Focusing your energy
We have a degree programme for every area and to suit every interest.
Business strategy, law, planning, finance, politics, economics, data management, project management.

Offshore / Onshore renewable energy – engineering, law, economics / finance, strategy, geoscience.

Environmental monitoring / science – law, environmental science, chemistry, planning, decommissioning.

Subsea engineering, structures, installation, safety, maintenance, decommissioning.

Exploration – geophysics, petrophysics, production geology, regional exploration, sedimentology, reservoir engineering.

Upstream – oil and gas production, petroleum engineering, oil and gas engineering, drilling, law, economics, planning, politics.

Installation / Maintenance – safety engineering, process safety, structural engineering, maintenance, law, politics, decommissioning.

Downstream – chemical processing, law, business, sales, economics, politics, oil and gas engineering.
For more information on the great study opportunities at the University of Aberdeen and how you can propel the next stage of your career visit: abdn.ac.uk/energy
Introducing the

University of Aberdeen

Our experience of delivering a wide range of energy-related degree programmes, coupled with our world-class energy-related research, and of course our geographical location in “Europe’s Energy Capital” means we truly can bring our students closer to energy.

We offer energy-related Masters programmes across business, law, engineering, geosciences, natural sciences and computing.

We are one of the very few universities in the UK to be able to offer such a breadth of programmes, backed up with the academic knowledge and experience. A strong interdisciplinary focus in our teaching makes our graduates more attractive.

We are also constantly moving with the industry, by refining programme content and developing new programmes in line with industry demand, ensuring our graduates have a long-term career in their chosen sector and discipline.

Coming soon

We are delighted to announce the forthcoming launch of four new energy-related programmes for both full and part-time study due for entry in September 2018 including:

- MSc Advanced Chemical Engineering
- MSc Advanced Structural Engineering
- MSc Offshore Structural Engineering
- MSc Process Safety (Online)

Keep an eye on our website for more details abdn.ac.uk/study
Aberdeen – the centre of the **global energy** industry

A global centre of excellence and a world-class energy city.

Since the 1960s and the early days of North Sea oil and gas exploration and production in the UK, Aberdeen has become recognised as a global energy city. It is the birthplace of a number of global leading industry organisations and a UK base for many of the world’s energy giants, rivaling other major cities as a world-class centre of oil and gas upstream expertise.

Aberdeen is recognised globally as a centre for technological development, innovation and testing, which has made many of the globally adopted, modern day exploration and production techniques possible. A centre of subsea engineering excellence, the city is a successful exporter of technology, innovation and of course human talent and skills throughout the world.

Naturally, this level of expertise has also positioned Aberdeen as a key city that will help support, drive and grow the emerging renewable energy industries. This, coupled with the future growth of decommissioning projects and the potential development of carbon capture initiatives, means Aberdeen will continue to have a major impact on the global energy industry for generations to come.

Energy companies with significant operations in Aberdeen include:
- Baker Hughes
- BP
- Chevron
- Dana Petroleum
- Halliburton
- Maersk
- Petrofac
- Repsol Sinopec Resources
- Royal Dutch Shell
- Schlumberger
- Subsea 7
- Total
- Wood Group
Aberdeen is a key city that will help support, drive and grow the emerging renewable energy industries.
Better connected with industry
As an institution we are unique.

We have built strong links with industry over a number of years and this directly benefits our students in key areas.
Our flexible approach to learning means you can study full-time on campus or choose from a range of more flexible online options to fit around your work or family commitments.

Through online learning, you can study for an internationally recognised qualification, without being on campus. Online learning may be the ideal option for you if you wish to pursue a qualification that is equally as rigorous and valuable as an on-campus programme while studying at your own pace and at times that are most convenient for you.

**Online Masters Programmes**

Studying an online Master’s degree programme at the University of Aberdeen gives you all the practical advantages of fitting your learning around your location, work and personal commitments. Our online programmes are taught by the same outstanding academics as our on-campus programmes – the only difference is the flexible mode of delivery. Learning takes place at a time and place most convenient for our students.

You will be guided through your programme with online lectures, materials, case studies, projects, and videos, while also accessing various online resources through our award-winning Sir Duncan Rice Library, including interactive discussions and support, as you gain the skills to take your career to the next level.

**Short Courses**

We also offer individual Short Courses that you can take online for continuous professional development (CPD) or to build up towards a full postgraduate qualification. Our online short courses are self-contained units of learning that are taught and assessed to the same quality as our degree programmes. Students taking individual Short Courses benefit from the same level of support as those taking full postgraduate programmes, including access to a full suite of learning resources.

Find out more at [www.abdn.ac.uk/online](http://www.abdn.ac.uk/online)
Our Graduate Business School delivers a diverse and flexible range of MSc degree programmes, including a number of hugely popular energy-related degree programmes.

Our MSc Petroleum Energy Economics and Finance programme is one of the most respected programmes of its kind attracting the very best talent from around the globe each year.

Our MBA Energy Management is designed specifically to help develop business leaders of the future. It is perfectly placed in Europe’s Energy Capital to access the relevant knowledge that future leaders will require.

We are actively connected with the oil and gas, and wider energy industries. This means our students gain access to the latest industry thinking, challenges and solutions.

We also match our students with industry mentors which means you will gain invaluable one-to-one support from a professional already working in your field of interest.

We have students of 45 different nationalities studying in the School alone. This creates a positive learning environment and gives you the opportunity to make friends from around the world.

Energy Business

The programmes

- MSc Petroleum Energy Economics & Finance
- MBA Energy Management
- MSc Strategic Studies and Energy Security

Energy Law

Our School of Law hosts the highly respected Aberdeen University Centre for Energy Law (AUCEL) comprising one of the largest and most able teams of energy faculty in any European law school.

The research centre was created in order to promote the research activities of the many members of the School having an interest in Energy Law matters, as well as fostering an environment for collaborative work.

The Centre also provides a broad range of study options for students wishing to specialise in the field of energy law and for professionals who are either already working in the sector, or who are interested in moving into the area. Our programmes prepare lawyers for work in a complex and evolving environment; the focus being not only upon current practice but also upon emerging trends.

Within our 3 LLM programmes students can choose either the with dissertation option, i.e. legal research on a topic of your choice, or with professional skills: which is intensive group working on energy project scenarios, teaching practical skills for the workplace.

The programmes

- LLM Energy & Environmental Law
- LLM Energy Law
- MSc Energy Politics & Law
- LLM Oil & Gas Law

In addition, the LLM Oil and Gas is now available to study online, enabling students to access an Aberdeen education wherever they are in the world without interrupting current commitments.

The centre benefits from being located within the University of Aberdeen, an institution with a proven track record of carrying out research across the whole spectrum of the energy sector. Our research active Academic staff work closely with organisations and governments in key energy cities around the world so our students are learning from the very best.

In the Complete University Guide 2018 the School of Law is ranked 10th in the UK, out of more than 90 law schools.

The School of Law has an international cohort of students and staff. This creates a positive environment of inclusion and interaction where you will get the chance to make friends for life.
MBA ENERGY MANAGEMENT

The increasingly complex and competitive world of energy calls for talented professionals. Our programme has been designed to enhance your talent by developing both your knowledge base and skills to put this knowledge into practice. Our MBA Energy Management will help you advance your career in the energy industry.

Located in the Energy Capital of Europe, the University of Aberdeen and its Business School plays a major role in the industry through research, consultancy, training and development.

Our industry-led MBA programme stands alone in the UK in developing the next generation. As the curriculum was created in consultation with leading industry professionals and organisations, the programme is aligned to industry competencies and satisfies the skills required.

To reinforce our connections with industry, the programme utilises senior industry practitioners as Honorary Executive Fellows working alongside academics. As well as helping to ensure that the modules you will study are industry relevant, these Executive Fellows will also play a mentoring role, helping you to develop yourself as industry ready.

Is this the right course for me?

You already know the industry you wish to move into – or you are already there – and actively want to invest in a route, a deeper level of study, that accelerates your career in the high-growth global energy industry. By joining the programme, you will:

- Prepare to take on higher-level positions in the Energy Industry
- Connect with industry and specialist experts and obtain a global network
- Obtain core competency skills in areas such as Leadership, Project Management, Finance and Operations Management
- Be taught by academics with an international profile

What you will study

The programme is continuously assessed through portfolios of practice-focused assignments. These assignments provide you with evidence of industry relevant skills which will serve as a professional development record, invaluable in supporting your career progression.

The programme is delivered through lectures, workshops, role-play and simulation exercises. These modes emphasise action-oriented learning.

Core Courses

- Business Strategy
- Operations and Project Management
- Business and Money
- Value and Markets
- The Leadership Challenge
- Business Model Innovation
- Managing Self and Others
- Managing Change Innovation

Elective Courses

- Supply Chain Management
- Talking to Teams
- Energy Finance

The Graduate Business School has a track record of delivering MBA programmes for over 10 years.

The MBA Energy Management programme is a high calibre, relevant and exciting energy focussed programme, built upon our established energy industry research and consultancy excellence.

Our research intensive expertise is exemplified by world renowned energy economist, Professor Alex Kemp. Moreover, 90% of our School faculty have PhDs – which means you’ll benefit from teaching by leading professors with research and professional expertise as well as close links to industry.

What do your graduates go on to do and how many of them find relevant employment?

Our Alumni have enjoyed much success in the workplace with University of Aberdeen Business School students securing employment with:

- Bureau Veritas UK & Ireland
- Ernst and Young
- KPMG
- Royal Bank of Scotland
- Stork Technical Services
- Talisman Energy
- Google
- TAQA
- BP
- Npower
- Citibank
- Centrica to name a few.

Available Online

School/department
Business School

Duration
12 months full-time
27 months online

Intake
September and January

Entry requirements
Minimum upper second class honours degree.
3-5 years work experience, depending on role, with excellent management skills – either with or without specific energy-sector experience. If you have accrued significant work experience in one industry and know your future lies in the thriving energy sector, why not specialise with experts on our MBA Energy Management programme, who know both general management practices as well as skills unique to this industry?

Alternatively, if you’re looking to change your career pathway and find an opportunity to make that first step into this industry, then this specialist MBA is perfectly poised to give you a helping hand in your career, leveraging your foundation of good management skills.

The English language requirements is an IELTS of 6.5 with 6.0 in writing and reading (or equivalent TOEFL iBT or PTE).

For more information:
www.abdn.ac.uk/study/international/english-requirements.php
MSc ENERGY POLITICS AND LAW

Designed for students wishing to develop an advanced knowledge in energy management, regulatory agencies, stakeholder engagement, and NGO/policy advisory roles.

This programme will provide you with the ability to analyse political and legal energy issues and also provide you with knowledge of energy economics. The programme will equip you with an in-depth, all round ability to analyse energy issues and enable you to find employment in an energy-related activity.

