

Navn: «FORNAVN» «EFTERNAVN»

Name

Cpr-nr.: «CPR\_NR»

Civil registration number



**MASKINMESTER  
SKOLEN  
KØBENHAVN**

COPENHAGEN SCHOOL OF MARINE ENGINEERING  
AND TECHNOLOGY MANAGEMENT

har ved eksaminer i uddannelsen til professionsbachelor som maskinmester ved  
has during The Bachelor in Technology Management and Marine Engineering Education at

## Maskinmesterskolen København

Copenhagen School of Marine Engineering and Technology Management

opnået følgende karakterer:

obtained the following marks:

Kategori	ECTS-point	Registreret karakter 7-trins-skala	ECTS-skala
Category		Given marks 7-point grading scale	ECTS-scale

### Værkstedsskole/-projekt

Workshop project

1 karakter (1 mark)

VS 45 x x

### Virksomhedspraktik

Apprenticeship

1 karakter (1 mark)

PRAK 45 G -

### Termiske maskiner

og anlæg

Thermal machineries and systems

5 karakterer (5 marks)

OBL 40

KOPI

### Termodynamik

Thermodynamics

x x

### Miljøanlæg og renseanlæg

Environmental plants and purification plants

x x

### Hydrauliske og pneumatiske anlæg

Hydraulic and pneumatic plants

x x

### Anlæg til energiforsyning

Anlæg for transport af væsker og gasser

Styrkelære

Plants for energy supply

Plants for transport of liquids and gasses

Strength of materials

x x

### Indeklima-anlæg

Køleanlæg

Air conditioning systems

Refrigeration systems

x x

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Kategori	ECTS-point	Registreret karakter 7-trins-skala	ECTS-skala
Category		Given marks 7-point grading scale	ECTS-scale

**Elektriske og elektroniske maskiner og anlæg**  
*Electrical and electronic machines and plants*  
5 karakterer (5 marks)

OBL 45

**Elektriske og elektroniske maskiner og anlæg (mundtlig)**  
*Electrical and electronic machinery and machines (oral)*

X X

**Elektriske og elektroniske maskiner og anlæg (skriftlig)**  
*Electrical and electronic machinery and machines (written)*

X X

**Installation og forsyning, el-autorisationsprøven**  
*Electrical fittings and distribution (electrician's authorisation)*

X X

**Installation (mundtlig)**  
*Electrical fittings (oral)*

X X

**Forsyning (mundtlig)**  
*Electrical distribution (oral)*

X X

**Procesanalyse og automation**  
*Process analysis and automation*  
1 karakter (1 mark)

OBL 15

X X

**Tværfaglige elementer**  
*Cross-curricular subject*

OBL 8

Bestået Passed

**Intercultural management and communication**  
*Intercultural management and communication*

2 Bestået Passed

KOPI

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Kategori	ECTS-point	Registreret karakter 7-trins-skala	ECTS-skala
Category		Given marks 7-point grading scale	ECTS-scale

**Ledelse, økonomi og sikkerhed**

Management, economics and safety

5 karakterer (5 marks)

OBL

20

**Organisation**

Organisation

X

X

**Driftsøkonomi**

Business economics

X

**Ledelse af arbejdsmiljø, kvalitet, sikkerhed, vedligehold**

Management of working environment, environment, quality, safety, maintenance

X

X

**Iværksætter, innovation og entreprenørskab**

Entrepreneurship and innovation

Bestået

Passed

**Personaleledelse og personaleret**

Human resources management and law

X

X

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har opnået følgende karakterer:

has obtained the following marks:

Kategori	ECTS-point	Registreret karakter 7-trins-skala	ECTS-skala
Category		Given marks 7-point grading scale	ECTS-scale

### Valgfag

Optional subjects

4 karakterer (4 marks)

