, and MSc Construction Project Management

ENTRY REQUIREMENTS AND PREREQUISITES:

The minimum academic entry requirement for this Master's course is an Upper Second Class (2:1) honours degree or international equivalent in a relevant subject, such as the built environment, relevant engineering, science, or management disciplines.

IELTS: at least 7.0 overall with no other sub-test less than 6.5. Or, an acceptable equivalent English Language qualification.

This course is listed by the Joint Board of Moderators (JBM) as being Approved Further Learning Schemes for Chartered Engineer.

MSC MANAGEMENT OF PROJECTS

Read more about this course

Prepare for a professional role in the management of projects, with a thorough understanding of both the technical requirements and interpersonal skills required. On our flagship Management of Projects course, you will gain indispensable insight to the organisational, strategic aspects set to determine an excellent outcome for your projects. Spanning everything from project planning and control, to risk management and environmental assessment, as a graduate of this course you are well-equipped for a career in project management across a range of sectors.

This MSc is one of four within the Management of Projects group of courses. Our other MSc courses are Commercial Project Management, Construction Project Management, and Engineering Project Management – each establishing an invaluable head-start in the field, contextualised with additional specialised training.

Our department has an especially pioneering history in the delivery of project management master's courses. The staff you will work with during your study not only draw from a wide variety of industrial experience and backgrounds, but are continually recognised for their contribution to the field.

Our MSc in Management of Projects demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024. The module on Environmental Assessment speaks directly to issues of sustainability in construction.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

C LEADING CHANGE CAREERS

WHERE DO OUR GRADUATES WORK?

- Network Rail
- Worleyparsons
- Mott Macdonald
- Atkins
- Arcadis
- Tengizchevroil
- CBRE
- EY
- IMS Research

WHAT DO OUR GRADUATES DO?

- Assistant Project Manager
- Project Engineer
- Civil Engineer
- Project Coordinator
- Project Assistant
- Quantity Surveyor
- Director

COURSES IN RELATED SUBJECT AREAS:

Msc Engineering Project Management,
Msc Construction Project Management, and MSc Commercial Project Management

ENTRY REQUIREMENTS AND PREREQUISITES:

The minimum academic entry requirement for this Master's course is an Upper Second Class (2:1) Honours degree or international equivalent in a relevant subject, such as the built environment, relevant engineering, science, or management disciplines.

IELTS: at least 7.0 overall with no other sub-test less than 6.5. Or, an acceptable equivalent English Language qualification.

This course is listed by the Joint Board of Moderators (JBM) as being Approved Further Learning Schemes for Chartered Engineer.

MSC MECHANICAL ENGINEERING DESIGN

Read more about this course

If you are interested in a career in engineering design, this course offers the ideal head start. Not only will you become well-equipped to design complex systems, but to evaluate their design performance using technical engineering skills. During your study, you should expect to explore the entire design process in depth, including specification development, concept design, detail design, and prototype production.

A unique entry-point, this MSc teaches the technical evaluation skills based on theory, experimentation, and computer modeling - both enabling you to determine the feasibility and performance of new products and assess the performance of existing equipment.

This is a technical engineering course based around solid mechanics principles, carefully integrating advanced engineering techniques with hands-on-learning to provide a complementary blend of skills desired by employers.

The MSc in Mechanical Engineering Design demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

D INNOVATING TECHNOLOGY CAREERS
E RESEARCH FOR NEW HORIZONS

WHERE DO OUR GRADUATES WORK?

- Jaguar Land Rover
- Saudi Aramco
- Manchester United
- Sellafield Ltd
- GE Aviation
- The Petroleum Institute
- Tts Vyncolit As
- Parliament of Trinidad & Tobago

"Where most of my classmates went into Engineering, there are many doors open to you - including fashion! Being part of the MED track taught me how to come to a perfect balance between practicality and durability whilst maintaining an aesthetic design. I used my knowledge in the field of fashion, building garments inspired from Automotive Industry and modular/deployable mechanisms, using design methods I learnt in class!"

Franka Grazhdani
MSc Mechanical Engineering Design graduate

COURSES IN RELATED SUBJECT AREAS:

Msc Aerospace, MSc Robotics, MSc Engineering Project Management, MSc Advanced Manufacturing Technology and Systems Management

WHAT DO OUR GRADUATES DO?