Courses offered cover:

- The politics of energy and of electricity market reform
- How economics and legal issues affect political and commercial decisions in energy
- How the law affects the oil and gas industry
- Commercial domestic and international political regulation of energy markets
- The politics and law of renewable energy
- International energy security issues such as oil crises
- The law and politics of climate change

Our close relationship with industry means we are in a position to furnish opportunities for direct engagement through work experience or collaboration in writing dissertation projects with the energy industry.

This degree is ideal as a stand-alone programme to enhance your knowledge of this area to an advanced level.

What you will study

Core courses:
- Energy Politics
- Introduction to Energy Economics
- International Energy Security
- Project

Electives:
- First semester: Either Low Carbon Energy Transition: Renewable Energy Law (30 credits) or Oil and Gas Law (30 credits)

The project element may be based on work experience or collaboration with an energy industry organisation.

How you will be taught

Teaching will be delivered through the Department of Politics and International Relations (PIR), the School of Law and the Business School. The Programme Director, Dr David Toke leads the teaching from PIR. He is recognised for his research and public policy impact in various aspects of energy, including renewable energy and international energy policy comparisons.

How you will be assessed

Assessment methods vary from course to course and include essays, reports, exercises and presentations. Courses are generally 100% continuous assessment. The MSc in Energy Politics and Law requires you to pass the project and the five module courses.

School/department
School of Social Science

Duration
12 months full-time
24 months part-time

Intake
September and January

Entry requirements
An upper second class honours degree in a relevant discipline, or equivalent professional experience, for instance in some aspect of energy.

References are not required in order for applicants to submit an application. They are not usually required in order for a decision to be made but in certain cases applicants may be asked to provide a single academic reference at the request of the academic selector.

The English language requirements is an IELTS of 6.5 with 6.0 in writing and reading (or equivalent TOEFL iBT or PTE).

For more information:
www.abdn.ac.uk/study/international/english-requirements.php

Course info www.abdn.ac.uk/pgt/energy-politics
School info www.abdn.ac.uk/law
General info www.abdn.ac.uk/study

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@aberdeenuni
study@abdn.ac.uk
The unique aspect of the programme, and the factor which distinguishes this degree from its peers, is the close examination of the nature of energy and the environment, as encapsulated by the concept of sustainable development. The programme looks at the current environmental challenges, including the organisation of our energy system in the 21st century.

Topics of study include: environmental damage in the upstream energy sector; law's role in enabling a low carbon energy transition; the regulation of the green economy and the protection of our natural resources as a precondition for a sustainable future.

A core theme emphasised throughout this programme is that neither energy demands nor the case for environmental protection can be considered in isolation. Solutions at a local, national and global level must balance carefully these two at times competing concerns, not least in the light of current claims for a transition to a low carbon society.

The speed at which energy law and environmental law are evolving, both domestically and internationally, not only offers you the opportunity to engage with cutting-edge materials but to obtain an advanced qualification in a fascinating, commercially and socially important field.

In addition, you will study at least three of the courses listed below. A fourth course may be chosen from any other LLM programme.

- International Energy and Environmental Law
- Low Carbon Energy Transition: Renewable Energy Law
- Oil and Minerals for Good
- Low Carbon Energy Transition: Nuclear Energy and Carbon Capture and Storage
- Corporate Environmental Liability
- Principles of Environmental Regulation
- Downstream Energy Law

How you will be taught
Teaching is organised on a modular basis. There are two 12-week semesters, the first in September, the second in January. Students can join the programme in either September or January. Examinations are held in December and May. Professional skills is taught through an intensive two week course after the May exams with following assessments to be submitted during the summer. The dissertation is submitted in August each year. You are strongly advised to consult the Law School webpages for updates to the programme syllabus.

How you will be assessed
Assessment is based on a combination of continuous assessment and written examination at the end of the relevant semester. Continuous assessment takes the form of presentations and written essays.

If taking the dissertation route, you must complete a course in research skills and a dissertation on a topic within the specialism. The dissertation is prepared and written between March and August. For the with Professional Skills route, students are assessed through a group presentation and report and through two long individual reports between May and August.
LLM ENERGY LAW

The global energy sector currently offers tremendous career opportunities for those with the right legal skills and qualifications. This programme prepares and equips you with the skills and knowledge for working in the challenging environment of the energy sector.

Among the multiple challenges facing the world today, the provision of sufficient energy at appropriate prices to promote and sustain growth whilst at the same time accommodating climate change concerns, must feature near the top of any list.

Law is a vital aspect of the global energy sector as it has a key role to play in terms of:

- International agreements among states and the commercial energy sector, in relation to both energy security and climate change
- International agreements among the multiple factors within the sector, in relation to the legislation and regulation that touches every aspect of the energy chain

This programme will prepare you for working in this challenging environment. It encompasses a spectrum of courses which provide the opportunity to study the interconnected issues of energy provision, sustainable growth and climate change concerns.

The programme offers the unique opportunity to study the regulation of downstream and upstream energy markets, including the liberalisation of electricity and natural gas markets, access to pipeline infrastructure, licensing of electricity production and of upstream energy activities. It also focuses on the promotion of renewable energy sources.

You can also study investment protection in the energy sector and gain knowledge of the rapidly developing field of international investment arbitration.

What you will study

The following courses are available on the programme and you must complete four courses and a dissertation.

- Oil & Gas Law
- Principles of Environmental Regulation
- Oil and Minerals for Good
- Low Carbon Energy Transition: Renewable Energy Law
- International Energy and Environmental Law
- Low Carbon Energy Transition: Nuclear Energy and Carbon Capture and Storage
- Corporate Environmental Liability
- Downstream Energy Law

How you will be taught

Teaching is organised on a modular basis. There are two 12 week semesters, the first beginning in September and finishing in December (1), the second at the end of January and finishing in May. Professional skills is taught through an intensive two week course after the May exams with following assessments to be submitted during the summer. Examinations are held in each semester, in December and May. The dissertation is planned and written between March and August.

How you will be assessed

Assessment is based on a combination of coursework submitted during the semester and a written examination at the end of the relevant semester. If taking the dissertation route, you must complete a course in research methods and a dissertation on a topic within the specialism.

As a full-time student, you will commence work on your dissertation in March, with a final submission date in August each year. Guidance on the writing of a dissertation is given. Students taking the Professional Skills route are assessed through a group presentation and report and through two long individual reports between May and August.
I enjoy living and studying in Aberdeen because of the extraordinary cultural diversity of its population and the permanent feeling of being welcome.
LLM OIL AND GAS LAW

Providing students with the opportunity to examine and critically assess key legal issues in the oil and gas sector both in the UK and in other leading jurisdictions.

A key element in any successful oil and gas development is the appropriate legal environment, both regulatory and contractual. Our LLM in Oil and Gas Law will provide you with the skills and knowledge necessary to work in, and on the legal aspects of, this vital and exciting global industry.

The programme covers both private law aspects of the sector, such as joint ventures and contractual arrangements, and also public law and regulatory aspects, such as environmental protection, health and safety regulation and taxation.

The focus is upon setting practical and real problems in a wider conceptual context with the aim that you should not just know, but understand the relevant areas of oil and gas law. Although there is an emphasis on UK oil and gas law this is very much set in a global oil and gas context.

The University of Aberdeen School of Law is fortunate in having one of the largest and most impressive teams of oil and gas faculty in any European law school. This enables the School to provide both strength and depth to the courses provided.

What you will study

As part of the programme, you can take courses covering licensing and other methods of state control of hydrocarbon resources, commercial contracting, regulation of the oil and gas industry and principles of environmental law.

The intention is that by the end of the programme you will have developed the analytical skills and knowledge to provide you with a firm foundation for employment in the sector.

The online programmes provide the same learning outcomes but the courses are structured differently in line with their online delivery. To find out more about how they are structured visit:

www.abdn.ac.uk/pgt/oilgas-law-d

You must complete four courses and either a dissertation or, for those on the Professional Skills programme, the Oil and Gas: Exploration and Production course in the Summer. At least three courses must be taken from the Oil & Gas Law course options from the list below. The fourth course can be taken from a different LLM programme.

Students on the Professional Skills Programme must take State Control of Hydrocarbons and Contracting in Hydrocarbon Operations.

- State Control of Hydrocarbons
- International Energy and Environmental Law
- Contracting in Hydrocarbon Operations
- Corporate Environmental Liability
- Downstream Energy Law
- International Investment Law & Arbitration Law in the Energy Sector
- Oil and Gas Law: Taxation of Upstream
- Oil and Minerals for Good

For the LLM Oil and Gas Law with Dissertation programme, after completing all of your taught courses, you will undertake a dissertation.

For the LLM Oil and Gas Law with Professional Skills, after completing the courses taught during the academic year, instead of undertaking the dissertation, students on this programme will take part in an intensive two week course.

How you will be taught

Teaching is organised on a modular basis. There are two 12-week semesters, the first beginning in September, the second in January. Examinations are held in December and May. The dissertation is submitted in August each year. Final assignments on the Professional Skills programme are also submitted in August.

How you will be assessed

Assessment is based on a combination of written examination at the end of the relevant semester and one or more course essays. The dissertation, in a topic within the specialisation, is planned and written between March and August each year. The Professional Skills Module is assessed through a combination of attendance at, and participation in, classes, preparatory work, two simulated practical exercises and submission of two final assignments.
MSc (ECON) PETROLEUM, ENERGY ECONOMICS AND FINANCE

Addressing the need for economic and finance skills, required for complex decision-making in the global petroleum and energy industries.

The University has an international reputation for teaching and research in economics and petroleum economics in particular, with the work in this latter area led by Professor Alexander Kemp OBE. Graduates from this programme have gone on to secure distinguished careers across the energy industry, with employers such as BP, Ghanaian Petroleum Commission, Oil and Gas UK and Petrofac to name a few.

What you will study

- Economic Analysis for Energy – Equipping you with an understanding of micro and macroeconomic modelling techniques.
- Accounting – Providing you with an understanding of accounting information and financial reporting and introducing key aspects of financial analysis.
- Introduction to Corporate Finance for Energy – Equipping you with the analytical skills in order to understand the implications of corporate financing decisions and the theoretical underpinnings of corporate finance theory.
- Quantitative Methods for Energy Economics – Introducing you to the statistical and quantitative methods used in economics and finance.
- Introduction to Energy and Petroleum Economics – Applying economic and finance principles to examine key issues in the petroleum and energy industries.
- Business Strategy – Providing a systematic approach to strategic thinking (game theory) and using its concepts to understand how businesses interact strategically.
- Real Options and Decision Making – Developing your analytical skills and understanding concerning investment decisions under uncertainty. You are introduced to methods of analysis of the benefits and costs of investment decisions and provided with an appreciation of how these are useful to decision makers in the petroleum and energy industries.
- Issues in Energy Petroleum Economics – The further application of economics to key issues in the energy and petroleum sectors.
- Recent Topics have included – Petroleum Policies, Economic rents and their collection of to the state, licensing and other policy issues, to name a few.
- Empirical Methods In Energy Economics – Applying a range of empirical methods to issues in energy including analysis of energy spot and future prices using time series econometric techniques and economic evaluation using Monte Carlo simulation.

Dissertation

Dissertation Projects are completed during the summer months and cover a wide range of topics examining various economic and finance issues in the petroleum and energy industries. Opportunities also exist for you to undertake your dissertations in association with companies involved in the energy industry. This is a tremendous opportunity to get industry experience and build up your network of industry contacts.

Students will also summarise their dissertation in form of both posters, which are displayed to external audiences and a short oral presentation. You are given the opportunity to present your dissertation to fellow students and an invited audience – including local energy companies.

How you will be taught

As well as formal teaching, you will benefit greatly from visiting speakers currently working in the Energy Industry.

How you will be assessed

A combination of in-course assessments, examinations, plus dissertation.

School/department
Business School

Duration
12 months full-time

Intake
September

Entry requirements

Normally at least an upper second class honours degree or equivalent in any discipline with either a significant quantitative component of either economics or finance. For candidates who do not meet normal admission requirements a GMAT test may be required.

The English language requirements is an IELTS of 6.5 with 6.0 in writing and reading (or equivalent TOEFL iBT or PTE).

For more information: www.abdn.ac.uk/study/international/english-requirements.php

Please note, students who accept an offer of a place will be asked to pay a deposit to secure their place. This deposit is later deducted from the tuition fees payable at registration. See www.abdn.ac.uk/study for further details.
I chose Aberdeen University for its reputation in Energy Economics coupled with Finance. I came to get an education but I have received way more than that.
MSc STRATEGIC STUDIES AND ENERGY SECURITY

This programme utilises some of Aberdeen’s best known subjects and industries, drawing on the energy industry knowledge locally and globally to offer advanced learning in strategic Studies and Energy Security.

The University of Aberdeen combines Strategic Studies, which gives you a real in depth understanding of the character of international security globally with an energy sector dimension. Many lessons have been learned from the energy industry in terms of strategic issues which have given other industries valuable learning points and methods of working. The subject area can be complex without understanding the main difficulties of security and how international systems affect the way in which regions operate.

**Why Study Strategic Studies and Energy Security?**

- To deliver a balanced and comprehensive appreciation of the complex character of international security, in particular the energy dimension.
- To gain an awareness of the costs and benefits of the strategies deployed, often of a military nature, to address energy security issues.
- To enhance understanding of the difficulties encountered when attempting to assess the prospects for stability and security in key, pivotal ‘energy-rich’ and ‘energy-poor’ regions of the international system.
- To give an insight to the immutable and enduring influence of certain core strategic issues, inherent in the management of power and coercion, on the international system regardless of levels of economic and social development.

**What you will study**

- Strategic Theory
- Energy Politics
- Energy Economics
- Global Security
- International Energy Security
- Dissertation in Strategic Studies

**How You Will Be Taught**

As well as formal teaching, you will benefit greatly from visiting speakers currently working in the Energy Industry.

**How you will be assessed**

Courses are assessed by continuous assessment or by written examination or a combination of these, as prescribed by each course co-ordinator.

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**School/department**

Social Science

**Duration**

12 months full-time (MSc)
24 months part-time (MSc)

**Intake**

September and January

**Entry requirements**

An upper second class honours degree or a recognised equivalent in International Relations, Politics, History, Geography, Economics, Law and cognate disciplines such as Business Studies.

The English language requirements is an IELTS of 6.5 with 6.0 in writing and reading (or equivalent TOEFL iBT or PTE).

For more information:

[www.abdn.ac.uk/study/international/english-requirements.php](http://www.abdn.ac.uk/study/international/english-requirements.php)

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Course info [www.abdn.ac.uk/pgt/sses](http://www.abdn.ac.uk/pgt/sses)

School info [www.abdn.ac.uk/socsci](http://www.abdn.ac.uk/socsci)

General info [www.abdn.ac.uk/study](http://www.abdn.ac.uk/study)

[facebook.com/universityofaberdeen](http://facebook.com/universityofaberdeen)

@aberdeenuni

study@abdn.ac.uk
Co-ordinated by the University of Aberdeen, this innovation project-led degree programme equips graduates with the skills and competencies to generate and commercialise innovations for the oil and gas industry.

**Overview**

The innovation project (75% of the degree) can be done in an external organisation or within the University.

Who is it for?

- Graduates in Engineering or Science, who have the qualities and ideas required to become leaders in innovation.
- Technical staff who have identified an innovation or have expertise likely to yield innovative solutions and want to learn how to commercialise these.
- Business developers who have identified an opportunity to innovate in the oil and gas sector and seek to understand the framework of the industry and its supply chain.
- Managers or technical staff who are seeking innovative solutions for their challenges and want to equip themselves with the knowledge and leadership skills to enable their companies to identify, validate and commercialise possible solutions.

**What you will study**

**Innovate:**
- Analyse problems related to the oil and gas industry and apply tools and techniques to identify opportunities for innovation.
- Understand the innovation process and the life-cycle associated with the development and implementation of solutions.
- Apply the innovation process within a formal engineering life-cycle management structure.
- Evaluate the current working practices of an organisation, promoting and supporting innovation.

**Mature:**
- Frame technical innovations in terms of market readiness.
- Develop appropriate business models and business plans.
- Plan and execute the moving of a technical innovation through to market readiness and adoption.

**Validate:**
- Prepare credible financial projections.
- Develop an innovation proposition, including a business plan.
- Analyse and respond to political, economic, social, technological, environmental and legal factors.

**Obtain Innovation funding:**
- Assess an innovation proposition and choose appropriate tools and techniques for performing this analysis.
- Identify appropriate sources of funding.
- Pitch/-effectively communicate an innovation proposition.

**Protect:**
- Understand the scope for disputes, litigation and regulatory intervention, relevant to implementing an innovation in the oil and gas industry.
- Apply methods of intellectual property protection, appreciating the legal frameworks and practical aspects of intellectual property and freedom to operate.

**How you will study**

- The common (taught) parts of the programme focus on the innovation and commercialisation processes with special reference to the oil and gas industry.
- The (taught) technical elective provides knowledge and understanding of a specific technical area.
- All projects have significant business content. Each project will take an innovation from one technology readiness level and progress it further towards commercialisation.

**Duration**

- 12 months full-time (MSc)
- 24 months part-time (MSc)

The above indicates the minimum amount of time required to complete the programme. Students study up to two modules in each semester which start in September and January. Some students elect to study fewer modules, thereby extending the overall time taken to complete the programme.

**Intake**

- September

**Entry requirements**

- A 2:1 (upper second class) UK Honours degree (overseas equivalent) in an Engineering or Science subject. Those with alternative qualifications and substantial relevant experience will be considered on a case-by-case basis.

**Course info**

www.abdn.ac.uk/pgt/oilgas-innovation

facebook.com/universityofaberdeen

@aberdeenunii

study@abdn.ac.uk
Introducing Engineering

Our professionally-accredited programmes meet the highest professional standards.

Our Subsea Engineering programme is one of the most respected engineering programmes of its kind in the UK.

Aberdeen is recognised worldwide as a key centre of subsea engineering excellence, innovation and testing. Interlinked with key subsea companies you get the chance to interact with these companies through networking and practical work experience during the programme.

We deliver teaching in world class facilities, including specialist laboratories dedicated to particular subjects such as:
- Satellite communications
- Computer aided design
- Electrical machines
- Materials testing
- Laser welding
- Hydraulics and fluids
- Concrete
- Large structures
- Geotechnics

Our programmes are designed and reviewed with the support of an Industry Advisory Board. All of our MSc programmes offer you the chance to complete dissertation projects which are supported by industry. This gives you the opportunities to gain exposure to current industry challenges and thinking as well as build up vital industry connections.

The School has produced thousands of world-class graduates, many of which have gone on to excel in Senior roles within the energy sector.

Our engineering courses take a multi-disciplinary approach to learning and include expert support from colleagues in geology, chemistry, computing and maths to help deliver key courses.

If you have a UK equivalent of a 2:1 degree in a branch of engineering then you stand a very good chance of acceptance onto one of the MSc Engineering programmes. Depending on the nature of the subject, we do also consider other degrees and experience in other key science subjects. Full details of entry requirements are on the individual programme information pages that follow, but the table below looks to give you a simple summary of where the different undergraduate degree subjects fit in.

### Coming soon...

New for 2018 – The School of Engineering will launch four brand new energy-related MSc programmes.

- MSc Advanced Chemical Engineering
- MSc Advanced Structural Engineering
- MSc Offshore Structural Engineering
- MSc Process Safety (Online)

Keep an eye on our website for more details.

[abdn.ac.uk/study](http://abdn.ac.uk/study)

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MSc OIL AND GAS ENGINEERING

This programme has been designed to provide students with a detailed knowledge of the technology required to pursue a career in the oil and gas industry. The programme gives students both a theoretical and practical grounding in the key areas of the upstream and downstream industry.

The programme is constantly updated to reflect the current and future needs of the oil and gas industry. One of the main features of the MSc programme is its interdisciplinary nature, making it suitable for students with mechanical, civil, electrical, chemical and other relevant engineering backgrounds.

The University of Aberdeen has a proven track record of preparing graduates for careers in the Energy sector. The future of the industry depends on talented, enterprising people – like those who make up our community of innovators. As a student you will benefit from working with research active staff, and from close proximity and good working relationships with industry. Aberdeen is recognised as the Energy Capital of Europe, a factor that makes it possible for the University to deliver a curriculum that is highly relevant to the needs of employers, alongside cutting-edge research. An engineering degree from the University of Aberdeen will put you in a unique position to establish business links whilst developing your academic skills.

This programme will expose you to the key elements of the oil and gas lifecycle. You will have a wide knowledge of the industry which will open up a broader range of career paths.

This is normally specified in collaboration with industrial partners, supervised either in the School of Engineering or externally. Please note that an industry placement is not compulsory and cannot be guaranteed.

If you are registered for the MSc degree, you will start your project in May. Submitted projects are examined by external examiners. Some students will be selected to complete a further oral examination on all aspects of the programme.

Examples of projects undertaken by previous students include:
1. Comparison of analytical and numerical horizontal well productivity calculations for a fluvial/deltaic reservoir
2. Production tubing size and gas lift optimisation for deepwater subsea development
3. The use of polymer flooding to boost oil recovery in the North Sea

How you will be taught
The taught part of the programme consists of two semesters. In addition, a number of industrially-based external lecturers contribute to the programme to give examples of how theoretical concepts are currently being applied in industry.

How you will be assessed
The principal method of student assessment is through written examinations. Examinations for the first semester courses are in December and those for the second semester are in May.

Accreditation
This programme is fully accredited by the Institute of Mechanical Engineers (IMechE) and the Energy Institute (EI).
MSc OIL AND GAS STRUCTURAL ENGINEERING

The future of the industry will be dependent on a new generation of world-leading engineers. This MSc programme has been developed jointly with industry as an effective means of transferring knowledge and skills from senior experts in industry and the University to the new generation of structural engineers.