#### Offshore

Offshore

VALG 6 x x

#### Vandbehandling

Water processing

VALG 5 x x

#### Projektledelse

Project management

VALG 4 x x

#### Elektriske anlæg

Electrial plants

VALG 5 G -

#### Afsluttende

#### virksomhedspraktik

Final apprenticeship

1 karakter (1 mark)

PRAK 15 G -

#### Bachelorprojekt

Bachelor project

1 karakter (1 mark)

AFS 15 x x

#### I alt

270 ECTS point

Total

Gennemsnit  
Average

X,X

Bedømmelse opnået efter august 2007 er udtrykt ved følgende karakterer:

Marks achieved after August 2007 are expressed by one of the following:

7-trinsskala / 7-point grading scale	12	10	7	4	02	00	-3
ECTS-skala / ECTS-scale	A	B	C	D	E	Fx	F

Betegnelsen "G" betyder, at uddannelsen i pågældende fag/modul er godkendt/bestået.

The notation "G" means that education in the subject concerned has been approved.

Kgs. Lyngby, den 19. Januar 2018

Erik Andreassen

Rektor

Rector

Side 5 af 5

## **Copenhagen School of Marine Engineering and Technology Management**

*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.*

### **1 Information Identifying the Holder of the Qualification**

- 1.1 Family name(s):**
- 1.2 Given name(s):**
- 1.3 Date of birth (day/month/year):**
- 1.4 Civil registration number:**

### **2 Information Identifying the Qualification**

- 2.1 Name of qualification and title conferred (in Danish):**  
Professionsbachelor som maskinmester

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

Bachelor of Technology Management and Marine Engineering (BTecMan & MarEng).

- 2.2 Main fields of study for the qualification:**

Operation and maintenance of electrical, mechanical and processing plants on land and at sea at a management level.

- 2.3 Name and status of awarding institution:**

Maskinmesterskolen København/ Copenhagen School of Marine Engineering and Technology Management is a state-recognised higher education institution regulated according to

The Act on Bachelor in Technology Management and Marine Engineering No 1610 of 13 December 2016.

The programme was accredited 23 June 2010 by the Danish Evaluation Institute.

- 2.4 Name and status of institution**

Not applicable/as above

- 2.5 Language of instruction/examination:**

Danish

### **3 Information on the Level of the Qualification**

- 3.1 Level of qualification:**

Bachelor's degree at NQF/EQF Level 6 referring to first Cycle in the Bologna QF

- 3.2 Official length of programme:**

A four and a half year full-time bachelor's programme equivalent to 270 ECTS.

- 3.3 Access requirements:**

Acceptance to the Bachelor of Technology Management and Marine Engineering requires Upper Secondary School Leaving Certificate or comparable qualifications.

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#### **4 Information on the Contents and Results Gained**

##### **4.1 Mode of study**

A four and a half year full-time programme equivalent to 270 ECTS.

The programme consists of class teaching, laboratory work, interdisciplinary projects, counselling and internship.

##### **4.2 Programme requirements:**

###### *Scope*

The Bachelor's degree programme imparts a multidisciplinary education in the field of engineering, process analysis and electrical technology. Students acquire knowledge, skills and competences that enable them to take responsibility for operation and maintenance of electrical, mechanical and processing plants at a management level.

###### *Outcomes*

###### **Knowledge**

The Bachelor of Technology Management and Marine Engineering is able to

- explain methods and theory within management, safety, innovation, operation and energy optimisation as well as internationalisation used in the profession
- describe principles of construction of electrical, mechanical and processing plants and installations and safety, optimisation and management attached to the plants and installations
- explain the legal basis for the exercise of the profession
- identify and explain innovation work and research results used in the profession
- know of entrepreneurship and innovation