- Mechanical Engineer
- Design Engineer
- Mechanical Design Engineer
- Teaching Assistant
- Project Engineer
- Project Manager
- Stress Engineer
- University Lecturer and Researcher
- CAE Engineer
- Design and Development Engineer

ENTRY REQUIREMENTS AND PREREQUISITES:

The standard academic entry requirement for this Master's course is an Upper Second Class (2:1) Honours degree or international equivalent in a relevant science or engineering discipline. Please note that we consider grades achieved in key relevant modules in your undergraduate degree as well as the overall degree result.

IELTS: at least 7.0 overall with no sub-test below 6.5. Or, an acceptable equivalent English Language qualification.

This course is accredited by the Institution of Mechanical Engineers

MSC RELIABILITY ENGINEERING AND ASSET MANAGEMENT

Read more about this course

Reliability Engineering and Asset Management is critical to industries throughout the world.

Every year, a significant percentage of annual plant cost is estimated to be lost on maintenance alone. The cost of these spendings is likely to then have influence on competitiveness, on a global scale, meaning those working in maintenance can impact their company's bottom line in a hugely positive way. This MSc equips you to do just that. In the world of postgraduate engineering courses, our teaching style is unique. Units are explained through industrial case studies and teaching is designed to demonstrate the real-world application of theory.

Management techniques, organisation, planning, the application of substantial electronic engineering and analytical knowledge transport, power generation, the efficient operation of industrial, commercial, and civic buildings – this course will provide you, and in-turn, companies, with the technical and managerial expertise needed in the global marketplace.

Our MSc in Reliability Engineering and Asset Management demonstrates Manchester's commitment to sustainability, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

B BUILDING SUSTAINABLE FUTURES CAREERS

WHERE DO OUR GRADUATES WORK?

- BP plc
- Lukoil
- Saudi Aramco
- Merseyrail Electrics 2002
- YPF
- Cbre Gws - Local Fm
- Saipem
- EM&I Group
- Shell

WHAT DO OUR GRADUATES DO?

- Reliability Engineer
- Engineering Manager
- Upstream Asset Integrity Department Head
- Reliability and Asset Management Unit Head
- Mechanical Supervisor
- Senior CBM Engineer
- Damage Control Officer/First Assistant Engineer
- Senior RAMS Engineer
- Teaching Assistant

COURSES IN RELATED SUBJECT AREAS:

MSc Mangement of Projects, MSc Engineering Project Management,
MSc Commercial Project Management, and MSc Mechanical Engineering Design

ENTRY REQUIREMENTS AND PREREQUISITES:

The standard academic entry requirement for this Master's course is a Upper Second Class (2:1) honours degree or international equivalent, in a relevant science or engineering discipline. In some cases, we will accept a Second Class (2:2) honours degree where candidates have previous relevant industrial experience demonstrated by an up-to-date CV.

IELTS: at least 6.5 overall with no sub-test below 6.5. Or, an acceptable equivalent English Language qualification.

This course is accredited by the Institution of Mechanical Engineers

MSC RENEWABLE ENERGY AND CLEAN TECHNOLOGY

Read more about this course

This course has an extended research option:
MSc Renewable Energy and Clean Technology with Extended Research.

This MSc is jointly run with the Department of Electrical and Electronic Engineering

Prepare for the changing world, with a detailed understanding of the key renewable energy generation technologies and the factors which influence their exploitation. Known as 'REaCT,' this MSc is specially designed to help you make a difference.

On this course, you will gain an understanding of the foundations necessary to understand the principles of solar, wind, and marine energy technologies. You will also tackle the efficient distribution of renewables, their integration to usage into zero-carbon built infrastructure and determine the economic and climate issues affecting the choice of renewable.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

A ENERGY CAREERS
B BUILDING SUSTAINABLE FUTURES CAREERS
D INNOVATING TECHNOLOGY CAREERS

"My career began working within, and later project managing, within the power sector. This MSc programme provided exactly what I was looking for: the opportunity to develop my data and research skills - the area which has proved most critical throughout my career. During my studies I partook in a mentorship scheme and received invaluable career tips from top alumni professionals in industry. Being part of the EEESoc team for postgrads, and volunteering with Robogals, also helped me kick start my non-profit, Afro-Tech Girls; where I focus on promoting STEM education through mentorship, internships, scholarships, and workshops for girls in Nigeria with my co-founders, team, and volunteers. I also reconnected with one of my best friends and Afro-Tech Girls' co-founder, Morenike Adewale- Sadik, formerly Johnson) at Manchester. In summary, my experience was the best. I try to visit a few times a year to relive my old school days going to Arndale Shopping Centre and the Science Museum. I would definitely recommend the program to anyone curious about the renewable energy space."