Available as part-time (by distance learning) only, this MSc programme is normally taken over three years (maximum of 6 years), consisting of two modules at a time in each of the two semesters, in each year.

The programme attracts students from all over the world making the learning experience truly international.

The programme is aimed at you, as a practising structural engineer. Therefore, whilst a good honours degree is a prerequisite, this MSc also requires you to have practical structural engineering experience to provide the context for the taught material.

You will have the opportunity to interact with your fellow learners and with the tutor via module-specific online discussion boards and email.

What you will study
- Design of Connections
- Fatigue and Fracture Mechanics
- Structural Dynamics
- Conceptual Design of Top-Side Modules
- Blast and Fire Resistant Structures
- Brownfield Structural Engineering
- Petrochemical Structural Engineering
- Finite Element Methods
- Conceptual Design of Jackets and Subsea Structures
- Design of Stiffened Plates
- Re-Assessment of Existing Structures by Structural Reliability Analysis
- Design of Jacket Attachments

The remaining modules are delivered by world-class, research active, teaching staff at the University of Aberdeen.

This mix of Industry and academia has produced a high value, demanding programme delivering in-depth fundamental understanding and practical application.

The modules have been selected to provide maximum relevance to current and future Industry requirements. The modules listed are subject to continued monitoring and re-appraisal by an Advisory Board of Industry Representatives.

How you will be taught
To enable you to remain in your employment, the MSc is only available as a part-time programme and is taught entirely via the University’s online virtual learning environment. The internet delivery is a staged release of teaching materials and coursework assignments with online quizzes after each teaching block. Teaching blocks are normally three weeks apart. Half of the modules will also have an end of module Examination – in January or May/June – which can either be at Aberdeen or at an agreed Higher Education establishment/British Council office convenient for the student’s own location anywhere in the world.

Please note: this programme is only offered as a part-time, distance learning option.

How you will be assessed
Assessment is by a mix of examination and coursework for most modules with half of the modules being by coursework alone.

Accreditation
Fully accredited by the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), the Institute of Highway Engineers (IHE) and the Chartered Institution of Highways & Transportation (CIHT).

School/department
School of Engineering

Duration
33 months – Sept to June part-time (MSc) 21 months – Each of these three periods is 1, 2 or 3 times 12 less the three months of the final summer. 9 months part-time (PgCert)

The above indicates the minimum amount of time required to complete the programme. Students study up to two modules in each of the University’s semesters which start in September and January. Some students elect to study fewer modules, thereby extending the time taken to complete the programme.

Intake
September

Entry requirements
A 2.1 Honours degree in Civil or Structural Engineering, or equivalent. Applicants with other relevant qualifications will be considered if they also have significant relevant Structural Engineering professional experience. Ideally all applicants must have at least 2 years (depending on its nature) of relevant experience.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.
This industry-focused programme consists of courses which will enable you to develop your skills in, and understanding of the fundamental aspects of petroleum engineering. There is a particular focus on formation evaluation and reservoir engineering and simulation. It will develop your skills so you are able to appraise and select the appropriate technologies for safe production recovery of hydrocarbon oil and gas.

The programme will equip you with the necessary knowledge and skills required for an integrated study and evaluation of a prospect leading to a viable oil and gas field development plan. Hands-on experience of using industry standard simulation software in all aspects of petroleum engineering is developed within the taught courses.

The University of Aberdeen has a proven track record of preparing graduates for the energy industry. You will benefit from research active staff, and from close proximity and good working relationships with industry. Aberdeen is recognised as the Energy Capital of Europe. This puts the University in a unique position of being able to offer a petroleum engineering curriculum that is highly relevant to the needs of employers, alongside cutting-edge research.

A degree from the University of Aberdeen will put you in a unique position to develop crucial business links alongside your learning.

What you will study
- Fundamentals of Petroleum Geoscience
- Petrophysics, Core Analysis and Formation Evaluation
- Reservoir Engineering
- Enhanced Oil Recovery
- Reservoir Simulation
- Well and Production Engineering
- Well Testing: Analysis and Design
- Field Development and Petroleum Economics

Project/Dissertation
As a full-time student, taking the MSc Programme over 12 months, a dissertation is to be prepared on work undertaken during the final individual project, which will normally be specified in collaboration with industrial partners, supervised either in the School of Engineering or externally and carried out from May to September.

How you will be taught
The taught part of the programme is delivered over two semesters: September to late December, and January to May. The courses are taught by staff from the School of Engineering and School of Geosciences. In addition, a number of industrial-based external lecturers contribute to the programme to give examples of how theoretical concepts are currently being applied in industry.

After the written examinations in May, students registered for the MSc degree will commence an industry-based project where this can be arranged or school-based project, and at the end of this period, an individual project report, in the form of a dissertation, has to be handed in and examined. Oral examination of some students on all aspects of the programme may be required by the External Examiner. The final assessment takes account of performance in all parts of the programme and examinations.

How you will be assessed
The principal method of assessment is through end of course written examinations and continuous assessment. Examinations for the first semester courses are in December and those for the second semester are in May. Candidates are normally expected to pass all examinations and all project submissions. As an MSc student, you must submit a dissertation on your project, and may be required to undergo an oral examination.

School/department
School of Engineering

Duration
12 months full-time
27 months online

Intake
September and January

Entry requirements
Our minimum entry requirement is a UK Honours degree (or equivalent) in any branch of engineering at 2:1 (upper second class) or above. Students with a 2:1 degree in Geology, Physics, Chemistry or Mathematics may also be considered if they can demonstrate 2+ years of relevant work experience.

Engineering or Applied Maths graduates with a 2:2 may also be considered if they can also demonstrate 2+ years of relevant experience.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the 'Postgraduate Standard’ level of English proficiency.
MSc PROCESS SAFETY (CHEMICAL ENGINEERING)

The programme delivers highly employable, Process Safety professionals who understand industry pressures of operational safety and risk assessment.

Working closely with leading industry organisations and IChemE, we have developed MSc Process Safety degree programme. With a focus on advanced chemical engineering breadth and depth in process safety, we are reaching out to individuals that have the desire and skills to become qualified Process Safety Engineers and who are from a Chemical Engineering background, or a Petroleum or Mechanical Engineering background but with good chemical/chemistry knowledge.

This programme examines the primary technologies equipment used, and operations involved in upstream oil and gas processing. You will be exposed to the major issues and challenges facing industry and develop a professional approach to managing these accordingly.

A major component of the programme is understanding and managing risk. You will be introduced to the tools and processes used to identify, assess and manage risk, taking such issues as process operations and human factors into account.

The School of Engineering works extremely closely with organisations operating in the oil and gas industry. This is an historic working relationship, dating back to the very early days of North Sea oil and gas production and it is a relationship that offers up tremendous opportunity to our students. Example benefits include; MSc student projects, on-campus guest lectures and industry case studies. Being so close to the industry also gives students the opportunity to network with what could very well be future employers.

What you will study

Evidence suggests that there is currently limited provision and access to postgraduate level study in this field. This programme gives current engineering and science graduates a tremendous opportunity to further their career.

- Process Risk Identification and Management
- Upstream Oil & Gas Processing
- Loss of Containment
- Computational Fluid Dynamics
- Applied Risk Analysis & Management
- Process Plant, Equipment and Operations
- Process Design, Layout & Materials
- Human Factors Engineering
- Individual Project in Process Safety

How you will be taught

The programme consists of two semesters: September to December, and January to May. After the written examinations in May, students registered for the MSc degree start an industry or school-based project, where this can be arranged, and at the end of this period an individual project report, in the form of a dissertation, has to be submitted and examined by our External Examiners, who will may also make an oral examination of some students on all aspects of the programme. The final assessment takes account of performance in all parts of the programme and examinations.

How you will be assessed

The principal method of student assessment is through written examinations candidates are normally expected to pass all examinations and all projects submissions. MSc candidates must submit a dissertation on their project, and may be required to undergo an oral examination.

Course info www.abdn.ac.uk/pgt/process-safety
School info www.abdn.ac.uk/engineering
General info www.abdn.ac.uk/study

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Empowering future managers through providing a solid grounding in the principles and practice of project management. These skills are currently in very high demand and essential to the financial and operational success of projects across all industries.

Project management skills and qualifications are currently in high demand across a number of key industries, including oil and gas, where there is an identified skills shortage. Our MSc in Project Management has been designed specifically to meet the requirements of practising professionals and is taught in a flexible manner.

This programme will expose you to the latest thinking, and introduce you to necessary project management skills. The programme brings together learning across the disciplines of engineering and business. Delivered by academic and industry professionals, you can be assured that your learning is current and will put you in the strongest position to develop your project management career.

The courses on the programme are completely modular in structure and have been carefully developed. They provide a variety of levels of provision, suiting your individual needs. Flexibility and a firm grounding in current practice are the principal features of the MSc in Project Management.

What you will study
Two modules are taught in each of the semesters, which start in September and January.

Certificate (year 1)
- Project Management Essentials 1
- Organisations and People
- Project Planning and Control
- Budgets and Financial Control

Diploma (year 2)
- Project Management Essentials 2
- Commercial and Contractual Issues
- Quality and Risk Management
- Group Project

MSc (year 3)
- Managing Project Teams
- Programme & Portfolio Management
- Individual Project (Dissertation)

How you will be taught
The university requires that all 15 credit courses require about 150hrs study. The teaching is done over five weekends each semester but students are expected to undertake additional independent study.

How you will be assessed
The modules are assessed by a combination of coursework and written examination. The distance learning coursework is submitted to the course tutor electronically. If you are a distance learning student, you will need to arrange a suitable examination venue at a convenient Higher Education Institution or British Council Office. Each module can be taken as a stand-alone credit-bearing unit for the purposes of Continuing Professional Development A choice of exit levels is also provided to suit your needs.

On campus learning
Students wishing to study towards their qualification on campus can do so by attending classes approximately once a month. Classes are run on a Saturday and Sunday. Study visas are not granted for part-time study.

Distance learning
The distance learning version of the course is delivered entirely online. There is no requirement to attend the University of Aberdeen.

Accreditation

School/department
School of Engineering

Duration
27 months online

Intake
September and January

Entry requirements
Relevant experience in Project Management is a prerequisite. In general, applicants are expected to hold a degree in an appropriate subject; however alternative qualifications, combined with an appropriate level of significant and relevant experience, may also be considered as a means for entry.

Applicants with no formal higher educational qualifications should not be deterred from applying for this course.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.

Course info www.abdn.ac.uk/pgt/petroleum-eng
School info www.abdn.ac.uk/engineering
General info www.abdn.ac.uk/study

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This programme has been designed to provide you with a detailed knowledge of all major renewable energy sources and the engineering skills associated with them. Essential subject areas are also covered to ensure that you develop the skills and understanding required to develop and implement renewable energy projects.

You get both a theoretical and practical grounding. Teaching is by specialist staff drawn from our engineering school and the energy industry, each of whom are highly regarded in their field of expertise.

The programme is constantly updated to reflect the current and future needs of the renewable energy industry. One of the main features of the MSc Programme is its interdisciplinary nature. Whether you are from a mechanical, civil, electrical, chemical or other suitable engineering background, this programme is aimed at you. In special cases, the programme is also made available to those with relevant science backgrounds, including physics, chemistry and applied maths.

What you will study

- Electrical Systems for Renewable Energy
- Renewable Energy 1 (Solar and Geothermal)
- Renewable Energy 2 (Biomass)
- Fundamental Concepts in Safety Engineering
- Renewable Energy 3 (Wind, Marine and Hydro)
- Energy Conversion and Storage
- Renewable Energy Integration to Grid
- Legislation, Planning and Economics

Dissertation/Project

For full-time students taking the MSc Programme over 12 months, a dissertation is to be prepared on work undertaken during the final individual project, which will normally be specified in collaboration with industrial partners, supervised either in the School of Engineering or externally.

How you will be taught

The taught part of the programme consists of two semesters: the first running from September to December, and the second from January to May.

The courses are assessed both by written examination and coursework.

After the second semester written examinations in May, students registered for the MSc degree start an industry or school-based project, where this can be arranged, and at the end of this period, an individual project report, in the form of a dissertation, has to be handed in.

How you will be assessed

The principal method of assessment is through written examinations. Examinations for the first semester courses are in December and those for the second semester are in May. You will be expected to pass all examinations and all project submissions. MSc candidates must submit a dissertation on their project, and may be required to undergo an oral examination.
I chose the University of Aberdeen because of its reputation for energy studies. In the whole of the UK, it was the best in terms of course content.

Adesola Opeyemi Adetoye, Nigeria
MSc Renewable Energy Engineering
MSc SAFETY AND RELIABILITY ENGINEERING FOR OIL AND GAS

The ongoing developments in safety and reliability remains a primary focus for the industry. Greater effort is now being put into assessing the safety and reliability of complex engineering systems, and of ensuring that existing facilities can continue to be operated safely and economically.

There is a continuing high demand for individuals with specialist knowledge in these areas, partly a result of the legal requirements to assess and control industrial risks to people and the environment and partly because of the need to create high integrity engineering systems in many industries. This MSc programme brings together topics relating to the safety and reliability of engineering products and systems, including the legislative framework, in a unified approach.

The programme draws together students from all over the world, making the learning experience a truly international one. The high regard the programme enjoys and the wide geographic spread of our graduates results in a world-wide recognition and acceptance of the degree.

You can choose to study on a full-time or part-time basis. As a full-time student, the duration of the programme is 12 months, starting in September. As a part-time student, you will attend for the equivalent of one or two days per week over a period of two to three years, also starting in September.

The programme provides an integrated approach to safety and reliability issues across most of the traditional branches of engineering, and will allow you to specialise in offshore engineering, technical safety, reliability, legislations and regulations or human factors.

As a full-time student taking the MSc programme over 12 months, a dissertation is to be prepared on work undertaken during the final individual project, which will normally be specified in collaboration with industrial partners, supervised either in the School of Engineering or externally.

Please note that an industry placement is not compulsory and cannot be guaranteed. If you are a part-time student who is sponsored by your company or working for a company approved by the University, a dissertation is to be prepared on approved project work carried out within that company during the second or third year of the programme.

How you will be taught

You will be taught by staff from the School of Engineering, Institute of Mathematics, School of Psychology and the Department of Environmental and Occupational Medicine. In addition to the above, a number of lectures are given by industrially-based practising safety and reliability specialists.

How you will be assessed

Assessment is by continuous assessment and/or written assignment.

Accreditation

Campus study is fully accredited by the Institution of Mechanical Engineers (I MechE), the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (I StructE), the Institute of Highway Engineers (IHE) and the Chartered Institution of Highways & Transportation (CIHT).

“I had six-years of professional experience before coming to the programme, yet the programme really strengthened the knowledge that I previously lacked.”

Fari Aditya Gatam, Indonesia, MSc Safety and Reliability Engineering for Oil and Gas

Entry requirements

Our minimum entry requirement for this programme is a UK Honours degree (or an honours degree from a non-UK institution which is judged by the University to be of equivalent worth) in any branch of Engineering, Mathematics or Physics at a 2:1 (upper second) class or above. Applicants with slightly lower qualifications e.g. a UK equivalent 2:2 (lower second class honours degree) may be considered if they can demonstrate they have 2-3 years, of professional experience judged by the University to be of direct relevance to the programme.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.

School/department

School of Engineering

Duration

12 months full-time
27 months online

Intake

September

Course info

www.abdn.ac.uk/safetyengineering
School info

www.abdn.ac.uk/engineering
General info

www.abdn.ac.uk/study

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This multi-disciplinary degree is designed to cover all the key aspects of the decommissioning process, including the engineering challenges, legal and environmental considerations and policies, economic, business and project management related challenges.

The degree is taught through a number of core and optional courses and students will have the chance to develop and further research a specific area of interest to them through their MSc final project dissertation with real-world application to their business.

The degree will open up career opportunities in specific areas, such as law, engineering, project management, business consultancy, economics and financial management. It is aimed both at recent graduates from a broad range of degree backgrounds as well as those already working within the oil and gas sector or its related industries.

Students will learn from world-class academics, many of whom have worked in or alongside industry. The programme is developed in close consultation with those directly involved in decommissioning and meetings are held regularly to ensure the content is kept in line with the very latest thinking and industrial challenges.

There are significant opportunities in key regions around the globe where skills and knowledge of the decommissioning process are a huge advantage for future careers.

What you will study

- Offshore Structures and Subsea Systems
- Well Plugging and Abandonment
- Decommissioning of Offshore Installations: Regulatory Aspects
- Petroleum Economics and Project Evaluation
- Marine Environmental Impact Assessment
- Process Shut Down, Structural Decommissioning
- Group Project in Comparative Assessment

In addition, students will be able to specialise by choosing one of the following areas:

- Decommissioning of Offshore Installations: Commercial Aspects
- Engineering Risk and Reliability Analysis
- Applied Marine Ecology and Ecosystem Management

How you will be taught

The taught part of the programme consists of two semesters: the first running from September to December, and the second from January to May.

The courses are assessed both by written examination and coursework.

After the second semester written examinations in May, students registered for the MSc degree start an industry or school based project, where this can be arranged, and at the end of this period, an individual project report, in the form of a dissertation, has to be handed in and examined by External Examiners, who will may also make an oral examination of some students on all aspects of the Programme.

How you will be assessed

The principal method of assessment is through written examinations. Examinations for the first semester courses are in December and those for the second semester are in May. You will be expected to pass all examinations and all project submissions. MSc candidates must submit a dissertation on their project, and may be required to undergo an oral examination.
MSc ADVANCED MECHANICAL ENGINEERING

This programme emphasises the application of computational techniques and packages to solve complex engineering problems. It offers students a broad range of advanced subjects across the mechanical engineering disciplines to prepare students to excel in various industrial sectors.

MSc Advanced Mechanical Engineering is the latest addition to our world-class suite of engineering programmes, opening up a broader range of career opportunities in many areas of Mechanical Engineering.

The programme will provide graduate engineers with an in-depth technical understanding of advanced mechanical topics, particularly in the area of computational mechanics, mechanical response of engineering materials and reliability engineering.

It will enhance the skills of experienced engineers who have been already working in industry and equip graduates with transferable skills required for demanding employment.

The programme emphasises the application of computational techniques and packages to solve complex engineering problems. This will be accomplished by core courses. Since this new MSc programme involves a broad range of applications in Mechanical Engineering, students tailor the programme to their future goals and preferences through their individual project and course choices.

How you will be taught

The taught part of the programme consists of two semesters: the first running from September to December, and the second from January to May.

The courses are assessed both by written examination and coursework.

After the second semester written examinations in May, students registered for the MSc degree start an industry or school based project, where this can be arranged, and at the end of this period, an individual project report, in the form of a dissertation.

How you will be assessed

The principal method of assessment is through written examinations. Examinations for the first semester courses are in December and those for the second semester are in May. You will be expected to pass all examinations and all project submissions. MSc candidates must submit a dissertation on their project, and may be required to undergo an oral examination.

What you will study

- Computational Fluid Dynamics
- Numerical Simulation of Waves
- Advanced Composite Materials
- Finite Element Methods
- Mathematical Optimisation
- Engineering Risk and Reliability Analysis

In addition, students will be able to specialise by choosing two of the following areas:

- Fire and Explosion Engineering
- Structural Vibrations
- Project Management
- Risers Systems and Hydrodynamics
- Hydro, Marine and Wind Energy

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School info www.abdn.ac.uk/engineering
General info www.abdn.ac.uk/study
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study@abdn.ac.uk
MSc SUBSEA ENGINEERING

Preparing highly-trained, highly-qualified, business-aware graduates that can make an immediate impact in their chosen career, and who can address the need for key skills in the subsea industry. This MSc degree programme is regarded as one of the strongest and best programmes of its kind on offer in the UK.

Subsea Engineering at the University of Aberdeen has a unique and direct relationship with the subsea industry both locally and internationally, and the programme receives major support from local industrial organisations.

The programme seeks to best address the needs of the industry today in terms of subject areas of fundamental importance.

The programme will provide you with:

- Increased technical knowledge and understanding of the development and operation of subsea technologies and systems, from wellhead to topside structure interconnections.
- Intellectual and practical skills so that you can apply sound engineering principles and analysis methods to the design and installation of subsea systems, and can use and adapt appropriate analysis tools and techniques, specialist design software and standards for design improvements and performance optimisation.
- The opportunity to further enhance your transferable and personal skills in self-study, communication, report writing, project and time management, and problem solving.
- An awareness of the roles and challenges of a practising subsea engineer for technical leadership and managerial responsibility.

What you will study

- Subsea Integrity
- Offshore Structures & Subsea Systems
- Engineering Risk & Reliability Analysis
- Subsea Controls
- Subsea Construction, Inspection & Maintenance
- Pipelines & Soil Mechanics
- Riser Systems & Hydrodynamics
- Flow Assurance

Individual Project – previous student projects include:

1. Leakage detection in subsea flowlines.
2. Investigation of multiphase boosting technology in the North Sea oil and gas fields.
3. The investigation of a combined Riser Mooring concept for offshore Australia FPSO developments.

How you will be taught

The courses are completely modular in structure. A choice of exit levels is provided to suit the needs of the participants. As a full-time student you will complete 4 modules per semester while as a part-time student you will complete up to 2.

How you will be assessed

The modules are assessed by a combination of coursework and written examination. The distance learning coursework is submitted to the course tutor online and marks and comments will be returned.

Accreditation

Fully accredited by the The Institute of Marine Engineering, Science & Technology (IMarEST) and Institution of Mechanical Engineers (I MechE), the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (I Struct E), the Institute of Highway Engineers (IHE) and the Chartered Institution of Highways & Transportation (CIHT).

