

Offshore Technology - Master's Degree Programme

Norway is the third largest oil and gas exporter in the world and the Stavanger-region is the undisputed oil capital of Norway.

The University of Stavanger has established a research and educational basis in oil and gas technology that has attracted students from not only Norway, but from many parts of the world. The two-year Master of Science Programme in Offshore Technology is a programme designed to meet the growing demand for skilled professionals in the offshore industry.

A Master's degree from a distinguished university provides a platform for success and career advancement in any profession. In the petroleum exploration and production industry, a quality postgraduate education is fast becoming a pre-requisite for the top technology and management jobs. The MSc degree in Offshore Technology is focused on industrial asset management, risk management and issues related to the design of offshore installations for the oil and gas industry.

The MSc programme has an international profile with applications from students worldwide.

The programme prepares students for careers in the international oil and gas industry. Students can avail themselves of the Faculty's close contacts with the industry. This programme also provides an excellent basis for doctoral studies for those who wish to pursue a career in education or research.

The Study Plan and details concerning MSc in Offshore Technology can be found below. Information about admission procedure and application form is published in the right column under "All you need to know".

Details of:

[Offshore Technology - Master's Degree Programme](#)

Offshore Technology - Master's Degree Programme

Studyprogram code: M-OFFTEC

Number of points (ECTS) : 120

[Faculty of Science and Technology](#)

[Department of Mechanical and Structural Engineering and Materials Science](#)

Candidates with a master's degree in Offshore technology will be qualified to participate in developing and implementing new technology, methods and principles for the offshore oil and gas industry. Several of the subjects being taught are relevant for assessment of offshore wind power. The candidates will also be qualified for many attractive job positions in traditional industries

- **Industrial Asset Management:** The candidates will have knowledge within engineering and management of advanced, complex and integrated industrial assets and production facilities/systems. The candidates will be qualified to participate in technology development and management of offshore production facilities in all life cycle phases, (i.e. design, construction, installation, operation, maintenance, modification and removal).
- **Marine and Subsea Technology:** This study direction covers subsea technology as well as marine technology. The candidates will have knowledge within systems and operations related to subsea petroleum production. The knowledge is also relevant for offshore wind power. The students will also acquire good knowledge of systems and operations related to installation by combining basic mechanical engineering subjects with marine technology.
- **Risk Management:** The candidates will have knowledge within analysis of reliability and risk, quantification of reliability, decision-making approaches and precautionary principles.

Introduction

Graduated students will have competence on master degree level in technology. They will have a basic background in mathematical science and basic engineering subjects and be able to apply this knowledge within an area of specialisation. As the study program consists of and rests on general principles and methods, they will also be able to meet and solve challenges on an advanced engineering level outside the area of specialisation and in close cooperation with experts from other fields. In particular, the candidates will be qualified to participate and manage development and implementation of new technology, methods and principles for the offshore petroleum industry above seabed.

Composition of the study program

The study program comprises 120 study points in total. It comprises obligatory subjects up to 80 study points, elective subjects up to 10 study points, and a master's thesis up to 30 study points. Except for two subjects in second semester, the first year is common for all students, while the second year is devoted to specialisation, elective subjects and the master thesis. The study program is designed as follows:

20 ECTS study points (sp) in Basic mathematical subjects (denoted 'B') to continue the mathematical and scientific foundation from the bachelor program.

30 ECTS sp in common subjects mainly related to Core offshore subjects

(denoted 'C').

30 ECTS sp in mandatory Specialisation subjects (denoted 'S'). The students can choose specialisation within one of three areas: Industrial Asset Management, Risk Management or Marine and Subsea Technology. The students have the opportunity to apply for alternative obligatory specialisation subjects. For students with special interests and background this may be of particular interest in the second semester.

10 ECTS sp in Elective subjects (denoted 'E'). The university offers a number of courses that are taught in English and the students can choose any of these, dependent of interest and qualifications. In particular, courses devoted to one of the other three specialisation areas will be of special interest and relevance for many students. For recommended electives only, the university guarantee collision-free time schedules and exam plans.

30 ECTS sp in Master Thesis (denoted M). This should be done on an individual basis where a written report is mandatory that serves as a basis for the final grade. Master theses with industrial partners are highly recommended. In order to be assigned a topic for a master thesis, satisfactory progression must be demonstrated.

Information about electives:

For each specialisation there are some recommended electives. In addition, courses devoted to one of the other three specialisation areas will also be of interest and relevance for many students. However, please note that MOM260 Marine Technology (5) is included as a part of MOM480 Marine technology and design (10).

Please note that:

- Some of the elective subjects have specific prerequisites. Students themselves are responsible to see to that they satisfy the prerequisites. It is possible to apply to the Department for approval of other electives than those on the list.
- The course AT327 Arctic Offshore Engineering (10) offered by The University Centre in Svalbard can also be approved as an elective subject.
- The Department plans to develop a course package of 10 study points within wind technology. This package will be approved as electives for the specialisation Marine and Subsea Technology.

The program utilizes lectures, and activities such as individual projects, group projects, laboratory exercises with written reports, and company and industrial plant visits as learning methods. There is a high degree of individual advisory in the program - especially with regards with the Master thesis at the end.

A system for continuous assessment and evaluation process is in place. The program plan, including a revision proposal, will be handled by the quality and program committee on a yearly basis according to University policies and guidelines. Furthermore, each individual course included in the program will be evaluated and assessed according to these policies and guidelines.

Entry requirements

Only applicants with a relevant educational background will qualify for admission to the respective areas of specialisation:

- Industrial Asset Management: Prerequisite: Bachelor's degree in any engineering discipline.
- Risk Management: Prerequisite: Bachelor's degree in any engineering discipline.
- Marine and Subsea Technology: Prerequisite: Bachelor's degree in mechanical or civil, marine or mechatronics engineering.

Entry information

When applying for the programme, the applicant must select the desired specialisations in order of priority and according to his/her academic background. Applicants must demonstrate competitive academic standards. Normally, the level of grades of those that are shortlisted is equivalent to a Second Class Upper Division or better. Applicants with a grade level equivalent to Second Class Lower Division, or lower, will not be considered for admission. Proficiency in English is required.

Please find more detailed information regarding admission requirements and admission procedure at www.uis.no.

Qualifications/Job prospects

The program qualifies for a broad range of positions in private industry and public organizations. The main area for job positions is the offshore petroleum industry. However, as the core of the study program consists of and rests on general principles and methods, the candidates are also well qualified for many attractive job positions in traditional onshore industry. This is in particular true for the specialisation areas Industrial Asset Management, and Risk Management, while Marine and Subsea Technology is more specifically devoted to offshore activities alone. In general, the candidates with a degree in Offshore Technology will be well qualified for positions within various industries that design, build, operate, remove and recycle advanced, complex and integrated production facilities like oil and gas platforms, subsea production facilities, drilling rigs, pipelines, refineries and a wide variety of mechanical and process industry. Typical branch of companies would be companies involved in petroleum operations and management like oil companies, engineering companies, service industry, drilling and subsea contractors as well as manufactures of high-tech equipment and machinery for the oil and gas industry. Many will also find interesting jobs within research, education, consulting or in public sector devoted to control, regulation and law enforcement of the oil and gas industry. It is important to note that environmental and safety issues will be the most highlighted areas and those of most public concern in relation to the offshore oil and gas industry in the decades to come. This will be true both locally and globally. Moreover, industrial asset management is a major factor in dealing with environmental and safety issues and a larger part of the total running cost for an offshore petroleum production facility is related to this area. These issues are therefore of great concern for the industry

and many of the organizations and firms are now taking focusing on reducing the impact of their activities with respect to the environment, the health and safety of their personnel, as well as the society as a whole. Finally, as the petroleum reservoirs are found in deeper and deeper ocean areas, the drilling and production will to a greater extent take place using subsea installations. It is supposed that this will be the leading technology in the coming years. All these factors concerning modern technology and developing trends for the future, makes the candidates with a degree in Offshore Technology highly attractive in the job market.

Completed master degree in Offshore Technology may qualify for a doctoral study (PhD) within the same area at University of Stavanger.

Student evaluation

Form and/or discussion according to faculty guidelines.

Stay abroad

Not available.

Contact us

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