

Mechatronics

**Bachelor of Science in Engineering/
Bachelor of Engineering
Master of Science in Engineering**



sdu.dk/eng_sonderborg

Your studies in Mechatronics combine mechanics, electronics and computer sciences for the development of products with automatic and intelligent functions. Mechatronics is a future technology for integrated and smart solutions.

You will learn how to develop mechatronic systems and how to industrially produce them. You'll gain valuable skills within teamwork and collaboration with companies. The English study programme is your perfect start for a career in global companies and on global markets.

Your studies in Sønderborg

- Taught in English
- Competences for global markets
- Projects with companies
- Community with more than 50% international students
- Scandinavian lifestyle



Your bachelor programme

You will learn in a personal atmosphere, in small study groups and with access to excellent equipment. The very good relationships in terms of supervision between students and professors provide you with individual experiences and success during your studies.

The international study programme Mechatronics is completely taught in English. Along the way, you will train both your language and your social skills for a job in global companies and for worldwide collaboration with customers.

After graduation, you will be an undergraduate “Bachelor of Science in Engineering (6 semesters) or a Bachelor of Engineering (7 semesters incl. one practical semester), and you’ll be qualified for a master’s programme in Denmark, Germany or worldwide.

Real solutions in projects

In Sonderborg, a long tradition of collaboration between students and interesting high-tech companies exists.

In semester projects, worldwide operating companies in the Danish-German border region provide you with the option to get acquainted with real industrial tasks and to solve them together.

Project learning is one core of your studies. In every semester, you’ll apply theory to practice in the projects you’re engaged in. This way, you learn project management, team building and creative problem solving.

Individual profiles

You can choose among four profiles:

- Mechatronics engineering
- Mechanical engineering
- Electronics engineering
- Embedded systems

You can spend the fifth semester at one of many partner universities worldwide.

Your master programme

The master programme is based on two blocks: a compulsory block called Advanced Mechatronics and Scientific Methods and a specialisation where you can choose between two academic profiles that add special competences to your overall mechatronics skills.

Embedded systems

Embedded systems concerns both digital electronics (hardware) as well as software. The trend is that products are becoming more and more intelligent. There is a need for control and automation in traditional systems, but many new systems are becoming autonomous – which means that they can function without any human interaction and can take decisions by themselves – thus, we call them intelligent.

In the embedded systems profile you will learn how to design complex software for embedded systems as well as how to interface to dedicated hardware. This also includes design of safety critical systems and real time scheduling.

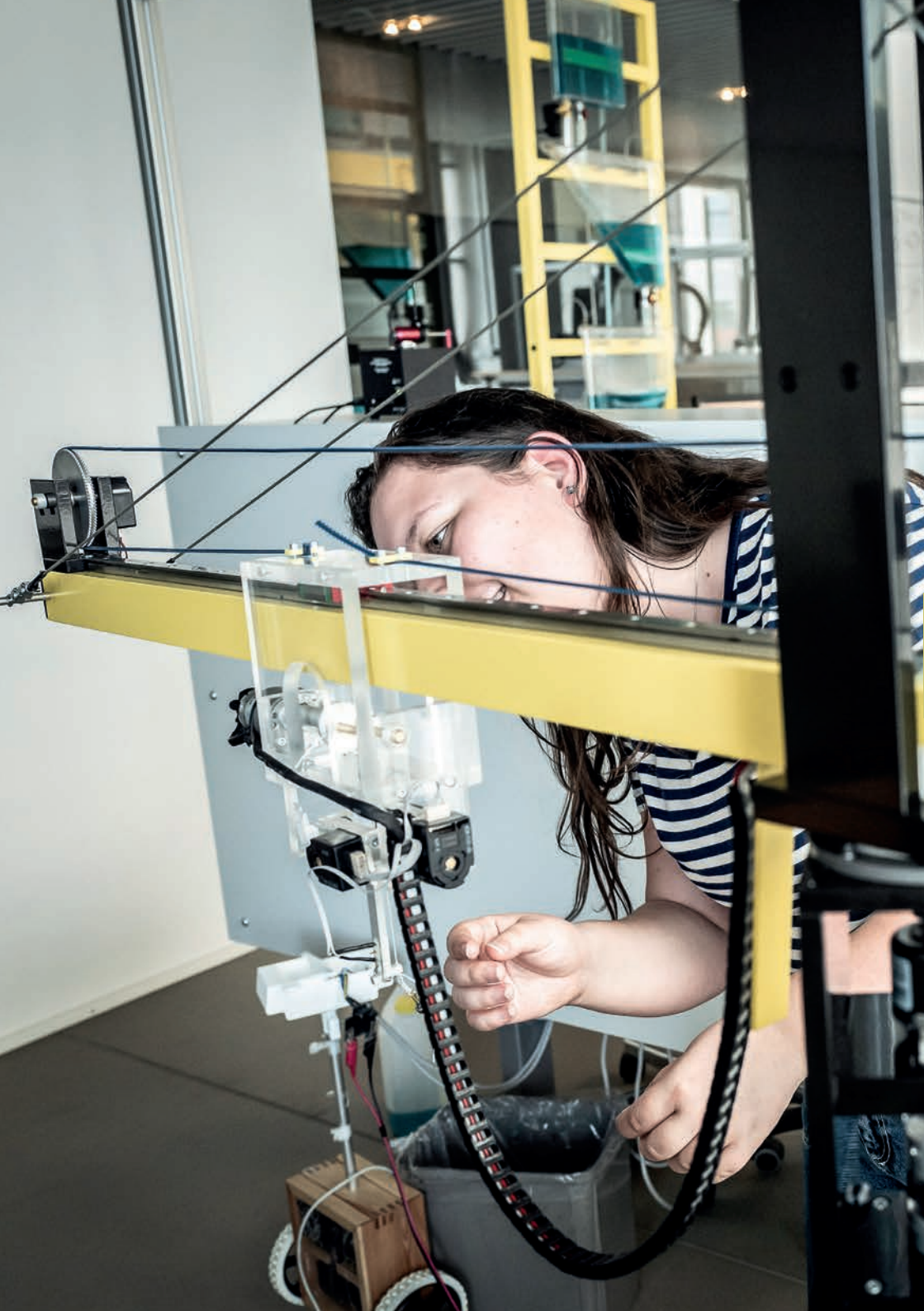
Cyber physical systems

An academic profile in *cyber physical systems* will provide you with strong applied mathematical skills in relation to mechatronics and dynamical systems as well as related control strategies, including artificial neural networks.

Graduates will be qualified to undertake advanced analytical mathematical and physics challenges in the mechatronics industry. This includes the design of integrated mechatronics hardware in combination with advanced control strategies and both numerical and analytical schemes used for optimisation and learning.

No tuition fees

Citizens of the EU/EEA/Switzerland are exempted from semester and tuition fees.





SDU Sønderborg Engineering programmes

3,5 years

BEng in Electronics

BSc in Electronics

MSc in Electronics

BEng in Mechatronics

BSc in Mechatronics

MSc in Mechatronics

**BSc in Engineering,
Innovation and Business**

**MSc in Engineering,
Innovation and Business**

3 years

5 years

Your application



Entrance requirements for the Mechatronics bachelor

To be admitted to the Mechatronics bachelor programme, you need a **qualifying examination**.

Furthermore, you must meet the specific entry requirements:

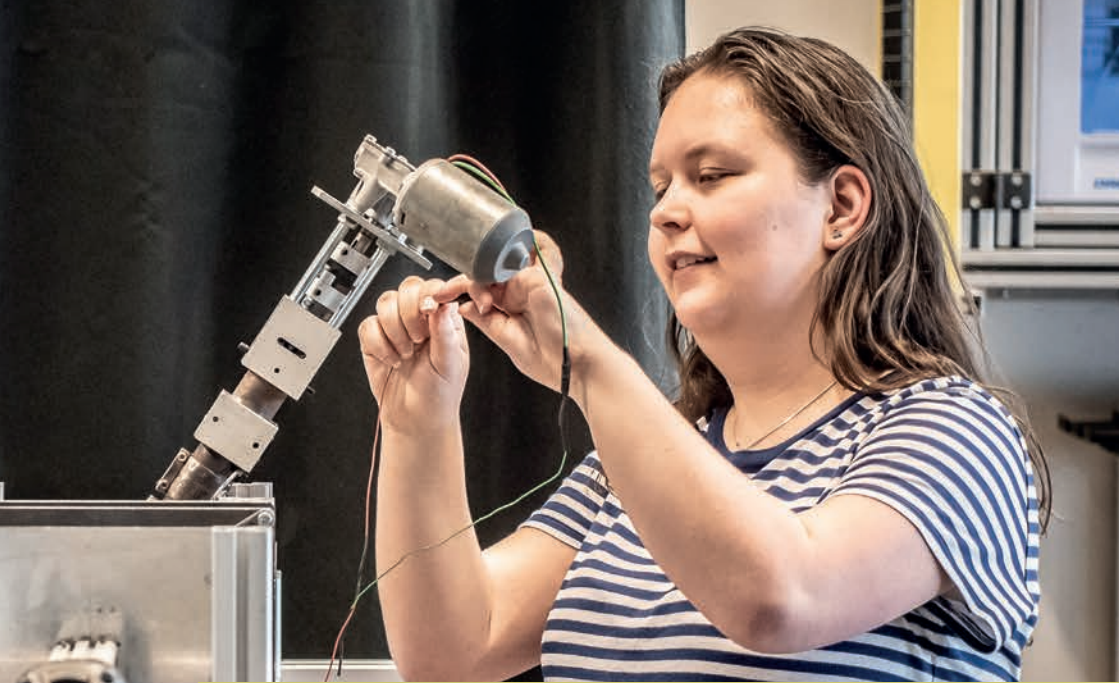
- Mathematics on high level (Danish A-level)
- English on intermediate level (Danish B-level)
- And one of the following courses:
 - Physics - Danish B-level AND Chemistry - Danish C-level
 - Physics - Danish B-level AND Biotechnology - Danish A-level
 - Geoscience - Danish A-level AND Chemistry - Danish C-level
 - Geoscience - Danish A-level AND Biotechnology - Danish A-level

For more information, see the websites: sdu.dk/bsc/mechatronics and sdu.dk/beng/mechatronics

You can apply online from **1 February**. Your application must be submitted online by **15 March**.

You can submit your final grade certificates later.

If your application is successful, you will receive a confirmation of your place on the course by the end of July. The course programme starts on **1 September** with opening events.



Entrance requirements for the Mechatronics master

Entrance requirements for both profiles in the Mechatronics master programme:

BSc or BEng in Mechatronics from SDU, BSc or BEng in Electronics from SDU, BSc in Robot Systems from SDU, BSc in Robotics from AAU, BSc in Electrical Engineering from DTU.

Other applicants with a similar bachelor's degree will be considered if their academic qualifications correspond with one of the above mentioned bachelor's degrees and may be accepted based on individual assessment. Other degrees can be qualifying for the profiles **Cyber Physical Systems** or **Embedded Systems**.

For more information, see the website:
sdu.dk/msc/mechatronics

You can apply online from **1 January**. Your application must be submitted online by **1 March**. Non-EU/EEA citizens must submit their application by **1 February**.

You can submit your final grade certificates later.

The town Sønderborg is located in Southern Denmark on the banks of Flensburg Fjord and the Baltic Sea. It offers Scandinavian way of life, a lively student environment and high quality of life. Leisure activities in the forest, at the beach or in the sea create an ideal balance between your studies, relaxation and fun.

At campus Sønderborg, you'll meet students from all over the world. More than 50 % are international students who study at three faculties. They make the campus an exceptionally open and inspiring place.

Living in Sønderborg

With your admission to the study programme, you are guaranteed a place in one of the student dormitories, so you can concentrate on what is important right from the start: Your study kick-off and the beginning of new friendships!

Sneak preview: the fifth semester

This semester is about innovation, multidisciplinary skills and entrepreneurship (Experts in Teams). You and your project group will organise yourselves into a virtual company where you will go through all development phases from idea to creation of a fully functioning prototype - taking into account economy, external suppliers, etc. In addition, you will continue with your chosen profile.

You can also choose to study abroad for a semester.

Life in Scandinavia



In Sønderborg, successful technology companies have been working with students for many years. Globally active companies from Denmark and Germany, such as Danfoss, Linak or LEGO have been investing in a new generation of engineers with great dedication and enthusiasm.

Bridges into professional life

You will have numerous opportunities to work together with businesses during your studies as part of semester projects, practical assignments, engineering internship or Bachelor thesis projects.

University provides you with a job database and organises regular events where you can get to know companies. This makes your first steps towards your exciting career so much steadier!

“The programme in English opens the door for me to study and work all over the world!”

Tamara from Flensburg studies at Sønderborg

Start your career





First job guarantee

Local companies from Southern Denmark and the University of Southern Denmark have joined forces to create a unique *first job guarantee* scheme that offers new graduates 6 months employment, if they have not already landed their first job. The scheme goes into effect for students that start their BEng or MSc of Engineering degree at the Faculty of Engineering at SDU Sønderborg from September 2020.

However, to be eligible for the scheme, three mandatory requirements apply:

- You must collaborate with a company on a project during your studies
- You must complete your degree without delay
- You must acquire Danish language skills equivalent to level B1 on the CERF scale.

You will get in touch with local companies throughout your studies during, e.g., matchmaking events, business lunch and various projects.



LINAK
THE POWER OF A LINE
Are you looking for a meaningful job?

miniBOOSTER
PURE from
E systems

Weight & M
- Wellhead
- Rough N
- High Press
- Cutters &
- Ball Tank
- Torque
- High Press

Matchmaking event 2019

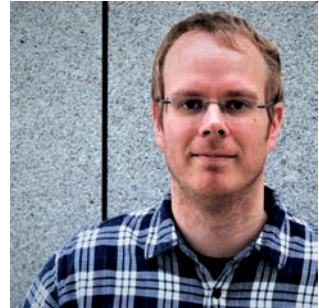
Campus Sønderborg: Study and live by the sea!

Questions and advice

Lars Duggen is Head of Mechatronics

Lars will be happy to answer your questions concerning the course:

duggen@mci.sdu.dk
T +45 65501640



Visit us at SDU in Sønderborg!

Visit us at the **Student for a day event on Sønderborg campus**. You will be greeted by engineering students. They will show you the university, technical facilities, project rooms and talk about student life on campus.

You will be able to sneak into lectures and receive personal course advice.

Just let us know the day when you would like to visit by sending an e-mail to: **engineeringsonderborg@tek.sdu.dk**

Or meet us in February at the **Open Day** event. You will get information on all courses in English at SDU, plus exciting workshops and a city tour.

Further information and registration here: **www.sdu.dk/sto**