School/department

School of Engineering

Duration

12 months full-time
27 months online

Intake

September

Entry requirements

Our minimum entry requirement is a UK Honours degree (or equivalent) in any branch of Engineering at a 2:1 (upper second) class or above. Applicants with slightly lower qualifications (e.g. a UK equivalent lower second class honours degree) may be considered if they can demonstrate they have 5, or more, years of professional experience judged by the University to be of direct relevance to the programme.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.

Please note: for Distance Learning students, access to a high speed Internet connection is necessary.

Course info www.abdn.ac.uk/subseaengineering
School info www.abdn.ac.uk/engineering
General info www.abdn.ac.uk/study

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@aberdeenuni
study@abdn.ac.uk
MSc GLOBAL SUBSEA ENGINEERING

The MSc Global Subsea Engineering programme offers a unique opportunity for students to engage and learn in an internationally collaborative environment centred around two major oil and gas hubs: Aberdeen, Scotland and Perth, Western Australia.

This 12 month masters programme draws on the niche expertise of University of Aberdeen and Curtin University in the field of subsea engineering and offers a seamless global education experience where students spend time at each institution. You will receive a degree recognising study at both universities.

The course provides an in-depth understanding of subsea infrastructure, construction and maintenance, subsea surveying and installation, safety and regulation. It has been designed to produce the career-ready engineers that the highly technical subsea industry requires. Upon completion students will be awarded a degree recognising their study at both institutions.

This exciting new partnership between the University of Aberdeen and Curtin University enables students to develop and apply the technical expertise required for working in the oil and gas industry in an international context. Students will gain an awareness of the roles and challenges of a practising subsea engineer as well as the knowledge, understanding and skills necessary for technical leadership and managerial responsibility.

The geographical location of the two universities puts us in the unique position of being able to offer a curriculum that is highly relevant to the needs of employers, alongside cutting-edge research.

What you will study
The first semester will be taught at the University of Aberdeen and covers the following:
- Subsea Construction, Inspection and Maintenance
- Subsea Control
- Subsea Integrity
- Offshore Structures and Subsea Systems

Students will then spend their second semester at Curtin University, studying:
- Phase Behaviour and Flow Assurance
- Umbilicals and Risers
- Safety, Reliability and Integrity Management
- Flowlines and Pipelines

Finally, students will return to Aberdeen and complete an individual project.

It is also possible to study this programme undertaking the first semester and project in Australia with the second semester being held in Aberdeen. Please note that students must be eligible for the relevant student visas in both countries and are responsible for ensuring these arrangements are made in a timely manner.

How you will be taught
The courses are assessed both by written examination and coursework.

After the second semester written examinations, students registered for the MSc degree start an industry or school based project, where this can be arranged, and at the end of this period, an individual project report, in the form of a dissertation, has to be handed in.

How you will be assessed
The principal method of assessment is through written examinations. Examinations for the first semester courses are in December and those for the second semester are in May. You will be expected to pass all examinations and all project submissions. MSc candidates must submit a dissertation on their project, and may be required to undergo an oral examination.

Study in Scotland & Australia
Course info www.abdn.ac.uk/oge
School info www.abdn.ac.uk/engineering
General info www.abdn.ac.uk/study
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@aberdeenuni
study@abdn.ac.uk
The University’s **excellent reputation** in engineering teaching and its close links with **industry** was too good an opportunity to miss.
Introducing Geosciences

Geology degrees have been awarded at the University of Aberdeen for more than 150 years. Our unique position in Europe’s Energy Capital means we have long-established links with the oil and gas industry which will benefit graduates as they progress through their career.

We have created a world-class learning environment and we pride ourselves on being a close community of staff and students, working together and sharing experiences. Organisations that we work with across a number of areas include – Apache, Statoil, Baker Hughes, BP, Chevron, Conoco Phillips, Dana Petroleum, Halliburton, BP, Shell, Pemex and Saudi Aramco, to name a few. These links, and more help us deliver world-class teaching and research tailored to industry needs.

We deliver our programmes from world-class facilities with a number of our MSc programmes having dedicated study and teaching space available.

Our flagship MSc Integrated Petroleum Geoscience programme was first launched in 1973, due to a recognised demand from industry.

Over the past 40 years the programme has been developed in line with industry needs and informed by industry experts. The programme today is one of the most highly regarded Petroleum Geology Masters programmes in the world, with over 97% of graduates entering straight into careers in the industry or further research.

Local, national and international field trips play a major part in all our postgraduate teaching. Some are organised directly through the department as part of the degree programme, whereas others are organised through the active student chapters, which offer great networking opportunities and form an essential bridge into careers.

Recent additions to our portfolio of MSc degree programmes now means we offer one of the most industry relevant, comprehensive and careers focussed Geoscience portfolios in the UK.

The Degree Programmes

- MSc Environmental Partnership Management
- MSc Geographical Information Systems
- MSc Geophysics
- MSc Integrated Petroleum Geoscience
- MSc Oil and Gas Enterprise Management
- MSc Petroleum Data Management
- MSc Reservoir Engineering

Full details of entry requirements are on the individual programme information pages that follow, but the below table looks to give you a simple summary of where the different undergraduate degree subjects fit in.

<table>
<thead>
<tr>
<th>Undergraduate Degree Subjects</th>
<th>Environmental Partnership Management</th>
<th>Integrated Petroleum Geoscience</th>
<th>Geophysics</th>
<th>Geographical Information Systems</th>
<th>Oil &amp; Gas Enterprise Management</th>
<th>Reservoir Engineering</th>
<th>Petroleum Data Management</th>
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I believe that as a result of this *knowledge* and the *analytic skills* that I have acquired, more doors of *opportunities* will be open for me.
MSc ENVIRONMENTAL PARTNERSHIP MANAGEMENT

Future success in sustainable development will increasingly rely upon private sector, non-profit and governmental bodies working in partnership. This programme aims to develop the future generation of eco-entrepreneurs who have the passion and skills to lead environmental partnerships and projects of the future.

Sustainable development – the balancing of environmental, economic and social goals – is the greatest challenge facing the planet today. While international initiatives often state the goals and targets needed to achieve sustainable development, a significant gap exists in developing the skills, practices and processes that advance good governance.

In the context of global challenges such as climate change, energy, biodiversity, food production and clean water, new and innovative forms of collaboration and partnership are needed to bring together societal, business and scientific interests.

Our MSc in Environmental Partnership Management is an innovative and exciting programme aimed at providing future leaders with the skills and tools needed to develop the green economy. It responds to the gap for skilled graduates and environmental professionals who can work across civil society, business and government in building partnerships for sustainable development.

The MSc will combine knowledge on environmental and social issues together with practical business skills to enable the design, management and delivery of effective multi-stakeholder partnerships.

What you will study

Students will study four courses in the first semester and four courses in the second. These eight courses will be made up of six core and two electives. The partnership project completed in semester three completes the MSc.

Electives:
- Planning, Land & Environmental Law
- Marketing Management
- Project Management
- Managing our Coasts & Seas
- Regeneration & Economic Development
- Business Model Innovation
- Partnership project – this involves collaboration (potentially in the form of a placement) with a supporting partner organisation/agency (e.g., SEPA, SNH, the National Park Authority, NGO or a Community group.

How you will be taught

The MSc is taught by experts in energy, water resources, coastal management, agriculture, transport and rural communities from Geography and Environment, with staff from the Business School offering elements of management training currently part of the MBA. An exciting component of the course will be the opportunity to learn about principles and practice of partnership and collaboration from a range of invited expert speakers from businesses, governments and NGOs.

How you will be assessed

Courses are assessed by continuous assessment or by written examination or a combination of these, as prescribed by each course co-ordinator. The outcome of Partnerships Project is based 85% on the dissertation/project and 15% on an oral examination based on the Project.

School/department
Geography & Environment

Duration
12 months full-time
24 months part-time

Intake
September and January

Entry requirements
A 2:2 (Hons) degree in Geography, Environmental Science, Environmental Management, Marine Science, Geology, Soil Science, Ecology, Planning, Zoology, Forestry, Agriculture, Business Management, Psychology, Biology, Sociology and Economics. Candidates with degrees in other subject areas will be considered if they can demonstrate interest, aptitude and experience in a field relevant to the application of environmental studies and management and/or have experience in data analysis.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.

Course info www.abdn.ac.uk/pgt/env-partners-mgmt
School info www.abdn.ac.uk/geosciences
General info www.abdn.ac.uk/study
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study@abdn.ac.uk
This programme draws upon a wide range of international, national, and local expertise in the following areas:

1. Coastal and marine sciences
2. Landscape ecology and landscape change
3. Archaeology
4. Integrated coastal management
5. Offshore hydrographic and underwater survey
6. Renewable energy
7. Geology and hydrocarbon exploration
8. Environmental risks and hazards
9. Marine and terrestrial spatial planning
10. Precision agriculture
11. Climate change
12. Field data collection.

You will use state-of-the-art tools and techniques such as underwater remote sensing, image data acquisition using UVAs, mobile GIS mapping and spatial apps.

Geospatial technologies are of increasing importance in many areas of commercial, industrial, and government employment; for example in:

1. Nature conservation agencies
2. Hydrocarbon exploration
3. Offshore and hydrographic survey
4. Oilfield exploration and management
5. Environmental consultancy
6. Civil and coastal engineering projects
7. Environmental modelling
8. Precision agriculture
10. Business, coastal and marine spatial planning

**What you will study**

The GIS programme covers the fundamental techniques and tools for acquiring, storing, processing, classifying, visualising and analysing spatially referenced data, and their application to the study of the environment. Topics include:

- The History, Origins and Evolution of GIS
- Introduction to GIS Tools, Techniques, Cartography and Geovisualisation
- People Management and GIS
- Database Systems and Big Data
- Advanced Spatial Analysis and Programming
- Fundamentals and Advanced Applications of Map Algebra
- UAV Remote Sensing, Monitoring and Mapping
- Current Applications of GIS

**Dissertation/Project**

If you complete the programme to an appropriate standard you will be permitted to take the dissertation in Geographical Information Systems.

**How you will be taught**

Teaching is by a combination of illustrated lectures, practical demonstrations, student-led seminar discussions on pre-arranged topics, student-centred learning making use of internet resources, group practical work and lectures/seminars with experts in a range of application fields.

**How you will be assessed**

Assessment is by a combination of written assignments and laboratory reports as prescribed for each course. Plus a dissertation (MSc candidates) or a project report (Diploma candidates). An oral examination is also required.
MSc GEOPHYSICS

Developed on the back of a recognised need for qualified Geophysicists within industry, this programme will equip students with the skills needed for careers in the hydrocarbon, minerals exploration or associated service industries, or broader geophysics research.

This unique programme is designed to expose students to the theory and practice of modern geophysics, with an emphasis on cutting edge techniques for understanding the structure, dynamics and composition of the Earth from the near surface to the deep interior. The content is broad-based and integrative with a strong focus on the quantitative aspects of geophysical data analysis and interpretation.

