I warmly welcome your interest and am pleased to provide you with some background to your Petroleum Engineering degree at Manchester.

Our School is home to over 70 academic staff, with a wide range of interdisciplinary skills. They are world leaders in the areas of environmental science and geoscience, ecology, solid earth geoscience, geomicrobiology, molecular geochemistry, mineralogy, atmospheric climate processes and air quality, isotope geochemistry, cosmochemistry, palaeontology, and petroleum geoscience.

Our students value close contact with our staff, who provide a supportive and stimulating learning experience. Should you choose to join us in Manchester, you can expect a degree that offers you excellent practical and theoretical training in all aspects of the discipline. This will provide a structured approach to understanding scientific concepts, building upon core skills to independently analyse challenging problems.

As a geoscientist and environmental scientist myself, I can certainly say that knowledge of how the whole Earth system works and the development of key analytical skills are vital to analyse and interpret complex natural systems, and to address many of the current challenges in the world at the present time. These skills are very much in demand by employers and our close interaction with a wide range of industries has helped us to develop our courses to meet their future needs, providing excellent employment opportunities, whilst also providing you with skills you need to address globally important current and future research challenges.

We look forward to you applying to Manchester to become part of a stimulating learning environment in a leading University. We are lucky to be located in the centre of an exciting international city and I feel sure you will find Manchester a vibrant, multicultural place to study and live.
What is Petroleum Engineering?

The availability and exploitation of oil and gas resources underpin the world’s economy and, as the petroleum industry reaches maturity, new hydrocarbon resources are becoming increasingly difficult to find. In addition, the worldwide demand for oil continues to increase. The decline in new discoveries, coupled with increased demand, has oil companies placing more emphasis on efficient recovery to maintain production and to meet increasing demands. Efficient, and above all safe, production of oil and gas thus remains of immense economic importance, and requires a broad spectrum of knowledge and skills. Petroleum Engineering is one of the primary disciplines in the exploration and production of oil and gas. It requires an understanding of fundamental geoscience, chemical, mechanical and materials engineering and mathematics.

A degree in Petroleum Engineering leads to exciting careers in the oil and gas industry, including reservoir, production and drilling engineering, which offer the scope to work across the world, in technically challenging and financially rewarding jobs.

The connection with industry placed me in excellent stead for a graduate position in the oil and gas industry. Sarah Barber

BEng Petroleum Engineering

Teaching and learning

Petroleum engineers work at the interface of geoscience, geophysics, mechanical and chemical engineering to optimise the exploitation of oil and gas reserves. They have excellent technical skills, which they apply creatively to solve complex engineering problems. The petroleum industry relies on teamwork.

Our courses produces graduates who are highly valued by employers. Graduates have a solid grasp of the engineering, mathematical and geological principles that underpin hydrocarbon exploration and production. They possess strong analytical skills, practical judgment, creativity, team work and communication skills. The courses are delivered in a variety of teaching styles, from formal lectures, through practical exercises and enquiry-based learning using real-world data and problems, to field trips for a hands-on experience of reservoirs and hydrogen carbon fields. Technical training is accompanied by tutorials to develop communication and team work skills, and to prepare students for job and internship applications. Throughout the course there is industrial input to course design and delivery. We have dedicated laboratory space with access to industry-standard software and analytical facilities to measure rock storage capacity and flow behavior of fluids.

You will initially study the fundamentals in a broad range of subjects including geology, fluid mechanics, thermodynamics, chemistry and mathematics. You will be taught how hydrocarbon is generated, stored and produced in the subsurface. On completion of the programme you will understand the life-cycle development of oil and gas fields, and how petroleum engineers operate them effectively. The final year of the BEng programme brings all knowledge together via a practical project in which you work as a team to design and operate a working petroleum project.

Petroleum Engineering. Students undertake mandatory modules in communication skills, as well as masters-level options. An individual research project is designed in collaboration with academics in both Earth Science and Chemical Engineering.

The School of Earth and Environmental Sciences is open and welcoming, with low staff to student ratios and an excellent reputation for high quality research. We have exceptional links with the oil and gas industry, which supports both our teaching and our research programmes. Major oil and gas companies are actively recruiting students from our BEng and MEng courses, as well as offering internships and sponsorship for post-graduate study to exceptional students.

The University of Manchester graduates have a very high employability record, and the course is recognised as a leading programme by international oil companies. Its accreditation with the Energy Institute provides graduates with partial (BEng) or full (MEng) requirements to apply as chartered engineers.

Our courses, which we run in partnership with the School of Chemical Engineering and Analytical Science, are designed to equip you with the knowledge and skills required by the petroleum industry. Course units benefit from the experience of current industry professionals and staff who have worked in industry, giving you a training that simulates real petroleum engineering problems.

