EKSAMENSBEVIS

*Danish Certificate of Examination*

Eksamen afholdes i henhold til lov nr. 781 af d. 8. august 2019 om maritime uddannelser.

Uddannelsen er placeret på niveau 6 i den danske og europæiske kvalifikationsramme for livslang læring

*Examinations are held in pursuance of the Merchant Shipping (Maritime Education etc.) Act no. 781 of August 8, 2019.*

*The education is at level 6 in the Danish and the European Qualifications Framework*

Det bevidnes herved, at

It is hereby certified that

 **Navn: [Navn]**

*(Name)*

 **CPR. Nr. [CPR-nummer]**

har bestået

*has passed*

**Maskinmestereksamen**

og herved opnået retten til betegnelsen

*and hereby achieved the right to the designation*

**Professionsbachelor som maskinmester**

*Bachelor of Technology Management and Marine Engineering*

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dato Sted Underskrift

Date Place Signature

Dette bevis består af 3 sider inklusiv denne side. Som bilag findes desuden et Diploma Supplement samt en beskrivelse af valgfagene.

*This Diploma consists of 3 pages inclusive this page. A Diploma Supplement and a description of the optional subjects is an addendum.*

Maskinmestereksamen

Professionsbachelor som maskinmester

*Bachelor of Technology Management and Marine Engineering*

Navn: [**Navn**]

CPR nr.: [**CPR-nummer]**

har ved eksaminer i Maskinmesteruddannelsen ved

*has during The Bachelor of Technology Management and Marine Engineering Program at*

**Fredericia Maskinmesterskole**

Frederica College of Marine and Technical Engineering

opnået følgende karakterer:

obtained the following marks

**Fagemne-modulnavn** **ECTS-point** **7-trinsskala ECTS-kala**

*Subject* *ECTS-point 7-point scale ECTS-scale*

[1.-3. semester]

[4. semester]

[5. semester]

[6. semester]

[7. semester]

[8. semester]

[9. semester]

[valgfag]

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dato Sted Underskrift

Date Place Signature

**Energi på Havet**

**Tillæg til Eksamensbeviset**

Den studerende der har gennemført valgfagslinjen ”Energi på Havet” har tilegnet sig særlige kompetencer inden for offshore energiproduktion.

Fagmodulerne indeholdende emner inden for olie og gas, vind og bølgeenergi. Modulerne er udviklet med input fra de større danske virksomheder i branchen.

I modulet ”Vedvarende energiformer” opnår den studerende viden så vedkommende kan vurdere de nuværende muligheder og begrænsninger inden for vedvarende energiformer (Renewables), samt har et grundlæggende kendskab til nye tendenser inden for området.

Gennem ”Olie & Gas modulet” har den studerende opnået en grundlæggende viden om efterforskning efter hydrocarboner, produktion og raffinering; de forskellige typer af havanlæg; viden om brøndvedligehold, processikkerhed og personsikkerhed samt organisering af nødberedskab og den lovgivning der regulerer offshore aktiviteterne.

Den studerende har også fået en introduktion til projektledelse offshore.

**Addendum to the Diploma**

The student who has completed the elective course “Energy at Sea” has acquired special expertise in offshore energy production.

The course modules include subjects related to offshore hydrocarbon production and renewable energy. The course syllabus has been developed with input from major Danish business in the industry.

The Renewable Energy module gives the student basic knowledge on the current capabilities and limitations in renewable energy production. He has acquired knowledge on offshore wind and upcoming technologies.

Through the Oil & Gas Module, the student has achieved a basic knowledge on exploration, production and refining of hydrocarbons; knowledge on offshore structures and installations; knowledge on well-maintenance, process safety and occupational safety; as well as emergency response planning and offshore legislation. The student has also received an introduction to offshore project management.

## Diploma Supplement

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international ‘transparency’ and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why

# Holder of the Qualification

Family name(s): **[Efternavn]**

Given name(s): **[Fornavn]**

Date of birth: **[Fødselsdato]**

Civil registration number: **[CPR-nummer]**

# The Qualification

**Name of qualification and title conferred (in Danish):**

Professionsbachelor som maskinmester

**Name of qualification and title conferred (in English):**

**Bachelor in Technology Management and Marine Engineering**

**Date of award:** 23.09.2022

**Main fields of study:**

Operating and maintaining electrical, mechanical, power and processing plant on land and at sea on a management level.

**Name and status of awarding institution:**

Fredericia Maskinmesterskole/**Fredericia College of Marine and Technical Engineering**, is a state-recognised and state-financed education institution, which is regulated according to the Danish Maritime Authority Act no. 781 of 8.th August 2019

**Lanquage(s) of instruction/examination:**

Danish.

**Level of qualification:**

Professional Bachelor degree at level 6 in the Danish and the European Qualifications Framework.

**Official length of programme:**

4 1/2 years = 270 ECTS credits

**Access requirements:**

Admission to the **Bachelor of Technology Management and Marine Engineering** Programme requires:

* Secondary School leaving examination (Upper Secondary School Leaving Examination); (Higher Commercial Examination); (Higher Technical Examination).

#### Contents and results gained

**Mode of study**

Full-time study programme equivalent of 270 ECTS credits.

**Programme learning outcomes**

The Marine Engineer’s Programme aims at giving students a technical and management competence, qualifying the graduates to assume operating and maintaining all kinds of technical plants and installations at a management level in consideration of safety, environmental as well as economic interests. The study programme consists of a large compulsory block of subjects (a total of 175 ECTS credits), optional subjects of 20 ECTS credits and workplace practice of 60 ECTS credits. The programme is concluded in the final semester with a bachelor project of 15 ECTS-points

Main subjects contained under the Marine Engineers Program are fundamental and advanced knowledge of electrical, mechanical, power and processing plants on land and at sea to ensure the optimum maintenance and operation of such plants from a safety, economic and environmental point of view

**Programme details and individual grades/marks/ credits obtained**

Please refer to the enclosed grade transcript and the description of the **Bachelor of Technology Management and Marine Engineering** Programme (Maskinmesteruddannelsen) in Danish

**Grading scheme and if applicable grade distribution information**

The 7-point grading scale, defined by the Ministry of Higher Education and Science.

**Overall classification of the qualification:**

Not applicable for Danish qualifications.

#### The Function of the Qualification

**Access to further study**

A completed Professional Bachelor degree gives access to selected Candidates’ and Master’s programmes. Specific admission is subject to an institutional approval.

**Access to regulated profession**

The **Bachelor of Technology Management and Marine Engineering** program qualifies the candidate to assume responsibility for operating and maintaining all kinds of technical plants and installation on land and at sea.

Supplementing the exam by relevant practical work, the Candidate will be awarded

* Electrician’s Authorisation for design, installation and repair of all electrical power plants and installation in accordance with Danish Law
* Steam Boiler certificate
* Certificate of Refrigeration

Students attending certain specified STCW electives will be awarded

* Marine Engineer’s Certificate of Competence at sea in accordance with Danish Law and the STCW Convention section III/2 and III/6

**Additional information**

**Further information sources**

Information in English on the Marine Engineer’s Programme **at Fredericia College of Marine and Technical Engineering m**ay be obtained from the Registrar's Office

Fredericia Maskinmesterskole

Købmagergade 86

DK-7000 Fredericia, Denmark

Phone +45 7592 2833

Fax +45 7593 3599

e-mail: fms@fms.dk

homepage: www.fms.dk

General information on Maritime Education and Training in Denmark can be obtained from the homepage www.sofartsstyrelsen.dk.

General information on higher education in Denmark can be obtained from the homepage: Danish Ministry of Higher Education and Science: www.ufm.dk

**lnstitutional Information**

Fredericia Maskinmesterskole/Fredericia College of **Marine and Technical Engineering** main objectives are to undertake the Marine Engineer’s Program and the Ship Mechanist’s Program. Great emphasis is placed on creating educational programmes with interdisciplinary elements. In addition, much is done to ensure the vocational relevance of studies in projects.