Adeola Shasanya
MSc Renewable Energy and Clean Technology graduate
Now Outreach and Partnerships Manager for Sub Saharan Africa, Trust, and Safety at TikTok and Co-Founder Afro-Tech Girls

COURSES IN RELATED SUBJECT AREAS:

MSc Geoscience for Sustainable Energy; MSc Pollution & Environmental Control; MSc Thermal Power and Fluid Engineering

WHERE DO OUR GRADUATES WORK?

- Mott Macdonald
- Siemens
- UK Power Networks Services
- Pittas - Dragnis Ltd
- NCUK
- AMP
- AECOM
- Arup
- Ministry of Trade and Industry
- Bluebird Solar Private Ltd

WHAT DO OUR GRADUATES DO?

- Electrical Engineer
- Graduate Engineer
- Project Engineer
- Planning Engineer
- Technical Translator
- R&D Engineer
- Director
- Project Manager
- Assistant Proposals Manager
- Researcher

Recent SDG reports have specifically highlighted the contribution of REaCT to achieving this ranking: 'Among our master's courses we offer Renewable Energy and Clean Technology, which equips students with a detailed understanding of solar, wind and marine energy generation technologies and the factors which influence their integration into zero-carbon-built infrastructures and into a sustainable electricity grid.'

The course content focuses on renewable energy technologies, on the economic and climate issues affecting the choice of renewable, and on the efficient distribution of renewables and their integration into usage in zero carbon-built infrastructure and for sustainable and clean electricity grids.

ENTRY REQUIREMENTS AND PREREQUISITES:

We require a good Upper Second Class (2:1) Honours degree or international equivalent in any of the following: electrical and electronic engineering, mechanical engineering, engineering, physics, or equivalent scientific discipline which includes a significant mathematical and engineering content.

IELTS at least 6.5 overall with no subtest below 6.0. Or, an acceptable equivalent English Language qualification.

This course is accredited by the Institution of Engineering and Technology (IET)

MSC STRUCTURAL ENGINEERING

Read more about this course

Encompassing both theory and design relating to the static and dynamic behaviour of structures in steel and concrete, this course prepares you for the future of the built world. Taught across eight units, worth 15 credits each, you gain the opportunity to truly specialise with a research dissertation worth 60 credits. Over the duration of this MSc, you will explore everything from seismic and fire engineering to finite element modeling, experimental work, and research methods.

A particular highlight of the taught component is studying the behaviour and design of structures against extreme loading, including fire and earthquakes - which are taught by internationally leading researchers and engineers. Our academic staff are experts in a broad range of research areas and have a wide spread of professional experience.

In the construction industry around the world there is a need for continual innovation in response to technical, environmental, and societal challenges such as those brought about by the global pandemic and climate change. Such innovation is underpinned by research. Here at The University of Manchester, we undertake internationally leading research in many key areas of structural engineering and the MSc course benefits directly from this.

By understanding how the built environment responds to extreme events, our graduates can learn to enable the resilience of our structures - saving lives and ensuring the sustainability of communities around the world. Similarly, through research and innovation, as undertaken at The University of Manchester, new improved methods of design and construction along with more sustainable use of materials allow reduction in the built environment's carbon footprint.

In a multitude of ways, our MSc Structural Engineering demonstrates our commitment to preparing for a sustainable future, echoed in our placement as Top in the UK and Europe in THE Impact Rankings 2024.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

B BUILDING SUSTAINABLE FUTURES CAREERS
C LEADING CHANGE CAREERS

"The MSc Structural Engineering at The University of Manchester played a very important role in improving my knowledge of construction and structural engineering and it provided the very best, vibrant experience of studying at a prestigious university."

Shahabaldin Mazloom
MSc Structural Engineering graduate
Now Ph.D. researcher at École de technologie supérieure (ÉTS)

COURSES IN RELATED SUBJECT AREAS:

Msc Construction Project Management,
MSc Engineering Project Management, and MSc Commercial Project Management

WHERE DO OUR GRADUATES WORK?

- Mott Macdonald
- Wsp | Parsons Brinckerhoff
- AECOM
- Arup
- University of Mostaganem
- Jacobs
- Abs Consulting
- RAMBOLL
- BP

WHAT DO OUR GRADUATES DO?

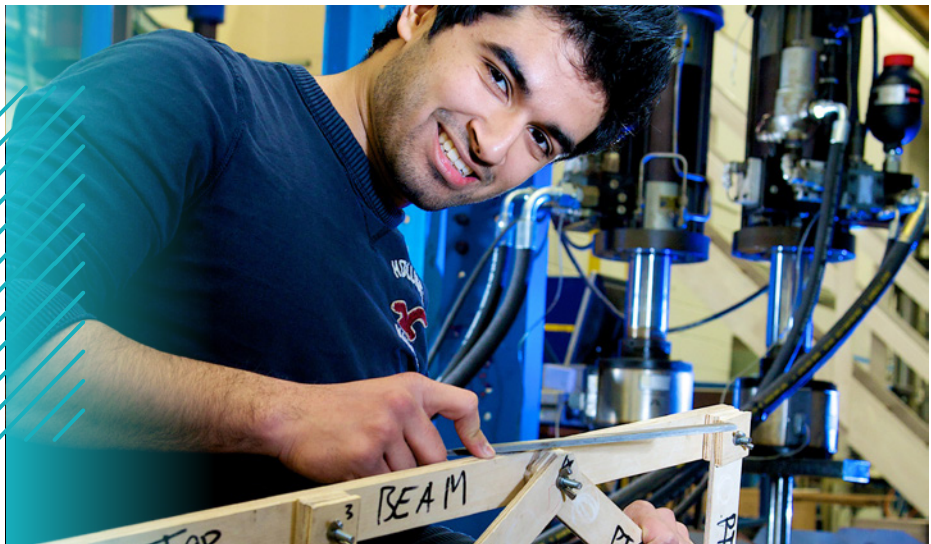
- Structural Engineer
- Engineer
- Project Engineer
- Civil Engineer
- Senior Structural Engineer
- University Lecturer and Researcher
- Graduate Structural Engineer
- Director
- Project Manager
- Senior Engineer

ENTRY REQUIREMENTS AND PREREQUISITES:

The standard academic entry requirement for this Master's course is a minimum Upper Second Class (2:1) Honours degree or international equivalent in a relevant science or engineering discipline (e.g., Civil Engineering, Civil and Structural Engineering, Structural Engineering with Architecture or Civil Engineering with Management).

IELTS: at least 7.0 overall with no sub-test below 6.5. Or, an acceptable equivalent English Language qualification.

This course is accredited as meeting the requirements for Further Learning for a Chartered Engineer (CEng) by the Joint Board of Moderators (JBM)



MSC THERMAL POWER & FLUID ENGINEERING

Read more about this course

This extraordinarily successful course has been offered at Manchester for almost 40 years. Its longevity is a credit to our approach; designed to teach you not only the thermofluid engineering demands of the present but also the future. Beyond the theory packed into this course, you will emerge equipped with the skills needed for a successful career in both industry and academia.

Our MSc is ideal for graduates and professionals who not only wish to enhance their expertise in thermofluids, but to develop their competence in the use of state-of-the-art analytical, computational, and experimental methods. These include advanced methods which are specifically designed for the analysis of heat and fluid flow in both industrial and research applications.

The objectives of this course are to produce postgraduate specialists with:

- Advanced understanding of heat and fluid flow processes and their role in modern methods of power generation
- In-depth understanding of numerical and experimental techniques in heat and fluid flow

Teaching on the course is delivered by academics from our world-leading research group in the field of turbulence modeling and heat transfer.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

A ENERGY CAREERS **B BUILDING SUSTAINABLE FUTURES CAREERS**
D INNOVATING TECHNOLOGY CAREERS **E RESEARCH FOR NEW HORIZONS**

WHERE DO OUR GRADUATES WORK?

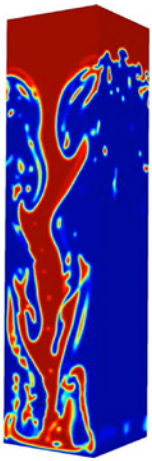
- Aramco
- United Energy Pakistan
- Doosan Babcock
- Pfizer
- Tractebel
- School of Mechanical Engineering, Universiti Sains Malaysia
- Andersen Consulting
- National Engineering Services, Pakistan
- Samsung electronics
- Octopus energy
- Rolls Royce
- Wilde Analysis
- Arup
- University of Manchester
- Geoquip Water Solutions

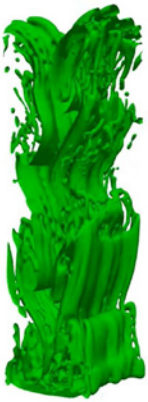
"My MSc prepared me for my consultancy role as through providing the specialist knowledge needed to problem-solve in my sector. I am currently undertaking CAD modelling and drafting tasks; and am about to begin projects which call upon the further specific knowledge this course prepared me for."