What you will study

- Explore the theory of geophysics and its application to a multitude of research and industry problems across a variety of scales, via a curriculum that covers the broad fundamentals and new technologies.
- Learn from experienced geophysics staff and key industry experts, in world-class facilities.
- Gain hands-on experience of using industry-standard software and acquiring geophysical data with our large pool of geophysics equipment (including broadband seismometers, seismic reflection/refraction, ground penetrating radar, resistivity tomography, magnetometers and differential GPS).
- Develop your own ideas, strategies and solutions during the self-directed geophysics project with academic and industry mentorship.
- Form part of and share experiences with a close community of academic staff, research fellows, PhD students and other MSc students in the Department of Geology and Petroleum Geology.
- Enhance your interpersonal, business, presentation and communication skills. Work both as a team and individually, and immerse yourself in new experiences and influences.

- Earth Physics, Structure and Processes
- Field Geophysical Data Acquisition
- Time Series Analysis and Signal Processing
- Geophysical Inverse Theory and Statistics
- Seismology and Earth Imaging
- Seismic Reflection Processing, Imaging and Quantitative Interpretation
- Borehole Geophysics and 4D Reservoir Monitoring
- Topics in Advanced Applied Geophysics

The 12 month full time MSc is split into three semesters. During the first and second semesters, you will study four courses. The MSc will be achieved upon successful completion of the individual project.

Individual Project in geophysics, supported directly by industry where appropriate.

How you will be taught

The taught part of the programme is delivered over two semesters: September to December, and January to May. The courses are taught by staff from School of Geosciences. In addition, a number of industry based external lecturers contribute to the programme to give examples of how theoretical concepts are currently being applied in industry.

How you will be assessed

Continuous assessment will play a major part in the programme, as well as course specific project work and exams. One-third of the overall assessment will be attributed to an individual project involving original research or applied work. Students may gain direct support from industry during the individual project.

School/department
Geology & Petroleum Geology

Duration
12 months full-time

Intake
September

Entry requirements
Our minimum entry requirement for this programme is a 2:1 in Geophysics, Maths, Physics, Computing or a Geology degree which included Geophysics as well as proven maths ability such as A-level or Advanced Higher maths at C or better, or Higher maths at B or better would also be eligible, or its international equivalent.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php). This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.
With an excellent reputation as one of the top vocational training pathways, graduates from this programme are highly sought after by industry. This programme is also an ideal springboard into further research at PhD level and above.

Over the last decade, more than 99% of our MSc graduates have gained employment in the oil industry or gone straight on to funded PhD research. At present many of the major oil companies are desperately short of qualified staff, so have increased direct recruitment of MSc graduates.

The MSc in Integrated Petroleum Geoscience aims to:
- Teach the geoscience skills needed to ensure you are well prepared to embark upon a petroleum industry career.
- Develop the knowledge needed to communicate with and work alongside specialists in the other engineering and scientific disciplines involved in hydrocarbon exploration and production, in small, multi-disciplinary teams.
- Enhance your interpersonal and transferable skills relevant to the hydrocarbon industry today.

What you will study
Components of the programme focus on all aspects of upstream geoscience, from initial exploration for new prospects, through field appraisal and development, to maximising recovery from mature and declining fields. Topics covered include: seismic interpretation, petrophysical analysis, geochemical evaluation, sedimentology, structural analysis, and reservoir modelling. Skills in the analysis of the subsurface are further developed by field work on outcrops and by hands-on experience with core logging.

These topics are covered by the following courses:
- Geophysics and Petrophysics
- Applied Sedimentology
- Production Geology
- Regional Exploration
- Professional Skills incorporating International Field Trip

Project/Dissertation
Previous topics have included:
1. Classical and modern approaches to examine reservoir connectivity in a mature field, West Siberia Basin
2. Hydrocarbon Migration and Fill History of the Rosebank Field, West of Shetland, UK

How you will be assessed
Practical work, projects and reports will be assessed continuously throughout the programme. Examinations are held in December and May on the preceding term’s curriculum. An oral examination will be held. You will also be expected to present a final report on a relevant and approved major topic.
This programme provides comprehensive training in the essential aspects of the oil and gas industry, and remains up to date with the many recent advances in science and technology directly applied to industry. Subject areas studied include: geology, economics, psychology etc.

Training in commercialisation, economics and law will be important, as will an understanding of how science and technology can be applied at the cutting edge to improve hydrocarbon exploration success and recovery.

Aberdeen is widely recognised as the Energy capital of Europe. This means the University is ideally located to work alongside industry leaders, offering students a world class centre for research and education, learning from experts in their field.

Every year, the programme attracts students from wide variety of backgrounds, and appeals to both recent graduates, and industry professionals looking to increase their knowledge, skills and qualifications.

Previous students have included Geologists, Engineers and Business Managers.

What you will study

This programme covers a broad range of subjects in order to encompass all aspects related to the oil industry, from exploration, appraisal through production and decommissioning.

The course will also examine the impact of environmental, human and cultural factors on the oil industry, this will be presented via a series of case studies.

Courses include:
- Geoscience in Oil Exploration
- Introduction to Energy Economics
- Drilling and Well Engineering
- Management in Engineering: Production, Risk Management and Psychology
- Portfolio Optimisation
- Commercial Law and Regulatory Frameworks
- Remediation Technology for Geosciences
- Research Skills, Professional Development and Field Study
- Individual Project

How you will be assessed

Assessment comprises of many practical exercises and research papers and essays, where you can access information from a wide array of sources. Many of the courses include ‘games’ spread over several days, which require team and negotiating skills, as well as a knowledge of technology and economics, which draw the various courses together.
The oil and gas industry continues to be a major provider of energy and employment globally and needs fresh talent in order to maximise current and future opportunities. Such talent will support the industry in finding ways to reduce operational costs, increase exploration success, and reduce risk; all factors which are key to achieving industry success.

The aims of the Petroleum Data Management programme is to provide advanced education and training for petroleum data managers and for those aspiring to move into the oil and gas sector. This is not an Information Technology (IT) degree, but rather an industry-led programme that deals with the specific aspects of managing physical and digital data that are used across the hydrocarbons industry to understand and evaluate the subsurface and the petroleum reserves located there. The content reflects the overview of all key data management activities of relevance to petroleum data managers working in multi-disciplinary teams.

The Petroleum Data Management programme has been set up through an agreement between the University of Aberdeen and Common Data Access Ltd (CDA), a not-for-profit subsidiary of Oil & Gas UK, which provides data management services to the UK oil and gas industry. The programme is supported by leading multinational companies including Shell, Total and Chevron.

The programme requires you to meet the 'Postgraduate Standard' level of English proficiency.

What you will study

- Fundamentals of Petroleum Geoscience
- Petroleum Data Management Tools and Techniques 1
- Reference, Project and Corporate Data Management
- Service and Project Management
- Petroleum Data Governance
- Petroleum Data Quality Management
- Petroleum Data Management Tools and Techniques 2
- Legal, Commercial and Security Aspects of Petroleum Data Management

In addition, upon successful completion of these taught courses, students undertake an extended, independent, and self-directed project. This will be assessed by means of a written report and an oral presentation.

There is a growing demand from the sector for professional petroleum data managers, possessing expertise seen as critical to maximising economic recovery.

"Good data management is key to unlocking the real value of technical and analytical applications. As an industry, we are experiencing a tremendous growth in data and to manage it successfully we will need a pipeline of talent with strong earth science and engineering skills. The Master's programme at Aberdeen University, as well as other strategically located programs, will enable the next generation of skilled data managers to advance their careers in the oil and gas industry."

Danny Bush, Unit Manager Subsurface Workflows, Chevron Energy Technology Company
MSc RESERVOIR ENGINEERING

This programme provides graduate engineers, geologists and other scientists with specialist knowledge and understanding of the geology, performance and management of hydrocarbon reservoirs. Our close working partnerships with industry has allowed us to design and deliver a programme that is relevant to future career opportunities.

The aims of this programme are to develop core competencies and capabilities within the RE discipline; to be able to integrate your work with other disciplines and functions; and to understand the role of the reservoir engineer within the overall commercial and economic structure of the international oil and gas industry.

Topics included:

- Data acquisition & management, particularly the design, planning and execution of fluid sampling and well tests.
- Data analysis and interpretation, covering fluid (PVT) properties, well test results, and all other basic data.
- Reservoir surveillance and management: designing reservoir surveillance plan and knowing how to monitor and manage a hydrocarbon reservoir.
- Reservoir modelling and analysis: building a reservoir simulation model, carrying out history matching of the model, and then using the model to conduct prediction runs.
- Estimation of hydrocarbon reserves and resources: predicting reservoir performance; making estimates of different categories of reserves and resources; and the legal duties of reporting reserve and resource estimates.
- Field level planning for development and redevelopment: you will be able to identify and manage key subsurface uncertainties; evaluate the effectiveness of different possible recovery processes and different development scenarios; and compare drainage options for both primary and subsequent recoveries.
- Business and commercial evaluation: the economics of exploration and production; the role of markets; project economic analysis; the economic impact of uncertainty and risk.

You will benefit from world-class teaching, delivered by academics that are highly recognised in their field of expertise. The close connections to industry will also expose you to the latest industry thinking. Putting you ahead of the game and better placed for a career in the energy industry.

What you will study
Delivered across two semesters, you will study:

- Fundamentals of Petroleum Geoscience
- Petrophysics, Core Analysis and Formation Evaluation
- Reservoir Engineering
- Introduction to Energy Economics
- Reservoir Sedimentology and Structure
- Reservoir Simulation
- Group Project and Research Skills

Project/Dissertation

Hands-on experience of using industry-standard software (e.g. Petrel and Eclipse) in all aspects of reservoir engineering and simulation is developed within the taught courses. A group design exercise provides students with an opportunity to apply a range of concepts to the appraisal of a prospect and selection of appropriate technologies and solutions for viable development and management of oil and gas fields.

Our close working relationship with local industry ensures you are given the opportunity to visit industrial facilities and receive technical presentations by working professionals, to provide further practical exposure and awareness of professional and social responsibility.

How you will be assessed

By written examination, continuous assessment and course work as prescribed for each course. In addition, MSc candidates must submit a dissertation on their individual project.

How you will be taught

The modules are delivered by staff from the School of Geosciences the School of Engineering and the Business School. There is also additional support from external industry professionals, who contribute to key elements of the programme.

School/department
Geology & Petroleum Geology

Duration
12 months full-time

Intake
September

Entry requirements
A UK Hons degree at 2:1 or above either in engineering or in a geoscience discipline which includes at least one modules of geophysics. Candidates with at least one year of University maths are preferred, but we will accept candidates with a good result in Higher, Advanced Higher or A-level maths, or with some other indicator of maths ability.

All international students, even if you have been educated in the medium of English, must meet our English Language requirements (www.abdn.ac.uk/study/international/english-requirements.php).

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.

Course info www.abdn.ac.uk/pgt/reservoir-eng
School info www.abdn.ac.uk/geosciences
General info www.abdn.ac.uk/study

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study@abdn.ac.uk
Science programmes
This Royal Society of Chemistry accredited degree programme will build on your undergraduate Chemistry experience and develop specialist skills applicable to analytical, bioanalytical and environmental topics.

Through studying this programme you will gain specialist knowledge of the instrumentation and method development for the identification and quantification of natural and anthropogenic compounds at trace level. In addition you will build on your undergraduate chemistry experience of more traditional fundamentals in analytical chemistry and develop analytical thinking which is needed for leadership roles in industry and academia.

Success on the programme will open up a number of career opportunities for you. Many graduates will find careers working in energy-related industries, pharmaceutical company or will work for an environmental agency as, or with, analytical chemists.

What you will study

This programme is structured across three semesters with candidates being required to attend the designed programme of courses as described below.

- Advanced Analytical Methodologies A
- Advanced Analytical Methodologies B
- Practical Exercise and Professional Skills in Analytical Chemistry
- Research Techniques and Professional Skills and Problem Solving in Theory and Practice
- Research Project A (Mini-Project)
- Extended Research Project

How you will be assessed

When you reach the end of a semester of study, you have the option of graduating with the qualification reached or continuing into the next semester of study to enhance your qualification to the next level. Only one qualification can and will be awarded when enough credits are achieved.

Taught components are assessed by a combination of continuous assessment, written examinations and oral examinations. The Extended Research Project will be assessed by dissertation.

How you will be taught

The programme contains theoretical and practical modules, formal teaching as well as application oriented research training, and professional skills such as project planning management exercises.
MSc ENVIRONMENTAL SCIENCE

Training students to interpret and understand changes and threats in the environment today to develop and apply solutions for the future.

This multidisciplinary MSc programme aims to train students to recognise and understand the threats and conflicts in the environment today and appreciate the steps required to develop solutions.

The systematic approach of this MSc programme enables students to deal with all scales of the environment. Throughout their studies students will have various opportunities to participate in work outdoors and apply theoretical and fieldwork knowledge to real-life situations. Students will also gain experience using a range of tools for biological, chemical and physical measurement as well as models and data handling methods. Most importantly, at Aberdeen students will be part of a community that will help improve their knowledge and awareness of environmental science.

The MSc is aimed at graduates looking to specialise, enhance their skills and knowledge or retrain in environmental science and also academics and Government employees looking to further their career, develop industry contacts and remain at the forefront of environmental science.

The taught part of the MSc Environmental Science programme involves students taking eight courses over two terms. Course options are varied and normally chosen from those available within the environmental sciences timetable. However, other courses may be selected from those available through the School of Biological Sciences’ level 5 modular options.

Compulsory courses include Environmental Pollution; Core skills in Environmental Science; Applications of GIS. Optional courses include, Plant Ecology; Global Soil Geography; Soils for Food Security.

A range of teaching methods are used at Aberdeen to ensure that you are able to learn in a way that suits your learning style and enables you to achieve the best possible outcome. Our class sizes are small and we have a low tutor to student ratio, meaning you will have the full support of your group tutors.

How you will study

The teaching of our MSc Environmental Science programme is mainly lecture based with self-directed learning and tutorials to support the lecture material. Many lectures are recorded and can be viewed again when required.

The MSc also provides students with ample opportunity to learn outside the classroom so you can apply both theory and practice to real life situations. Some of the teaching methods employed include:

- Outdoor field work
- Access to industry experts
- Insight into real-life situations

The dedicated research project you will undertake as part of the MSc provides training in technical skills, recording results and observations and analysing the results. Longer projects are available for students seeking a more advanced programme.

Assessment methods

The degree programme is assessed on the basis of performance in the research project and continuous assessment of coursework.

School/department
School of Biological Sciences

Duration
12 months full-time
24 months part-time

Intake
September

Entry requirements
Prospective students should normally have, or expect to be awarded, a minimum of a lower second-class Honours degree (or equivalent) in a relevant subject, from a recognised university. Enquiries are welcomed from all prospective students, regardless of first degree subject, who can demonstrate an adequate level of competence and ability for postgraduate training. In recent years students who have completed the programme successfully have come from backgrounds including biology, zoology, ecology, chemistry, physics, engineering, geology, geography, agriculture, psychology, and health sciences.

Interviews will be required for applicants with non-conventional qualifications.

International applicants must also meet the English Language Requirements of the University. www.abdn.ac.uk/study/international/english-requirements.php

Course info www.abdn.ac.uk/msc/environmental-science
School info www.abdn.ac.uk/nbiosc
General info www.abdn.ac.uk/study
facebook.com/universityofaberdeen
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@aberdeenuni
@uoabiosci
study@abdn.ac.uk
The process that almost never stops, the constant feeling of *learning something new*.

*Alumni*

Philip Pataraya, Russia  
*MScEcon Petroleum  
Energy Economics and Finance*
After successful completion of the MSc Oil and Gas Chemistry Programme, Davina began a successful career with Global Oilfield Service Company, Baker Hughes.
This programme will build on your undergraduate chemistry experience and develop specialist skills applicable to the oil and gas industry. Despite the growing research emphasis on renewable forms of energy generation and the anticipated energy gap between need and supply, the oil and gas industry is expected to remain a primary source of energy provision for the foreseeable future; oil and gas is projected to meet 60% of the world’s energy needs in 2030.

In the current environmentally conscious climate, the industry recognises the need for efficiency and its environmental responsibility. This postgraduate programme focuses on the chemistry applicable to topics within these themes, addressing materials and energetics relevant to production and refining, and environmental impact and remediation.

The University has a central presence within Aberdeen, the Energy Capital of Europe and this Royal Society of Chemistry accredited programme has been designed in collaboration with industry to ensure that it is relevant and current. You will also be given the opportunity to build up your own network of industry contacts.

What you will study

The Programme is structured across three semesters with candidates being required to attend the designated programme of courses as described below. Each level acts as a prerequisite for the next (i.e. Certificate, Diploma, MSc). Students who reach the end of a semester of study have the option of graduating with the qualification reached or continuing into the next semester of study to enhance their qualification to the next level. Please note: only one qualification can, and will, be awarded.

**Semester 1**
- Materials for the Oil & Gas Industry
- Processes Materials and Bioremediation for the Energy Industry
- Chemistry at Interfaces and Enhanced Oil Recovery
- Analytical and Instrumental Methods

**Semester 2**
- Chemistry of Refinery and Natural Gas Processes
- Flow Assurance and Oil Field Chemicals
- Applied Analytical and Instrumental Methods
- Industrial Engagement and Applications

Only candidates who complete the above programme at an appropriate standard will be allowed to progress to Stage 3

**Semester 3**
- Extended Research Project/Dissertation

How you will be assessed

Assessment is by course work, by written examination or by a combination of these as prescribed for each course. The Extended Research Project will be assessed by dissertation. The degree of MSc shall not be awarded to a candidate who fails to complete the Extended Research Project at an appropriate standard, irrespective of their performance in other courses.

MSc OIL AND GAS CHEMISTRY

This unique and industry tailored programme trains the next generation of industry-ready professional Chemists for the oil and gas sector.

This programme requires that you meet the ‘Postgraduate Standard’ level of English proficiency.
Coping with the financial responsibility of full-time study is a major concern for many people. For those who require assistance, our scholarships can prove to be a very welcome support. There is competition for all our scholarships but we would encourage you to apply for any scholarship that is relevant to you and your programme of study. The best place to start your search is on our online funding database, which lists all the bursaries and scholarships available each year. It also includes details on the level of funding contribution and eligibility criteria for each, as this will vary between different scholarship and bursary schemes.

In addition to scholarships funded by the University of Aberdeen, you may be eligible to apply for scholarships which are:

- Offered/supported by the UK Government
- Offered by the University of Aberdeen
- Offered by Industry specific organisations
- Offered by local governments, government related bodies and charities to their own citizens looking to study in the UK
- Offered to individuals studying for a specific discipline or subject

You will find the most up-to-date list of scholarships available here:
www.abdn.ac.uk/study/international scholarships-and-funding.php
www.abdn.ac.uk/funding
Your home country Ministry for Education

The University of Aberdeen offers a substantial portfolio of scholarships and bursaries aimed at supporting students, some of which are funded by external sponsors. The financial level of contribution per scholarship varies and where some will cover the complete cost of study, others will contribute a sum of money towards it.
POSTGRADUATE RESEARCH OPPORTUNITIES

Our energy research sees geologists and engineers working closely with economists and legal experts to maximise opportunities for production of hydrocarbons and renewable energy in the most cost-effective manner, including conventional and unconventional hydrocarbons.

We are analysing how behaviour and choice is adapting transport infrastructure, the built environment and energy efficiency initiatives to enable us to better manage and respond to demand for future energy supply.

We are examining methods to facilitate new energy production, be this related to cross border co-operation, ownership and licensing, environmental management, or risk mitigation. Lawyers work with economists, engineers, geologists and environmental scientists to ensure the resources needed to meet energy demand are effectively deployed.

We investigate materials science, flow assurance, and instrumentation, combined with research into industrial safety and human factors, focused towards maximising the operational efficiency of oil and gas assets by maximising production and minimising cost.

Our researchers are working to optimise the integration of electrical energy generated from wind and marine resources into regional grid distribution systems to ensure a stable and reliable supply for corporate and domestic users.

This is just a flavour of our work and an example of some of the areas that we offer postgraduate research opportunities in.

More Information:
www.abdn.ac.uk/research
www.abdn.ac.uk/aie

Apply here:
www.abdn.ac.uk/study/postgraduate/apply

For a full list of PhD opportunities, visit:
www.abdn.ac.uk/cops/graduate/phd-vacancies-347.php

Centre for Energy Law:
www.abdn.ac.uk/law/research/centre-for-energy-law

The Aberdeen Centre for Research in Energy Economics and Finance(ACREEF):
www.abdn.ac.uk/research/acreef

Centre for Transport Research (CTR):
www.abdn.ac.uk/ctr

Centre for Applied Dynamics Research:
www.abdn.ac.uk/engineering/research/centre-for-applied-dynamics-research-128.php

Centre for Innovative Building Materials and Technology:

Industrial Psychology Research Centre (IPRC): www.abdn.ac.uk/iprc

Institute for Complex Systems and Mathematical Biology (ICSMB):
www.abdn.ac.uk/icsmb

Oceanlab:
www.oceanlab.abdn.ac.uk

LRF Centre for Safety & Reliability Engineering:
www.abdn.ac.uk/engineering/research/lrf-safetyeng-127.php

Research in Petroleum Geology:
www.abdn.ac.uk/geology/research/projects
I chose Aberdeen because it is situated in the heart of the oil and gas industry in the UK.
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Life defining learning
www.abdn.ac.uk/study