

# University of Southern Denmark, Faculty of Engineering

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## UNIVERSITY OF SOUTHERN DENMARK

The University of Southern Denmark is a modern institution offering education and research at the highest level. Every day more than 1,400 researchers and 19,000 students build on the university's reputation as a centre of academic excellence. University of Southern Denmark is a multi-campus university. The largest campus is located in Odense. The remaining four campuses lie in Kolding, Esbjerg, Sønderborg and Slagelse. The Faculty of Engineering has study and research facilities in Odense and Sønderborg.

### The city of Odense

With some 200.000 inhabitants, Odense is the third largest town in Denmark. Odense is world-renowned as the birthplace of fairytale author Hans Christian Andersen. However it is also a modern town with a buzzing cultural and social scene. With more than 30.000 students, the town has a lively and young atmosphere. The town lies in the centre of Denmark, serviced by two international airports, easily reached in less than 90 minutes by train or car.

Even if you are right in the centre of Odense, you will never be more than a five-minute walk away from a green oasis. Odense has no end of beautiful parks and gardens where you can laze about and enjoy a picnic on a warm spring day with friends and fellow students.

See: [www.visitodense.com](http://www.visitodense.com)

### University Campus Odense

The Odense campus is the biggest teaching site with over 12,500 students within the five main areas of Health Sciences, Natural Sciences, Engineering, Social Sciences and Humanities. Modern facilities in the form of reading rooms, laboratories, indoor swimming pool, computer room, lecture theatres, Friday bars, cafés, libraries, meeting places and cosy corners help to make your life at Campus Odense a happy experience. But campus life is more than facilities, and you will find yourself embarking on a life where a whole new world of knowledge and pursuit of knowledge opens up before you.

### The city of Sønderborg

Sønderborg is located on the island of Als in the southeast corner of Jutland, close to the German border and is ideally situated between Hamburg and major centres in Denmark. The large number of students living in Sønderborg lends the town a lively social life. The new university and cultural complex – Alsion – is an architectural marvel situated at the harbour and it is a magnet for audiences seeking an experience above the ordinary.

See: [www.discover-sonderborg.dk](http://www.discover-sonderborg.dk)

### University campus Sønderborg

Many international students choose to study at the University in Sønderborg. The university provides state-of-the-art laboratory and teaching facilities ensuring optimum conditions for researchers and engineering students. At the same time the research park provides a particularly innovative and international research

environment with strong focus on close cooperation and interaction with the business community. Campus Sønderborg has 700 square metres of state-of-the-art clean room facilities.

## THE FACULTY OF ENGINEERING IS ABOUT...

Applied science and/or research based study programmes. Close co-operation with companies in Denmark and abroad. And focus on real-life problems taken directly from industry. Our students thrive academically and personally. Why? We challenge them by involving them in project work, developing both their academic and personal skills. Whether on campus or in a company, students often work in small groups of between two and four people. Companies worldwide often require their graduate engineers to work in this way.

## THE STUDY PROGRAMMES (English taught)

Master of Science in Engineering study Programmes

### **Scholarship possibilities**

- Mechatronics
- Innovation and Business

### **No scholarship possibilities**

- IT Product Design
- Chemistry
- Environmental Engineering
- Product Development and Innovation
- Physics and Technology
- Robot Systems Engineering

**Price** If you hold a non EU/EEA citizenship, you are required to pay tuition fee. For details, see the tuition fees on [www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering).

Some scholarships are available but only for the Mechatronics and Innovation and Business study programmes.

### **Application deadlines:**

#### ***Degree students***

All Bachelor degrees: March 15.

Master degrees:

Non-EU /EE A citizens: March 15.

You can download application forms at: [www.sdu.dk/international-office](http://www.sdu.dk/international-office).

### **Entry requirements**

For admission requirements please see [www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering) under the specific study programme.

### **Language requirements**

A good standard of English is required because teaching at the University typically involves student participation, class discussion and student presentations. A minimum IE LTS score of 6.5 or a TOEFL score of 575/230/88 is required.

**Accommodation**

You have the possibility of applying for student accommodation through the university.

## MASTER OF SCIENCE IN ENGINEERING - Innovation and Business

### PROGRAMME PROFILE

During this study programme you will conduct market research, develop a product idea and find capital before finally creating and co-owning the product. You will have courses and projects on project management, innovation and business development – with plenty of opportunities for collaboration with industry on real life projects.

You will have the opportunity to specialise and get hands-on experience in the following subjects:

- Innovation management
- Dynamics of innovation
- Innovation in value networks
- User-driven innovation
- Project management
- Electronics, mechanics and software development
- Business and marketing Economics

International students study alongside the Danish students, giving you the opportunity to work with engineering in multicultural teams with students from Denmark and the rest of the world.

**WHERE** Sønderborg

**FURTHER INFORMATION** Ms Marianne Stenger, [mas@mci.sdu.dk](mailto:mas@mci.sdu.dk)

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

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## MASTER OF SCIENCE IN ENGINEERING - Mechatronics

### PROGRAMME PROFILE

This programme enables you to design and develop high-tech mechatronic products for a market in constant change. You will act as a trouble-shooter across disciplines, identifying problems and optimising production. With technical know-how and leadership skills, you can transform product ideas into practical solutions for everyday life.

This master programme gives you profound knowledge within the core topics of mechatronics.

Furthermore, you have the opportunity to specialise within one of these three areas:

- Nanotechnology
- Embedded Control Systems
- Dynamic Mechatronic Systems

International students study alongside the Danish students, giving you the opportunity to work with engineering in multicultural teams with students from Denmark and the rest of the world.

**WHERE** Sønderborg

**FURTHER INFORMATION** Mr Ib Christensen, [ic@mci.sdu.dk](mailto:ic@mci.sdu.dk)

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

## MASTER OF SCIENCE - IT Product Design

### PROGRAMME PROFILE

IT Product Design focuses on developing a new breed of designers. You work in teams and apply User Centred Design principles to product and service development. With students from various educational backgrounds, this study environment is an ideal preparation for multidisciplinary project work in industry.

With this programme you will learn to:

- Understand and apply theories and methods for developing innovative IT-products – and the user work practices they prompt
- Design user interaction for product interfaces based on user empathy and aesthetics of interaction
- Establish and facilitate collaboration between design teams and stakeholders in the development process – users in particular
- Organise successful development processes (with IT support) and pilot them in an industrial organisation
- Contribute to the continuous development of theories, methods, and technologies in the field of IT product development.

**WHERE** Sønderborg

**FURTHER INFORMATION** Mr Rune Wulff Christensen, [rune@mci.sdu.dk](mailto:rune@mci.sdu.dk)

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

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## MASTER OF SCIENCE IN ENGINEERING - Chemistry

### PROGRAMME PROFILE

Chemical products are part of our everyday lives. But before household cleaning products and children's toys can hit the shelves, you need chemical engineers to coordinate research, development and regulation. This programme enables you to work as a chemical engineering expert in a range of areas in research or industry.

In this programme you choose to specialise in either Materials Chemistry or Biotechnological Process Control.

- In Materials Chemistry you learn theoretical and practical aspects of solid state chemistry, with the focal point being the study of advanced ceramic materials.
- Biotechnological Process Control focuses on biocatalysis, simulation of biological processes and technical microbiology.

**WHERE** Odense

**FURTHER INFORMATION** Ms Lene Pedersen, [lp@kbm.sdu.dk](mailto:lp@kbm.sdu.dk)

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

## MASTER OF SCIENCE IN ENGINEERING - Environmental Engineering

### PROGRAMME PROFILE

This programme provides you with an extensive knowledge in the environment and in environmental implications of technology. You will be trained to design environmentally benign and eco-efficient solutions to systems, products and processes. Moreover, you will be qualified to restore the quality of already damaged environments.

In this programme you choose to specialise in either Eco-efficient Engineering or Aquatic Environment.

- With a profile in Eco-efficient Engineering, you will become a specialist in environmental system analysis and eco-innovation of systems, products and technologies.
- With a profile in Aquatic Environment, you will become a specialist in environmental modelling and remediation of aquatic systems such as rivers, lakes and ground water reservoirs as well as in advanced wastewater and groundwater treatment.

**WHERE** Odense

**FURTHER INFORMATION** Ms Birgitte L. Sørensen, [bls@kbm.sdu.dk](mailto:bls@kbm.sdu.dk)

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

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## MASTER OF SCIENCE IN ENGINEERING - Physics and Technology

### PROGRAMME PROFILE

Companies operating on the technological leading edge need candidates who are capable of combining a solid theoretical background in physics with practical experience in state-of-the-art technologies in interdisciplinary projects. You can either specialise in acoustics or optics.

- You will be able to address fundamental issues within acoustics and vibrations, as well as in the recording and processing of acoustic signals.
- You will be able to address fundamental issues within optics as well as to work on the many applications of optics as an analysis tool. You will be an expert in the measurement and operation of optical signals.

**WHERE** Odense

**FURTHER INFORMATION** Mr John E Hansen, [jh@sense.sdu.dk](mailto:jh@sense.sdu.dk)

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

## MASTER OF SCIENCE IN ENGINEERING - Product Development and Innovation

### PROGRAMME PROFILE

This programme enables you to work as a trouble-shooter throughout the entire development process. Moreover, with specialist knowledge in your chosen area you will be able to build your own business or develop new business areas in existing global companies.

This master programme offers two specialisations:

- **Product Value Creation:**  
The graduate will not only be able to identify the needs of the user and spot the trends of the future, but also to manage product development processes of the products in a global context.
- **Global Sourcing:**  
The graduate will be able to identify global business opportunities and implement these. He/she will be able to optimise the global supply chain and to participate in project management of virtual networks within the part of the value chain dealing with manufacturing processes.

**WHERE** Odense

**FURTHER INFORMATION** Mr Leif Henriksen, lh@ib.sdu.dk

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

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## MASTER OF SCIENCE IN ENGINEERING - Robot Systems Engineering

### PROGRAMME PROFILE

Robotic technology requires engineers who can work creatively across disciplines in industry or research. A unique combination of mathematical modelling, kinematics, computer vision, artificial intelligence, software development and electronic hardware – provides you with the skills and expertise to create tomorrow's robots for the manufacturing and service sectors.

The programme does not exclusively focus on robotics. The study programme consists of five main fields: Robotics, Artificial Intelligence, Software Systems, Embedded Systems and Computer Vision.

**WHERE** Odense

**FURTHER INFORMATION** Mr Morten Hansen, moh@mmmi.sdu.dk

[www.sdu.dk/studyengineering](http://www.sdu.dk/studyengineering)

## **STUDY IN DENMARK – YOUR BEST CHOICE**

Long white beaches. Island hopping. European travel. Choose to study in Denmark and you will quickly find the country has more to offer you than you had ever imagined. Grasp the opportunity to study in Scandinavia's gateway to Europe and you open up a world of possibilities: Discover Denmark's culture and history. From magical castles and picturesque villages to cutting-edge design and 24-hour cities, experience a modern country steeped in tradition.

### **Population and language**

The total population of Denmark is 5.3 million and the population density is 120 people per square kilometre. The capital is Copenhagen, which has approximately 1.2 million inhabitants. Denmark's official language is Danish.

### **Academic culture**

The relationship between students and teachers in Denmark is quite informal. You are always encouraged to ask questions both in and outside of the classroom and to express your opinion on the themes discussed during the courses. Most studies make use of both oral and written exams.

### **Cost of living**

The cost of living in Denmark is similar to that of other northern European countries. You should estimate spending between EUR 600 and 700 monthly. Monthly rent for a room in a flat is about EUR 300. You also need to consider the cost of books and other teaching materials, transport and going out.

### **If you become ill**

International students living in Denmark for more than three months are covered by the Danish health insurance.

See: [www.studyindenmark.dk](http://www.studyindenmark.dk) and [www.visitdenmark.dk](http://www.visitdenmark.dk)

## **Impressions of the university and Denmark**

Campus Odense



Campus Sønderborg



Formula student race car



Cyber Sailing Project



Nano Lab



Students