George Staley, MSc Thermal Power and Fluid Engineering graduate
Now working as a Junior Consultant & Engineer at Capgemini Engineering

COURSES IN RELATED SUBJECT AREAS:

MSc Aerospace Engineering, MSc Mechanical Engineering Design,
MSc Renewable Energy and Clean Technology





WHAT DO OUR GRADUATES DO?

- Thermofluids Consultant
- Simulations Engineer
- Power Generation Engineer
- Thermal Engineer
- Oil and Gas Engineer
- R&D Engineer
- University Lecturer
- Project Manager
- Project Engineer

Thermofluids are closely related to any industrial and manufacturing process and predominant in the energy sector, from fossil fuel to nuclear and renewable energy. Advanced understanding of heat and fluid flow processes and their role in modern methods of power generation is of immense importance in energy production, storage, lowering emissions and affordable energy.

The MSc course is designed specifically for the analysis of heat and fluid flow in industrial and research applications with numerical and experimental techniques in heat and fluid flow.

ENTRY REQUIREMENTS AND PREREQUISITES:

The standard academic entry requirement for this Master's course is a Upper Second Class (2:1) Honours degree, or international equivalent, in a relevant science or engineering discipline (e.g., Mechanical Engineering, Aerospace Engineering, Aeronautical Engineering, Mathematics and Chemical Engineering).

IELTS: at least 6.5 overall with no sub-test below 6.5. Or, an acceptable equivalent English Language qualification.

This course is accredited is accredited by the Institution of Mechanical Engineers (IMechE)

MSC ROBOTICS

Read more about this course

This course has an extended research option: MSc Robotics with Extended Research. This course is jointly run with the Department of Computer Science and the Department of Mechanical Engineering, Aerospace and Civil Engineering

Both the birthplace to the modern computer and the first English university to offer an engineering degree, Manchester has always been a changemaker. Now, one of the leading institutions in the field of Robotics, there truly is no better place to specialise in this rapidly developing technology.

From both artificial intelligence and cognitive robotics to sensory feedback, this truly interdisciplinary course not only introduces you to fundamental research but its applications. Encompassing nuclear, offshore wind, and both health and social care, our portfolio connects far-ranging scope with significant industry collaborations.

The four strategic themes explored in this course include: a) mechatronics and control; verification, security and trust in autonomous systems; b) human-robot interaction and cognitive robotics; c) artificial intelligence, machine learning and data science; d) ethics and human-centred robotics issues.

A unique opportunity to blend fundamental aspects with robot system design and integration, this course is practically oriented with an emphasis on real-world applications of robotics across various real-life scenarios.

Re. the extended research course: Prior to your summer break a preliminary study and outline of your MSc dissertation project is completed, which is fully developed throughout the second year of your course. The year-long enhanced individual research provides great opportunities to develop advanced research skills and to explore in depth some of the topics discussed during the course. This includes training in research methods, and advanced simulation and experimental techniques in robotics, as well as academic publications.

GRADUATE CAREERS

This course could lead you to a career in one of the following categories:

A ENERGY CAREERS **B BUILDING SUSTAINABLE FUTURES CAREERS**
C LEADING CHANGE CAREERS **D INNOVATING TECHNOLOGY CAREERS**
E RESEARCH FOR NEW HORIZONS

WHERE COULD OUR GRADUATES WORK?

- Dyson
- Airbus
- Ocado
- Saab
- GE Aviation
- Atkins
- Labman Automation
- Street Drone
- Createc
- Jacobs
- Sellafield
- National Nuclear Laboratory
- Ross Robotics
- Oxbotica

COURSES IN RELATED SUBJECT AREAS:

MSc Artificial Intelligence, EEE master's degrees, MSc ACSE, CS master's degrees, MSc Aerospace Engineering

WHAT COULD OUR GRADUATES DO?

