

# Petroleum Geoscience for Reservoir Development and Production MSc

This course combines the teaching and research strength of both our geoscience and chemical engineering schools. The oil industry has clear objectives to maximise recovery from oil and gas fields, and to extend the life of existing fields. This course aims to meet the need for skilled personnel by training graduates that specialise in appraisal/development / production geoscience and the fundamentals of reservoir engineering. Building upon the established international reputation of the Petroleum Geoscience MSc at Manchester University, the programme draws upon the expertise of our strong clastic and carbonate research groups. The course concentrates on characterization and modeling of the reservoir, fluid flow, and the impact of recovery mechanisms and dynamic displacement.

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## Course Structure

- A dedicated teaching team of experienced academic and industrial tutors
- Strong links with industry
- Integrated analysis of reservoir systems, combining geoscience and engineering skills needed to unlock future reservoir potential
- World class facilities, with dedicated teaching rooms and workstation suites, and access to all industry-standard geoscience and engineering software

There is a strong industrial component; several course units are taught by industry specialists and there is potential to undertake research projects linked to oil companies.

**Semester 1** is jointly taught with the exploration MSc, and builds on the foundation in petroleum geoscience. Students study petrophysics, geophysics, reservoir sedimentology, geochemistry and look at the fundamentals of the value chain and the roles of exploration, appraisal, development and production.

**Semester 2** comprises of three specialist modules:

Integrated Subsurface Description: 3D Seismic Interpretation and Visualisation, Trapping Framework, Reservoir Framework, Reservoir Properties, Fluid Properties, Uncertainty & Risk.

Oil & Gas Reservoir Dynamics: Reservoir Compartments, Reservoir Energy and Recovery Mechanisms, Geological Reservoir Modelling, Reservoir simulation, Well Testing.

The Depletion Plan: Resource Assessment, Rate & Production Profile Prediction, Depletion Plan, Operating an Oil & Gas Field, HSE, Petroleum Economics and Risk Analysis, Reservoir Management, Base Management.

Other key course elements include:

- Communication Skills
- Fieldwork - field trips are taken within the UK and one trip overseas each year.
- Independent Research Project (from May to August) - often carried out within the offices of a sponsoring oil company, providing valuable work experience

The course combines academic excellence with industrial application. Students meet rigorous academic standards and develop key analytical expertise.



## Career opportunities

Graduates from this course typically follow career paths in the petroleum sector with major international oil companies, service companies, the growing number of consultancies, government institutions, or into the financial sector. Others continue their studies with PhD training.

## Entry requirements

A good Honours degree in Geology, Geophysics, Petroleum Engineering or related discipline. Work experience may also be taken into account. Overseas students need to demonstrate competence in English language (minimum IELTS score of 6.5).



## Scholarships

Funding for places on the MSc are available from oil company scholarships and University bursaries.

This year BP has announced a major sponsorship programme for The University of Manchester, which will include a place on this MSc.

All eligible applicants will be advised of these scholarships after they have applied for the course. For international students, there are other specific oil company scholarships available, and government schemes (such as the PTFD Nigeria).

