### The EU's Best Universities for an Oil Career

Rigzone Staff 6/30/2014

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Rigzone takes a look at seven EU universities that offer degree courses designed to help young people achieve a career in the oil and gas sector.

One of the benefits of the European Union is that it is relatively straightforward for citizens of one particular EU country to study in another EU country. This means that young EU nationals with a burning desire to get into the oil and gas sector can choose to attend one of several universities that specialize in oil and gas-related degrees even if they come from a country with no oil and gas industry of its own.

Another bonus is that, thanks to EU law, EU nationals generally only pay the tuition fees that local students would pay – so, for example, studying for a degree in the Netherlands would be a lot cheaper (typically \$2,600 per year) than attending a university in England (up to \$15,000 per year).

Here, Rigzone takes a look at a number of universities that an aspiring oil and gas engineer or petroleum geologist can attend within the EU.

This list is by no means exhaustive. We have focused on universities whose oil and gas-related courses are taught in English and which have close links with the industry.

# Austria

Austria has a number of world-class universities offering oil and gas-related degrees courses such as engineering and geology, but these programs are nearly always taught in German. An exception is Montanuniversität Leoben, which has recently expanded its petroleum engineering offerings:



#### Montanuniversität Leoben

Austria's Montanuniversität Leoben last year became the beneficiary of a \$13.5million per year initiative with OMV, the country's leading oil and gas producer. The initiative has helped the university double its investment in oil and gas-related research and teaching as well as establish an International Petroleum Academy.

OMV is hungry for top graduates in oil and gas-related disciplines as it expands its exploration and production activities in the North Sea, Black Sea and elsewhere, so young Europeans looking for a career in the sector could do worse than to get themselves onto Montanuniversität Leoben's bachelor's or master's programs in 'petroleum engineering'.

Both degree courses are taught in English, with the bachelor's program lasting for seven semesters and the

master's program taking three.

## Italy

Taking a look at the résumés of senior executives at leading Italian oil firm Eni S.p.A. reveals that most of the company's management team hold fairly traditional degrees such as physics, mechanical engineering and economics from a variety of Italian universities. However, what worked for one generation of Italians may not necessarily be the correct course for a subsequent generation looking to get into an oil and gas career. Today's young Italians (as well as international students) may smooth their entry into the energy industry by taking an oil and gas-focused master's degree at Perugia or Turin.



geology.

### Perugia University (Università degli Studi di Perugia)

Perugia University has 31,000 students enrolled on a broad spectrum of courses, ranging from engineering, natural sciences and medicine to arts and humanities.

The university runs a two-year master's degree in 'petroleum geology' that is designed to give the student the ability to carry out all the professional activities required of a professional geologist specializing in oil and gas.

By the end of the course, students will have acquired a thorough knowledge of the main areas of earth sciences that characterize the activity of exploration and development, and an adequate knowledge of specialized fields of petroleum

In order to gain the master's qualification, students have to write a thesis in either English or Italian.

The course is supported by Italian oil major Eni, which provides some professors for vocational disciplines as well as funding field and laboratory activities.

### Polytechnic University of Turin (Politecnico di Torino)

A leading institution for the study of engineering in Italy, the Polytechnic University of Turin has around 32,000 students – of which around 15 percent are foreign (the greatest proportion of foreign students at any Italian university).



The university's Department of Environment, Land and Infrastructure Engineering has a two-year 'petroleum engineering' master's degree that is taught in English. The aim of the course is to train engineers who will then be able to begin working immediately in the oil and gas sector.

By the end of the course, students will be able to analyze hydrocarbon deposits both for quantity of reserves and production capacity, and will identify the best strategies for producing oil and/or natural gas based not only on technical feasibility but also economic and environmental sustainability, according to the university.

Specific engineering subjects learned by the student include: techniques for the drilling and completion of oil wells; techniques for exploitation of deposits

through extraction or oil and natural gas; and above-ground chemical treatment of oil and natural gas to obtain energy-producing petroleum products.

# The Netherlands

The Netherlands has a number of well-regarded and well-established universities, and it is common in that country for degree courses to be taught in English. Delft University of Technology, in particular, has several courses that are connected to the oil and gas sector.