An undergraduate degree from Manchester is a qualification that the world will recognise.

Sarah Barber

BEng Petroleum Engineering
Producing oil and gas from reserves effectively and safely is of immense economic importance, and requires a broad spectrum of knowledge and skills. Petroleum Engineering is one of the primary disciplines in the exploration and production of oil and gas. It requires an understanding of fundamental geoscience, chemical, mechanical and materials engineering and mathematics. A degree in Petroleum Engineering leads to exciting careers in the oil and gas industry, including reservoir, production and drilling engineering, which offer the scope to work across the world, in technically challenging and financially rewarding jobs. University of Manchester graduates have a very high employability record, and the course is recognised as a leading programme by international oil companies.

Further information: [http://man.ac.uk/8IbPCL](http://man.ac.uk/8IbPCL)
Entry requirements: Typical A level offer AAA, which must include maths and one other science

Petroleum Engineering (BSc)

Petroleum Engineering (MEng)

These students who choose to study for an MEng progress in Year 4 to a programme that both enhances their capacity as individual learners, and deepens their understanding of Petroleum Engineering. Students in Year 4 undertake mandatory modules in Communication skills and fieldwork, as well as masters-level options in advanced petrophysics, reservoir engineering and petroleum technology. Half of the credits in year four are allocated to an individual research project, which is designed in collaboration with academics in both Earth Science and Chemical Engineering.

Further information: [http://man.ac.uk/SU85xZ](http://man.ac.uk/SU85xZ)
Entry requirements: [http://man.ac.uk/7wnZmB](http://man.ac.uk/7wnZmB)

William Nicholson
BEng Petroleum Engineering
Studying Petroleum Engineering at Manchester is challenging, stimulating, exciting and rewarding. My favourite part of being a Petroleum Engineering student at Manchester has been being a part of a close-knit group of like-minded students who support each other every step of the way. I would strongly recommend coming to Manchester—it really is great!

Vicky Sinakova
BEng Petroleum Engineering
Careers

As a petroleum engineer you will be responsible for the identification and production of hydrocarbons. You may work on a drilling rig, getting your hands dirty, analyze reservoirs in the laboratory, as well as work with high-end modeling software in the office. You can work as part of a multi-disciplinary team for an energy company, or as one of a diverse range of service contractors who support the extraction of hydrocarbons. Either way, petroleum engineers require a range of skills in engineering and geoscience disciplines. It is a global industry, with travel for work, overseas postings, and work in multicultural teams part of the job description. Beyond technical roles, petroleum engineers are equally required in government organizations, investment banks, or work as consultants, to name but a few. Because of their broad skills in engineering, they can equally work in other energy sectors.

Our graduates have gained positions with international technical service companies and major energy companies, including BG-Group, BP, Schlumberger, Shell and Tullow. Others choose to progress to a Masters programme, typically in Petroleum Engineering or Petroleum Geoscience. Many of our overseas students return to their home countries and are employed by government organisations and national oil companies, as reservoir engineers and well engineers.

The school supports career development through tutorials, CV and application training, and a system of personal tutors. Our exceptional links with the oil and gas industry not only support our teaching and our research programmes, but equally allow talks and networking opportunities to get to know the industry. Major oil and gas companies are actively recruiting students from our BEng and MEng courses, as well as offering internships and sponsorship for post-graduate study to exceptional students.

The school has active student chapters of professional societies American Association of Petroleum Geologists (AAPG) and Society of Petroleum Engineers (SPE). Both are very active in organizing socials, technical talks, networking events and professional student competitions, and are integral to the identity of our Petroleum Engineering students.

I currently work as a petrophysicist at Shell in the Netherlands. Studying at Manchester feels like being part of a close knit community with a tremendous amount of support to get you where you want to go. The amount of industry exposure through external and university lecturers gives you a real insight into the work done in petroleum companies and makes you feel connected from the start.

Sarah Barber BEng Petroleum Engineering

Manchester prepared me well for my career in the petroleum industry working as a reservoir management engineer, being able to apply the essence of practical reservoir engineering while at the same time being capable of thinking like a geologist or a geophysicist, a skill that I’ve seen other graduates lack.

Mohammed Alghazal Reservoir Engineer for Saudi Aramco, graduated with BEng Petroleum Engineering
This leaflet was printed on June 2017 for the purposes of the 2018 intake. It has therefore been printed in advance of course starting dates. For this reason, information contained within this publication for example, about campus life, may be amended prior to you applying for a place on a course of study. Course entry requirements are listed for the purposes of the 2018 intake only.

Prospective students are therefore reminded that they are responsible for ensuring, prior to applying to study on a course of study at the University of Manchester, that they review up-to-date course information including checking entry requirements, which is available by visiting www.manchester.ac.uk/study/undergraduate/courses and searching for the relevant course.

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