Graduates from the course will be employed in a variety of industries, from start-ups and supply chain companies through to end users. The adoption of robotics is expanding significantly in areas such as nuclear, offshore-wind, transport infrastructure (rail, highways, logistics, automotive (driverless cars), construction, social-care, manufacturing, healthcare (surgery) and agriculture.

The MSc can also be used a springboard for postgraduate research. There are still many fields within robotics which require significant research to develop further.

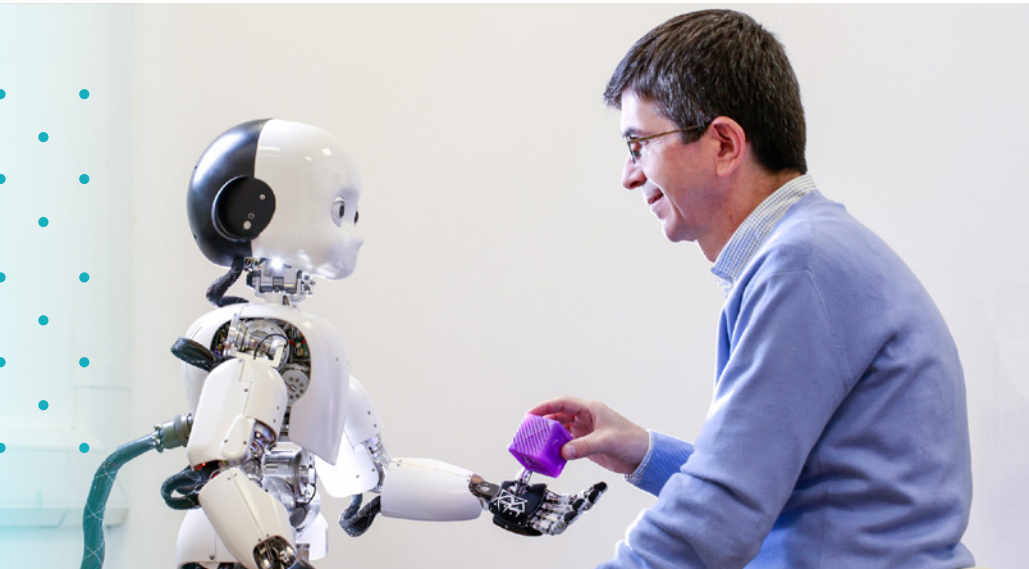
ENTRY REQUIREMENTS AND PREREQUISITES:

We require a Upper Second Class (2:1) Honours degree or international equivalent in an electrical and electronic engineering, mechanical engineering, computer science or other related discipline. Candidates from other scientific disciplines are encouraged to apply, provided they can demonstrate strength in mathematics.

Re.extended research course: To progress to the second year of this course, we usually require performance at Distinction level. Students who do not meet the criteria for progression to the second year will instead graduate with the one-year Robotics MSc or an alternative appropriate qualification.

When assessing your academic record, we take into account your grade average with particular emphasis on relevant course units and the standing of the institution where you studied your qualification.

IELTS at least 6.5 overall with no subtest below 6.0. Or, an acceptable equivalent English Language qualification.



PRACTICALITIES

PRACTICALITIES - FEES, FUNDING, AND SCHOLARSHIPS

Your master's fees will cover the cost of your study at the University as well as charges for registration, tuition, supervision, examinations, and graduation. Tuition fees also entitle you to membership of our libraries, the Students' Union, and the Athletic Union.

If you require funding for your master's course, it is advised that you begin looking as soon as possible. A range of funding options may be available to you, which will differ depending on whether you are a student from the UK or an international student (including the EU).

Check the tuition fees for your chosen course, your fee status, and funding opportunities by visiting our master's fees and funding webpage.

ACCOMMODATION

For most of you, Manchester won't just be your next stage of education; it'll be your new home for a year or more. From the moment you arrive, you'll be able to access support to help you make the most of your time in university accommodation. You'll find a range of accommodation options for postgraduate students, from contemporary and traditional halls of residence to a specialist advice service for those interested in private letting.

An offer of residence in university accommodation is guaranteed to all overseas postgraduate students for the duration of their studies, provided they meet conditions related to offer holder status and study mode. If your application falls outside the conditions of the guarantee, you are still welcome to apply for university accommodation.

Find out more on the accommodation website or explore our interactive map.

This brochure was created in 2022/2023. It has therefore been created 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: manchester.ac.uk/study/masters/courses/

Further information describing the teaching, examination, assessment, and other educational services offered by The University of Manchester is available at: manchester.ac.uk/study/masters/

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