### **Delft University of Technology**

Delft University of Technology boasts the current CEO of Royal Dutch Shell plc, Ben van Beurden, as an alumnus (he holds a chemical engineering degree from the university). Of its 18,000-plus student population international



students account for almost 3,000.

The university offers the usual 'electrical engineering' and 'mechanical engineering' degrees at bachelor's level as well as an oil and gas-related 'marine technology' undergraduate degree. At postgraduate level, it has a two-year Master of Science degree in 'petroleum engineering and geosciences' as well as 'applied earth sciences', 'marine technology' and 'offshore engineering' master's degrees. All master's degrees are taught in English.

## Norway

With its North Sea reserves, it is no surprise that Norway has a number of universities that offer suitable courses for Norwegian speakers looking to get into

the oil and gas industry. Bergen University, for example, offers bachelor's degrees in 'petroleum and process technology' and 'geoscience', along with a number of oil and gas industry-related master's courses. However, international students with good English looking for a course in Norway should check out the Norwegian University of Science and Technology.

#### Norwegian University of Science and Technology



Located in Trondheim, in the north of Norway, the Norwegian University of Science and Technology has some 23,000 students, including some 2,600 international students.

For English speakers there are a range of master's degree courses available at the university. These include Master of Science degrees in 'petroleum engineering', 'petroleum geosciences', 'natural gas technology' and 'marine technology'.

Both the 'petroleum engineering' and 'petroleum geosciences' degree courses focus specifically on exploration and production of oil and gas on the Norwegian Continental Shelf as well as methods for increased oil recovery on the NCS. They also offer opportunities for students to specialize in areas such as drilling

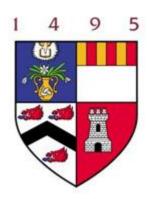
technology, petroleum production, reservoir technology, petroleum geology/geophysics, seismology and reservoir seismology.

## UK

The UK boasts some of the most well-regarded science and engineering universities in the world. While a good engineering or geology degree from Cambridge, Oxford or London's Imperial College would likely go down well with oil and gas recruiters, a more direct route into the sector would be to study for a specialized degree at the UK's key oil and gas hub: Aberdeen.

### Aberdeen University

Aberdeen University, with a history stretching back to the 15th Century, offers more than 550 undergraduate degrees across a wide variety of subjects as well more than 120 taught postgraduate degrees.



Thanks to its location at the center of the UK oil and gas industry, the university today has several degree courses available to those looking to get started in the energy sector.

Among courses for undergraduates are a four-year Bachelor of Engineering degree in 'petroleum engineering' and a four-year bachelor's degree in 'geology and petroleum geology'.

The list of companies that Aberdeen's petroleum engineering graduates have joined includes: Aker Solutions ASA, Amec plc, BP plc, ExxonMobil Corporation, Halliburton Corporation, Petrofac plc, Royal Dutch Shell, Subsea 7 SA, Technip SA and Wood Group plc.

Its geology graduates have found employment with BP plc, Cairn Energy plc, Halliburton, Shell, Statoil ASA and

#### Subsea 7.

Aberdeen also offers several master's degree courses in subjects as varied as 'oil and gas computing', 'oil and gas law', 'petroleum, energy economics and finance' and 'petrophysics'.

#### **Robert Gordon University**

Originating as an education institution in the 18th Century, Aberdeen's Robert Gordon University only became an official university in 1992. Yet, today it boasts the best record for graduate employment among the UK's universities – with 2013 statistics showing that 97.7 percent of students graduating from RGU in 2011/12 had found employment or were undertaking further study (source: Higher Education Statistics Agency).



For students yet to get a degree who are looking to get into the oil and gas sector, RGU offers a four-year 'mechanical and offshore engineering' Bachelor of Engineering degree (that can be upgraded to a Master of Engineering degree with additional study).

RGU's "extremely popular" Master of Science degree in 'petroleum production engineering' requires not only a good honors degree in engineering (or closelyrelated discipline) but at least two years' practical industrial experience. But unlike some of the master's courses to be found on the Continent, the 45-week program can be completed within a year.

The university also offers master's degrees in 'oil and gas engineering' and 'energy management', the latter being specifically designed to meet the needs of

upstream oil and gas managers and managers in the renewable energy industry.