# Certification of the Supplement

Fredericia 23.09.2022

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Jens Færgemand Mikkelsen

Rector

# The Danish Higher Education System

Public higher education institutions in Denmark are regulated by national legislation concerning degree structures, teacher qualifications and examinations. Accreditation in higher education is undergoing transition from programme-based accreditation to institutional accreditation. Programmes and institutions are accredited by national, independent accreditation agencies and the Accreditation Council.

## Higher education institutions

Higher education is offered by five types of higher education institutions:

1. Business academies (*Erhvervsakademi*) offering professionally oriented short cycle and first cycle degree programmes.
2. University Colleges (*Professionshøjskole*) offering professionally oriented first cycle degree programmes.
3. Maritime Education and Training Institutions offering professionally oriented short cycle and first cycle degree programmes.
4. General and specialised research universities *(Universitet)* offering first, second and third cycle degree programmes in academic disciplines.
5. University level institutions offering first, second and third cycle degree programmes in subject fields such as architecture, design, music, and fine and performing arts.

Most higher education institutions are regulated by the Ministry of Higher Education and Science (type 1-5). The Ministry of Culture regulates a number of higher education institutions offering programmes within fine and performing arts (type 5).

## Degrees in the Danish Higher Education System

| **Danish qualifications levels** | **Ordinary higher education****degrees** | **Adult/continuing higher education****degrees** | **Qualifications Framework for the European Higher Education Area – Bologna Framework** | **European/National****Qualifications Framework for Lifelong Learning****– EQF/NQF** |
| --- | --- | --- | --- | --- |
| **Academy****Profession level** | Academy Profession (AP) degree(90-150 ECTS) | Academy Profession (AP) degree (60 ECTS) (also known as Further Adult Education (VVU) degree)  | Short cycle | Level 5 |
| **Bachelor’s level** | Professional Bachelor’s degree (180-270 ECTS)\* | Diploma degree(60 ECTS) | First cycle | Level 6 |
| Bachelor’s degree (within the arts) (180 ECTS) |
| Bachelor’s degree (180 ECTS) |
| **Master’s level** | Master’s degree (within the arts) (120-180 ECTS) | Master degree(60-90 ECTS) | Second cycle | Level 7 |
| Master’s degree (120 ECTS)\*\* |
| **PhD level** | PhD degree (180 ECTS) |  | Third cycle | Level 8 |

\* Can be obtained through a full regular bachelor’s programme (180-270 ECTS) or a top up bachelor’s programme following an Academy Profession degree.
 \*\* A few Master’s programmes are up to 180 ECTS.

Higher education institutions measure study activities in ECTS credits. 60 ECTS correspond to one year full-time study.

## Qualifications framework

The qualification levels form the basis for the Danish National Qualifications Framework for Higher Education, which is certified in accordance with the overarching Bologna Framework according to the principles adopted by the European Ministers of Higher Education. Danish higher education qualifications at levels 5-8 of the Danish Qualifications Frame­work for Lifelong Learning (NQF) correspond with levels 5-8 of the European Qualifications Framework (EQF).

## Admission and progression

General access to higher education in Denmark requires an Upper Secondary School Leaving Certificate or comparable qualifications. Admission to some particular programmes requires entrance examination or submission of a portfolio of artistic work. Holders of an Academy Profession degree can obtain a Professional Bachelor’s degree within the same field of study through a top-up programme. Completion of a first cycle degree qualifies students for admission to the second cycle.

## Ordinary Higher Education degrees

**The Academy Profession degree** is awarded after 90-150 ECTS and includes a period of work placement of at least 15 ECTS. The programmes are development-based and combine theoretical studies with a practical approach. Programmes are, among others, offered within Marketing Management, Computer Science and Chemical and Biotechnical Science. The Danish title is field of study followed by the abbreviation *AK* and the English title is *AP Graduate in* field of study.

**The Professional Bachelor’s degree** is awarded after 180-270 ECTS and includes a period of work placement of at least 30 ECTS. The programmes are applied programmes. They are development-based and combine theoretical studies with a practical approach. Examples of professional bachelor’s degree holders are nurses, primary and lower secondary school teachers and certain types of engineers. The Danish title is *Professionsbachelor i* field of studyand the English title is *Bachelor of* field of study.

**The Bachelor’s degree** from a university is awarded after 180 ECTS. The programmes are research-based and are offered in all scientific fields. The Danish title is *Bachelor (BA) i* field of study or *Bachelor (BSc) i* field of study and the English title is *Bachelor of Arts (BA) in* field of study or *Bachelor* (*BSc) of Science in* field of study.

**The Bachelor’s degree (within the arts)** is awarded after 180 ECTS. The programmes are based on research and artistic research. Programmes are offered within the fine arts. The Danish title is *Bachelor (BA) i* field of study, *Bachelor i musik* *(BMus)* field of study or *Bachelor i billedkunst* *(BFA)* field of study and the English title is *Bachelor of* *Arts (BA) in* field of study, *Bachelor of Music* (*BMus)* field of study or *Bachelor of Fine Arts (BFA) in* field of study. A higher education degree within theatre or filmmaking is awarded after 3-4 years of study (180-240 ECTS).

**The Master’s degree** is awarded after 120 ECTS. The programmes are research-based and are offered in all scientific fields. The Danish title is abbreviated to *Cand.*latin abbreviation of academic area *i* field of study. The English title is *Master of Arts* (*MA) in* field of study or *Master of Science* (*MSc) in* field of study.

**The Master’s degree (within the arts)** is awarded after 120-180 ECTS. The programmes are based on research and artistic research. The Danish title is abbreviated to *Cand.* latin abbreviation of academic area field of study. The English title is *Master of Arts* (*MA) in* field of study, *Master of Music* (*MMus)* field of study or *Master of Fine Arts* *(MFA)* *in* field of study. Music Academies offer a specialist degree of 2 to 4 years following the master’s degree.

**The PhD****degree** is awarded after 180 ECTS. PhD programmes are offered by the universities and some university level institutions offering degrees in the artistic and cultural field.

Detailed descriptions of degree levels can be found in the Danish Qualifications Framework at [www.nqf.dk](http://www.nqf.dk). Please consult the relevant Diploma Supplement for information about the learning outcome of any specific degree.

## Adult and continuing higher education

The programmes normally consist of 2 years of part-time study, equivalent to 1 year of full-time study (60 ECTS credits). Certain master programmes require 1½ years of full-time study (90 ECTS credits). Admission requirements are a relevant educational qualification and at least 2 years of relevant work experience.

Adult and continuing education is available at levels corresponding to qualifications of the ordinary higher education system.

The Further Adult Education degree (*videregående voksenuddannelse/akademiuddannelse*) is awarded after studies at short cycle level and gives access to diploma programmes.

The Diploma degree (*diplomuddannelse*) is awarded after studies at first cycle level and gives access to master programmes.

The Master degree (*masteruddannelse*) is awarded after studies at second cycle level.

## The 7-point grading scale

The grading system used in all state-regulated education programmes as of September 2007 is the 7-point grading scale. Apart from the 7-point grading scale, pass/fail assessment may also be used. 02 is the minimum grade for passing an exam.

Description of grades: 12: For an excellent performance displaying a high level of command of all aspects of the relevant material, with no or only a few minor weaknesses; 10: For a very good performance displaying a high level of command of most aspects of the relevant material, with only minor weaknesses; 7: For a good performance displaying good command of the relevant material but also some weaknesses; 4: For a fair performance displaying some command of the relevant material but also some major weaknesses; 02 For a performance meeting only the minimum requirements for acceptance; 00: For a performance which does not meet the minimum requirements for acceptance; -3 For: a performance which is unacceptable in all respects.