RISK AND SAFETY MANAGEMENT
2-YEAR MASTER OF SCIENCE IN TECHNOLOGY PROGRAMME (CAND.TECH.)

AALBORG UNIVERSITY
ESBJERG
BECOME AN EXPERT IN RISK AND SAFETY MANAGEMENT

Do you dream about becoming an expert in advising companies in Risk and Safety Management? With a Master of Science in Technology in Risk and Safety Management, you will be prepared to help private as well as public companies to create an overview of both risk and safety.

Through the study programme, you will gain knowledge about data collection within risk assessment analysis, about those social conditions that exist in connection with risk regulation and management, and about fundamental probability calculation. You will also be introduced to theoretical methods and strategies which apply in risk perception and communication.

Graduating in Risk and Safety Management you will be able to identify the critical situations that can arise in connection with a project in a company. You will learn to work out plans for managing the project and gain insight in methods for implementation, reporting methods as well as ways of making routine testing.

You can contribute to ensuring a good start for companies and help them reach their goals safely.

The study programme is carried out in English and is offered through joint collaboration of Aalborg University and University of Southern Denmark (SDU) in Esbjerg campuses.

ACADEMIC CONTENT

During the Master of Science in Technology in Risk and Safety Management, you will work with engineering subjects within risk and safety management. These also include social science and health sciences' dimensions of risk applications. Among other things, you will work with probability calculation, risk assessment analysis, simulation, and management of emergency situations and safety and health at workplaces and communities.

Each semester consists of a number of courses and a project. In the projects, you will go into depth with complex and often interdisciplinary problems. Usually, the projects are carried out in close collaboration with companies within different sectors such as the maritime, offshore, energy, transportation, chemical or societal health services.

The study programme is offered internationally, and all teaching will therefore be carried out in English.
1ST SEMESTER

1st semester focuses on the legislation that projects are subject to and the different industry standards that are in force in the given area. Through the project work, you will work with how the different statutory requirements have influence on the project, including the possibilities and restrictions they cause.

Semester structure:
• Systems Engineering (5 ECTS course)
• Applied Statistics and Probability Theory (5 ECTS course)
• Risk Analysis (5 ECTS course)
• Industry Standards and Legislation (15 ECTS project)

2ND SEMESTER

During the 2nd semester, you work with risk and safety management. Through the courses, you learn about risk management and decision making. In addition to that, there is an opportunity to choose courses in maintenance management, risk communication or integration of risk, resilience and sustainability. These courses are hosted at SDU to benefit from in-depth insights of social science and health science integrated with engineering. The content of the courses are integrated into the project work. For instance, based on risk analysis, you can work with how you outline and choose between alternatives to a current solution.

Semester structure:
• Risk Management (5 ECTS course)
• Decision Making (5 ECTS course)
• Electives (5 ECTS): Risk Communication / Maintenance Management / Integration of Risk, Resilience and Sustainability / Risk Analysis and Management (15 ECTS project)

3RD SEMESTER

During the 3rd semester, the operative part of risk management in connection with projects will be in focus. Through the project work, you will work with how you can use risk management to prevent and handle the emergencies that can occur in connection with carrying out a project.

Semester structure:
• Simulation of Emergencies (5 ECTS course)
• Emergency Management (5 ECTS course)
• Electives (5 ECTS): Risk and Reliability in Engineering / Health and Safety Management / Operational Risk Management in Projects (15 ECTS project)

4TH SEMESTER

You will finish the study programme with a final academic thesis – the Master's thesis (30 ECTS). The level of detail in this project is higher compared to the projects you have carried out so far. When carrying out the thesis, you have the opportunity to combine all the knowledge and skills you have acquired throughout the study programme. The Master's thesis can be in nature of industrial development, further development of a project, or actual research. These are jointly supervised from faculty in both engineering (Aalborg) and social science (SDU).

Semester structure:
• Master thesis (30 ECTS project)

Further information at https://www.en.aau.dk/education/master/risk-safety-management
With a Master of Science in Technology in Risk and Safety Management, you have various job opportunities. You can for instance work as a risk analyst, a work environment coordinator, or as a project manager in sectors such as wind, oil and gas, structural and civil engineering, transportation or the public sector.

You will obtain competences that enable you to identify the risks connected to a company’s operations, to analyse risks, and to make suggestions for reducing or avoiding risk in accordance with both the legislation and relevant standards within the area. Furthermore, in connection with operations, you will be able to set up possible crisis scenarios and work out plans for coping with such situations. Moreover, you will be able to work with preparation and implementation of procedures for managing health, safety and quality (HSEQ) in risky operations.

In the future, it is expected that the area of risk and safety management will be characterised by remarkable growth. In a recent market survey among companies in the industries mentioned above, 94% of the respondents answered that they were expecting an increase in the number of employees within the field. This is supported by announcements from trade organisations such as Danish Industry: “The industry is increasingly being challenged in Risk and Safety Management which is why we see a need for more knowledge and competence development in this field.”

With a degree in Risk and Safety Management, you will become part of a field which will be marked by growth and development in the future. The possibilities of making a career for oneself in either Denmark or overseas are therefore great.

### Career Opportunities

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### Examples of Risk Scenarios

#### Structural and Civil Engineering
- Collapse of e.g. a building or a bridge

#### Oil and Gas
- Oil leak or fire on a drilling rig

#### Wind
- Discharging and installation of parts for wind turbine generators in wind parks

#### Chemical Engineering
- Chemical accident in a medical company e.g. during transport or production of a drug

#### Transportation
- Financial problems in export companies due to prevention of transportation of goods (e.g. as a bridge closes down)

#### Planning and Analysis of Risk Scenarios

### Risk and Safety Management
Aalborg University is host to a successful UNESCO Chair in Problem Based Learning in Engineering Education and a Centre for PBL and Sustainability approved by UNESCO. As a student in this international Master programme, you will work closely together with your fellow students by way of problem based project work.

SDU houses the Energy Management Center, one of only a handful of centers globally, focused on the social dimensions of the rapidly changing sector. SDU also contributes to the programme’s interdisciplinary focus with Public health research in risk communication, occupational health management and also risk research in environment and human behaviour.

When writing your problem based project, you will be part of a group where you define a problem together that you want to examine. The problem forms the basis of your project, and you are to a great extent responsible for defining it yourselves within an often very broad theme frame. The group work ensures a great variety of approaches and perspectives, which results in a sound and thoroughly prepared project.

Together, you are able to discuss the details thoroughly. At the same time, you are able to solve larger and more complex problems than if you were studying on an individual basis.

With group work, you will quickly realise that you might have different opinions about how to solve a problem. Group work means that you have to compromise, and you will learn a lot about how to cooperate.

Situated by the sea, Esbjerg is a town with more than 70,000 inhabitants. The town is characterised by wind energy, the oil industry, and shipping. As a student at Aalborg University's campus in Esbjerg, you can enjoy the city’s many opportunities with regard to cultural experiences, sports, and spare time activities. Aalborg University Esbjerg is located only around 3 kilometres from Esbjerg town centre and transport options, such as bus or bike, are great between the town centre and campus. Therefore, you have easy access to the many experiences and activities that Esbjerg is able to offer. Moreover, the environment at Aalborg University Esbjerg is characterised by a strong sense of community and a“small-town- atmosphere” that allows you to quickly get to know your fellow students as well as the staff.

RATED FOR EXCELLENCE

In recent years, Aalborg University has risen up the international lists of university rankings. Aalborg University appears on the great majority of ranking lists, and is among the top two percent of the world’s 17,000 universities.

Aalborg University is considered to have the best engineering programme in Europe – a programme that takes fourth place in the world!

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Admission to the Master of Science in Technology in Risk and Safety Management presupposes one of the following:

• BSc degree in Chemistry
• BSc in Structural and Civil Engineering
• BSc in Mechanical Engineering
• BSc in Public Health Science
• Bachelor’s degree in Business Economics
• Bachelor of Architectural Technology and Construction Management
• PBA Technology Management and Marine Engineering

All applicants are evaluated individually. Students with another Bachelor’s degree may be admitted following an academic assessment if the applicant is considered to have comparable educational prerequisites.

In order to apply you must document basic written and spoken English. The official language requirements for international students applying to Aalborg University are:

- IELTS (academic test): 6.5 overall band score
- TOEFL (internet-based): Minimum score: 85
- Cambridge Certificate of Proficiency (CPE): 180 / level C1
- Certificate in Advanced English (CAE): 180 / grade C
- ECPE: Passed test including certificate

You do not have to submit an official English test if one of the following criteria applies to you:

• Have an English taught qualifying upper secondary school diploma, Bachelor’s degree or Master’s degree from USA, Canada, Australia, New Zealand, UK or Ireland. Minimum two years of the bachelor or master must have taken place in one of the mentioned countries.
• Have a Nordic or German upper secondary school diploma. International Baccalaureate from the IB diploma programme or European Baccalaureate from Schola Europaea with an English level equivalent to a Danish B level in English with a minimum GPA of 3.0 in average (Danish grade scale).
• Have a Danish Upper secondary school diploma - English level B with a minimum GPA of 3.0 in average.
• Have a Danish Upper secondary school diploma - English level A with a minimum GPA of 2.5 in average.

Please note that a Bachelor’s degree taught in English from a Danish institution does not exempt you from meeting the language requirements due to new guidelines from The Ministry of Higher education and Science.

For more information, please refer to apply.aau.dk

**TUITION-FREE STUDIES**

Students from EU/EEA countries are not required to pay a tuition fee. However, all students must pay all other costs related to studying in Denmark for example costs related to books, living expenses, and accommodation. With the exception of students from partner universities outside the EU/EEA, an international student from a non-EU/EEA country will need to pay a tuition fee.

**DEADLINE**

The programme will change intake from February to September in 2021.

From 2021 onwards the programme will have a September intake only.

Please go to apply.aau.dk
CONTACT INFORMATION
If you have questions about how to apply or general questions about studying in Denmark and life at Aalborg University, please contact:

International Office in Esbjerg
Aalborg University Esbjerg
Niels Bohrs Vej 8
DK-6700 Esbjerg
Denmark
E-mail: international@esbjerg.aau.dk