Akureyri Comprehensive College

COURSE OF STUDY	Study path:	Graduation:
MARINE ENGINEERING D (20-333-4-10)	Marine engineer training D	skill level 4

Description:

Marine engineering studies are essentially divided into six levels of study, each of which, upon completion of the study, entitles one, if other conditions are met, to obtain a certificate to serve as a marine engineer. This path is for the sixth level of study, as long as the student has completed the fifth level of study. The sixth level of study (qualification D) is for holding the position of Chief Engineer and Second Engineer on ships with unlimited engine power (STCW III/2). This level of study is also a study in refrigeration mechanics and entitles the candidate to the job title marine engineer. In the program, students also acquire appropriate education and training so that they can perform engineering work ashore, for example in the field of energy and utility companies and in industry. At sea, the job of the engineer officer is to take care of the operation and maintenance of mechanical and electrical equipment and to ensure, in cooperation with other officers on board, that the operation of the ship complies with applicable laws and regulations, e.g. on ship safety and pollution prevention. The machinery and equipment of ships is very diverse as ships are designed for different roles. The marine engineer's work is therefore broad and spans the field of work of many professions ashore. Those who complete studies for international qualifications and obtain international certificates of competency (STCW) have thereby acquired the necessary competence to serve in the capacity entitles them, regardless of the type of ship, where the ship is registered and the area of operation. However, in order to be authorized to serve in a capacity on a foreign ship, the approval of the maritime authorities of the ship's flag state must be obtained. In Iceland, engineers do a variety of jobs and their education is useful in many fields. Marine engineers have in recent years and decades had easy access to jobs ashore, both in the operation and maintenance of machinery, as well as various administrative tasks. Students who receive training and preparation for certification in the treatment and use of fluorinated greenhouse gases in refrigeration systems are qualified for specialized jobs in the refrigeration industry.

BASIC INFORMATION

Admission requirements:

A student has completed the C degree program in marine engineering.

Layout:

The program is organized as a continuous two-semester program, but it is permitted to take it over a longer period of time. The program consists of both academic and practical training and takes place almost entirely at school (see study and training outside of school in the section on internships). The program leads to an international pilot's license and is therefore organized according to the curricula and other requirements in Icelandic laws and regulations and the conventions of the International Maritime Organization (IMO), in addition to which the school works according to a certified quality management system.

Assessment

Assessment is varied and various methods are used to examine and evaluate academic performance during the courses. Learning can be project-based or traditional with oral assessment or final exams. There are always several assessment elements in each phase and the aim is to have them as diverse as possible and to use written, practical and/or oral assessment methods.

Internship:

In order to be issued a certificate to serve as marine engineer, students must complete the following non-curriculum studies or training: approved safety training courses, appropriate seagoing service and, where appropriate, on-the-job training and a journeyman's examination. Safety training: Students must complete an approved program according to STCW in safety training, varies by license and type of vessel. These are basic safety training (A-VI/1), advanced fire-fighting (A-VI/3), survival craft and rescue boats other than fast rescue boats (A-VI/2-1), medical first aid (A-VI/4-1) and medical care (A -VI/4-2). Seagoing service: In order to be issued a certificate of competency to serve on ships, the student must, depending on the circumstances, have completed seagoing service and/or approved vocational training, which is further stipulated in the applicable laws and regulations on the subject. In this program, training according to the training book is optional.

Rules of study progress:

Students must have completed the prerequisites in order to continue their studies in the relevant subjects. It is required that the student has completed study level C in marine engineering in order to gain the right to start studying at this study level.

Qualification criteria:

Upon completion of studies, the student must:

- have acquired in-depth knowledge of the jobs and work environment within the profession he is qualified to perform.
- have acquired sufficient knowledge of the mechanical and electrical equipment of ships on which he has the right to serve, so that he can operate this equipment safely and without jeopardizing the safety of the ship or those on board.
- have acquired professional knowledge and understanding of the role, structure, capacity and function of the machinery that can be assumed to be found in ships of the size and type on which he is entitled to work.
- have acquired knowledge of the limitations of the equipment for which they are responsible and can at any time make a realistic assessment of its condition and when maintenance or replacement of the equipment needs to be considered.
- be abe to apply appropriate measures when a dangerous situation arises and can react quickly and correctly to failures in mechanical and electrical equipment in such a way that the safety of the ship is guaranteed as best as possible.
- be able to read and understand drawings, project descriptions and other data such as equipment and device manufacturers' instructions on their use, servicing and daily management.
- have realized the importance of good communication and cooperation in the workplace.
- be able to plan and manage emergency response in coordination with other officers.

The main objective of study in marine engineering courses is to provide students with basic professional knowledge and practical skills so that, after gaining on-the-job training, they are able to safely control the machinery of ships or the machinery of manufacturing companies.

NUMBER OF CREDITS THE NUMBER OF HIGH SCHOOL CREDITS REQUIRED TO GRADUATE FROM THE PROGRAM

47 fine.

CORE COMPULSORY STAGES OF THE COURSE

Marine engineering D					
Course subject	**Level 1**	**Level 2**	**Level 3**	**Step 4**	**nice**
Load bearing theory - marine engineering				BURF4VD04(AV)_1	4
Refrigeration technology				KÆLI4VD05(AV)_4	5
Final project				LOKA4VD04(AV)_13	4
Electrical engineering				RAMV4VD05(AV)_9	5
Electronics				REIT4VD05(BV)_4	5
Control techniques and rules				STILVD05(BV)_2	5
Engine theory				VÉLF4VD05(DV)_2 VÉLF4VD05(EV)_1	10
Mechanical engineering				VÉLT4VD05(BV)_2	5
Production and operation				ÚTRE4SD04(BS)_1	4
	0	0	0	47	47

Proportion of modules on steps in core			
Level 1	**Level 2**	**Level 3**	**Step 4**
0%	0%	0%	100%

FREE CHOICE OTHER UNDEFINED COURSES THAT STUDENTS CAN CHOOSE/EVALUATE IN THE STUDY PROGRAM

No, free choice is not allowed

BASIC ELEMENTS AND KEY COMPETENCES HOW TO WORK WITH BASIC ELEMENTS AND KEY COMPETENCES

Examples of how a school implements basic elements and key competences: