



Energy

Technology & Management



Aarhus School of Marine
and Technical Engineering

Energy

Technology & Management

The aim of the elective in Energy: Technology & Management at Aarhus School of Marine and Technical Engineering is to provide technical insight into various types of energy technologies and an overall understanding of energy management and energy management systems. Furthermore, the aim is to bring together international and Danish students in a discussion of present and future energy supply.

Our one-semester exchange semester is placed at the 8th semester of the Marine and Technical Engineering Programme, just before the concluding bachelor semester for the Danish students enrolled in the full programme.

The exchange programme runs from either February to June or August to December and amounts to 30 ECTS*. The programme is carried out in English, with participation from both Danish and international students.

Course Structure

The course consists of two parts of a duration of approximately 8 weeks each, corresponding to 15 ECTS. Each part can be taken separately.

Part 1		Part 2	
Language & Culture 5 ECTS	Exam	Optimization of an Energy System 5 ECTS	Common Exam
Bioenergy 4 ECTS		Energy Efficiency and Power to X 2+2 ECTS	
Oil and Gas Production 4 ECTS		Renewable Energy Systems 2+2 ECTS	
Combined Heat and Power 2 ECTS		District Heating 2 ECTS	

Part 1 – 15 ECTS

Language and Culture (5 ECTS)

This course covers cultural theories, intercultural communication, and cooperation. You will gain skills to analyze and describe cultural elements in international work settings, fostering deeper global awareness.

Combined heat and power (2 ECTS)

The CHP course delves into thermodynamics, CHP plant design, and energy storage systems. You will analyze efficiency, assess the impact of heat pumps, and evaluate the advantages and disadvantages of various CHP systems and power plants.

Bioenergy (4 ECTS)

The course on bioenergy explores biomass energy content, biogas reactor technologies, and biofuel production processes. You will calculate biogas plant dimensions, assess energy output, and evaluate the greenhouse gas impact of bioenergy.

Oil & gas production (4 ECTS)

In this course, you will study offshore oil exploration, well drilling, and gas (LNG) transportation technologies. You will develop the ability to read technical literature and engage in discussions about oil and gas production systems.



Part 2 – 15 ECTS

Optimization of an energy system (5 ECTS)

Here, you will learn to use the EnergyPLAN software to optimize large-scale energy systems. The course also covers calculating socioeconomic factors in sustainable energy systems and applying scientific methodologies to project work.

District heating (2 ECTS)

In this course, you will learn about district heating system designs, supply efficiency, and socioeconomic advantages of district heating. You will evaluate consumer installations and critically compare district heating to individually heated system

Renewable Energy Systems (RES) (2+2 ECTS)

RES contains two separate modules: solar power (2 ECTS) and wind power (2 ECTS). In the first module on solar power, you will obtain knowledge of the principles of solar thermal and solar photovoltaic energy plants. In the second module on wind power, you will work on mechanical and electrical components of wind turbines. For each module, you will focus on modeling energy systems, storing energy, and calculating energy outputs.

Energy Efficiency and Power to X (PtX) (2+2 ECTS)

In this course, you will focus on Energy Efficiency (2 ECTS) and PtX (2 ECTS). In the Energy Efficiency module, you will focus on setting energy consumption baselines, optimizing processes in buildings and industry, and implementing energy management systems. You will also develop action plans for energy optimization. In the Power to X module, you will explore PtX system layouts, hydrogen as an energy carrier, and water treatment. The course also covers how to identify key components, plan maintenance, and troubleshoot PtX systems.

[**Click here to download the full curriculum**](#)



Studying at Aarhus School of Marine and Technical Engineering

Aarhus is the second largest city in Denmark with a population of 300,000. Aarhus is a student city where one in five inhabitants are students, making it the youngest city in Denmark. At the same time Aarhus is an old viking city with a rich history and a city centre filled with cafés, restaurants, and social life.

The campus of Aarhus School of Marine and Technical Engineering is situated on the harbour front, in the middle of the city. There are 1200 students at AAMS, with an average age around 24. Most are enrolled in the professional bachelor programme in Marine and Technical Engineering, while others are in our AP programmes in automation and production engineering. As a student, you can take part in the rich student life at AAMS and in the city, enjoy social gatherings at our campus, work hard in the local fitness facilities, and explore the best student city in the world.

At Aarhus School of Marine and Technical Engineering, we focus on a collaborative learning environment that combines theory with practical, hands-on projects. Students work extensively in groups, encouraging teamwork and the exchange of ideas. Courses are designed to integrate real-world applications, preparing students for dynamic, technical careers.

The Student House & Erasmus Student Network Aarhus

Greetings from the Student House to the international students at Aarhus School of Marine and Technical Engineering!

Studenterhus Aarhus is a student house for all students in Aarhus, where you will meet many other students with interests that differs from your own – cool!

We do talks, concerts, career and networking events, parties, cultural exhibitions and trips, and we have a café and a bar where you can hang out or study with your study mates.

Studenterhus Aarhus is a non-profit NGO put into the world to support a good student environment in Aarhus. Our volunteers are the ones making all the above mentioned events possible! They come from all over the world and all share the same passion of making the student life the best time for students in Aarhus!

International Group/ESN Aarhus

Our volunteer group International Group constitutes ESN Aarhus, and it is our mission to make Aarhus the best city to be an international student. The International Group, better known as I-Group, is for anyone who wants a vast international and Danish network and for anyone who wants to make great events and projects for international students.

I-Group does activities for international students on exchange or full degree. We plan and execute introductions for new students in August and January, and create events throughout the semesters for both Danish and International students. We make everything from the famous I-Nights every Tuesday to cultural events, lectures, trips, dinners, language cafés, and career events. At our events international students get to know the rest of Denmark and the Danes.

You can join all the events hosted by I-Group, or you can bring your ideas to the table and volunteer in one of our volunteer groups.

We will look forward to welcome you to Studenterhus Aarhus!

Stuðenterhus Aarhus & ESN Aarhus

Nordre Ringgade 3
8000 Aarhus C
Denmark



Visit website



Our students

The Marine and Technical Engineering Programme is a Professional Bachelor Programme.

For students with an upper secondary educational background, training commences with a workshop course, where the student acquires a range of practical skills.

For students with a practical vocational background, training commences with an admission course, which includes an upper secondary supplementary education.

As a student on our elective course in EMT, you will study alongside students on the eighth semester of the BA programme.

Housing

We assist our international students in finding a place to stay in Aarhus.

As a student at AAMS you can stay in the Grundfos dormitory on the docklands of Aarhus close to the school.

Both Danish and international students live in the dormitory which provides an ideal environment for students.



Meet Viivi

Viivi Kuusisto is from Finland. She is an international student at the Aarhus School of Marine and Technical Engineering programme in Energy: Technology Management.

Click on the video to open YouTube, where you can meet Viivi and learn more about the course.



Make the world better

"I think studying energy is a really important subject, because it's the way you make the world better."

Viivi Kuusisto
International student

Admission

To participate in an exchange program at Aarhus School of Marine and Technical Engineering, first check with your university's International Office to confirm a bilateral agreement with AAMS. If an agreement exists, your office must nominate you by emailing AAMS' Head of Internationalisation, Jannie Sloth Hesselbjerg. If no agreement is in place, your International Office can contact Jannie to explore the possibility of establishing one.

Nomination and application deadlines:

Autumn semester:

Nominations begin on 1 March, with a nomination and application deadline of 1 May.

Spring semester:

Nominations start on 1 September, with a nomination and application deadline of 1 November.

After nomination, you will receive instructions, and the application will be processed within a few weeks. Successful applicants will receive a Letter of Admission. Please note that AAMS is a popular destination, and not all applications may be accepted.

When applying, ensure you have the following documents:

- Official transcript of records
- Course descriptions of completed courses
- A photograph for your student card
- A signed Learning Agreement

Non-EU citizens must also apply for a residence and work permit, which can take a few months to process.

Contact the International Office

Head of Internships and Internationalisation

Jannie Sloth Hesselbjerg

Phone: +45 4122 7119

E-mail: jsh@aams.dk

Contact



The International Office

The International Office provides extensive support for incoming students, assisting with the application and admission process, official arrival days, immigration and visa matters, registration in Denmark, curriculum guidance, and housing arrangements to ensure a smooth transition for all international students.

Study Administration

Phone: +45 8612 6222

E-mail: aams@aams.dk

For more information, visit our website:
www.aams.dk/en

Opening Hours (GMT+1):

Mon - Thu	08:00 - 15:00
Friday:	08:00 - 14:30

Address

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