###### **Skills**

The Bachelor of Technology Management and Marine Engineering is able to

- analyse how theoretical management models may be used in practise
- evaluate theoretical and economical models of technical plants and installations
- calculate and analyse operational economic and environmental data to obtain energy and operation optimisation
- operate and maintain mechanical, processing and electrical plants and installations
- use technical drafts, process diagrams, electrical circuits and control diagrams
- communicate in English, orally and in writing, about fields of the profession to manage in an international setting
- use an appropriate scientific method for analysing problems essential for the profession

###### **Competencies**

The Bachelor of Technology Management and Marine Engineering is able to

- select and make appropriate technical calculations of mechanical, processing and electrical plants and installations
- initiate planning of assignments appropriate to the profession and cooperate about the implementation and evaluation of the result
- take responsibility for operation and maintenance as regards safety and operational economic and environmental considerations
- develop solutions for operational and energy optimisation of mechanical, processing and electrical plants and installations
- be part of management and cooperative connections with people having diverse educational and/or cultural background
- compare experience, practical skills and theoretical knowledge
- select, evaluate and use data material including appropriate results from research and innovation work in connection with specific and complex assignments within the profession.

#### 4.3 Programme details and the individual marks obtained:

Students need to take required modules amounting to 245 ECTS and elective modules amounting to 25 ECTS. Successful completion of the programme requires the preparation of a bachelor's project.

Please see the enclosed Degree Certificate.

#### 4.4 Grading scheme and, if available, grade distribution guidance:

The grading system used is the 7-point grading scale. The grading scale is compatible with the ECTS grading scale.

The 7 point grading scale 12 10 7 4 02 00 -3  
The ECTS grading scale A B C D E Fx F

Apart from the 7 point grading scale, pass assessment may also be used. 02 is the minimum grade for passing an exam.

#### 4.5 Overall classification of the qualification (*in original language*):

Not applicable

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### 5 Information on the Function of the Qualification

#### 5.1 Access to further study:

A completed Bachelor of Technology Management and Marine Engineering at NQF/EQF Level 6 referring to First Cycle in the Bologna QF gives access to further study within the field at NQF/EQF Level 7 referring to Second Cycle in the Bologna QF, e.g. Master of Science and Technology (Production with specialisation in Production Systems).

#### 5.2 Professional status:

The Bachelor of Technology Management and Marine Engineering qualifies the candidate to assume responsibility for operation and maintenance of all kinds of technical plants and installations 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 installations in accordance with the Danish Ministerial Order No. 601 of 24 June 2008
- Steam Boiler Certificate in accordance with the Danish Ministerial Order No. 1088 of 28 November 2011
- Certificate of Refrigeration in accordance with the Danish Ministerial Order No. 1088 of 28 November 2011

Students attending specified STCW electives will be awarded

- Marine Engineer's Certificate of Competence at Sea in accordance with the STCW Convention section III/2 and III/6 and the Danish Ministerial Order No. 473 of 29 May 2006.

### 6 Additional Information

#### 6.1 Additional information:

Copenhagen School of Marine Engineering and Technology Management was founded in 1906. The school enrolls abt. 500 full-time students.

Copenhagen School of Marine Engineering and Technology Management strives to be an internationally orientated school with a strong local commitment.

Copenhagen School of Marine Engineering and Technology Management also focuses on postgraduate courses.

## 6.2 Further information sources:

Information in English on Copenhagen School of Marine Engineering and Technology Management (study programme, contents of programmes) is available at the School's website

[www.msk.dk](http://www.msk.dk)

or from the Registrar's office

Gyrith Lemches Vej 20, DK-2800 Lyngby  
Phone +45 78 74 56 00  
e-mail: [info@msk.dk](mailto:info@msk.dk)

General information on the education may be obtained from  
[www.vtu.dk](http://www.vtu.dk) – Ministeriet for Forskning, Innovation og Videregående Uddannelse - The Danish Ministry  
of Science, Innovation and Higher Education

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## 7 Certification of the Supplement

7.1 Date: 19 January 2018

7.2 Signature:

Erik Andreassen

7.3 Capacity: Rector

7.4 Official stamp or seal: