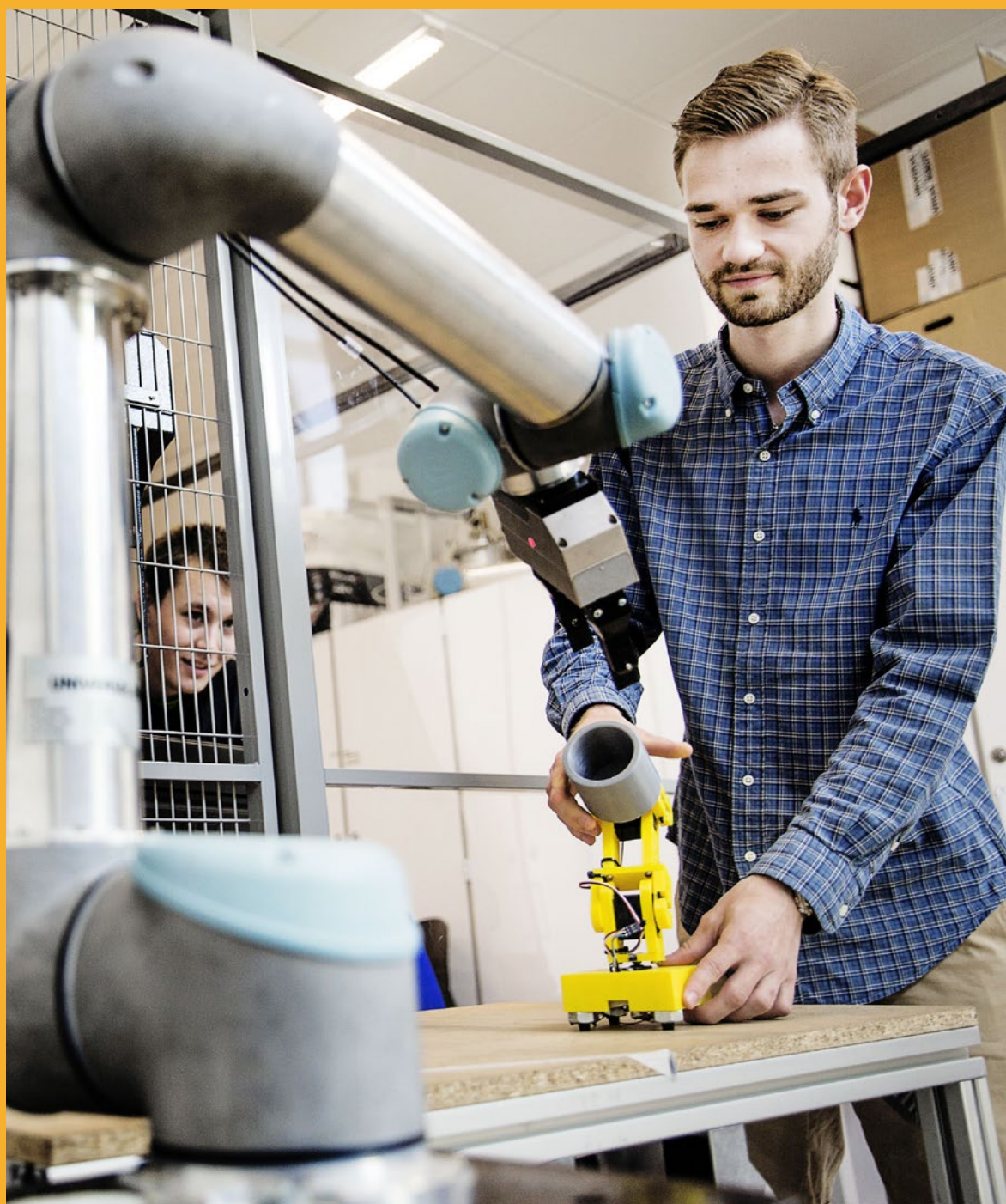
SUMMER SCHOOL

5-16 August 2019

INFO
COURSES
HOW TO APPLY

UNIVERSITY OF SOUTHERN DENMARK



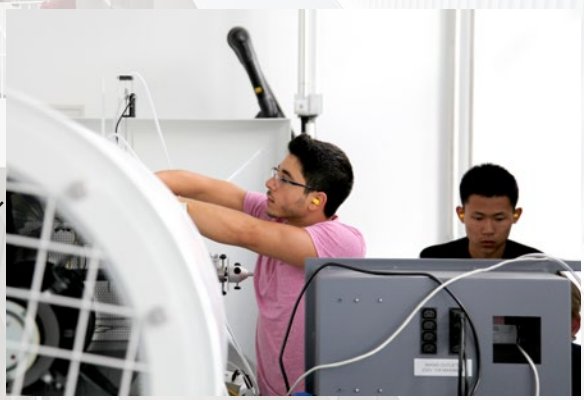
SDU

Summer School courses ranging from Chemical and Design Engineering to Management and Computer Science

Welcome to robot valley

Odense is famous for its state-of-the-art tech facilities. Our robot valley attracts all kinds of companies. At the centre of this high-tech development is SDU with multiple study programmes and extensive research in engineering and science. Our rich student life with cafés, concerts, parks and bike lanes across the city makes it a perfect place to update your technical and science skills – and get to know Danish language and culture.

A campus with state-of-the-art tech



Spend 2 weeks in Denmark's leading robo-tech city: Here you will study in state-of-the-art laboratories and meet our most inventive and skilled professors in a study environment that cooperates closely with relevant innovative companies.

Summer New Friends Culture

CLICK AND READ MORE

Summertime in Odense fills the city with young people. BBQ in the park. Go swimming in the brand new harbour swimming pool. New adventures at a local concert. The entire city bubbling with events in August!

Social life

Your summer school also means weeks of fun, experiencing Scandinavian culture and lifestyle and making new friends.

Festivals

Odense is famous for the annual H.C. Andersen Festival which transforms Odense into a living fairytale with theatre performances, street art, concerts, lightshows, art exhibitions, storytelling, street performances and more. Should you have the opportunity to extend your stay after our Summer School, you will get the chance to join in on some of the festivities.

Meeting fellow students

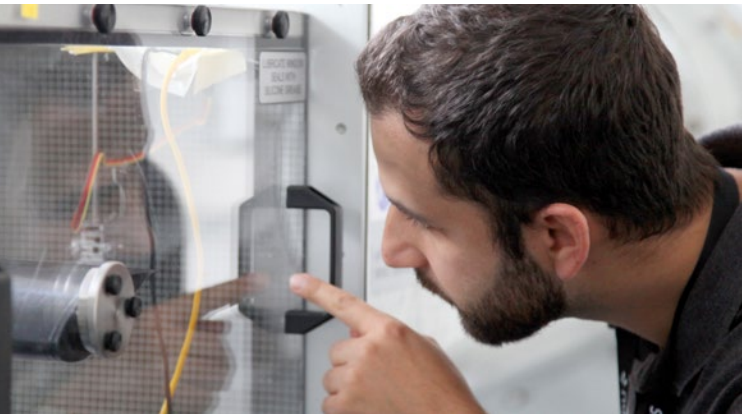
Odense has a student house in the city center. It is open for all students every day – even on Sundays. Here you can hang out, meet other international and Danish students, enjoy the café and bar and throw yourself into all the summer activities and events.

Sightseeing

Odense is home of the famous fairytale-writer Hans Christian Andersen which makes Odense a charming fairytale city. Follow his footprints around Odense to be the main character in your own fairytale.

Pssst: Check out the traffic lights in the city center – they have been 'fairytaled'.

So much tech
So much choice



Hands on

We believe in a hands-on learning philosophy: The more you try yourself, discuss with your professors and develop your own ideas, the better a future employee you will be.

Informal relationships

One of the most noticeable differences for the international students in Odense is the informal relationship between students and professors. This will increase your learning as all questions are welcome.

Work with the industry

Odense is known as the robotics hub of Denmark with more than 100 companies working in the field. Rapidly growing industries are working very closely together with SDU in education, research and development.

Company visits

SDU has close ties to many companies in the region, working together on research and development and student activities. Some courses will include visits to some of these highly interesting companies.

Small groups! Intense learning!

Learning in small groups gives you the opportunity to discuss with your fellow students and ask your professors questions. This makes learning more intense and allows you to experiment with your new knowledge.

International classes

Summer School gives you a unique opportunity to enhance your international profile and improve your network. All courses are taught in English.

Close to everything

The university is close to everything; your accommodation is just around the corner. The city with cafés and shopping and the birthplace of famous Hans Christian Andersen is a nice bus ride away. Beautiful nature is just waiting for you all around.

Where to stay?

CLICK

We have a nice, furnished room for you in Dalum Agricultural College. The college is located in the same part of the city as SDU Campus Odense.
The rent is friendly, and breakfast can be added for a small additional charge.
A perfect way to get close to Danish culture and your fellow Summer School students.
You may even stay a few extra days for free.

5 reasons to stay at Dalum Agricultural College:

- **Free Wi-Fi and a great common room**
- **Friendly rate – spend money on your social life instead**
- **Breakfast can be added for a small additional charge**
- **Great social life with fellow students**
- **Close to the city's cafes and shopping districts**
- **You may even stay a few extra days for free**

Courses

Chemical Engineering
Biomass and biofuel technology

Learn about state-of-the-art biofuel technologies of waste biomass conversion and its smart industrial processes. Understand energy potential of waste biomass and get insight into holistic strategies of biomass utilization through zero-carbon approach for a sustainable CO2 neutral technology.

EARN 5 ECTS

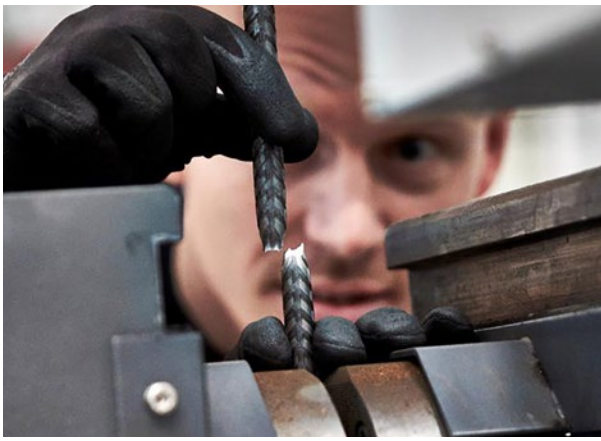
CLICK

Civil and Architectural Engineering
Experimental Architecture with Computational Design and Digital Fabrication

The course will focus on exploring new design ideas and realizing construction artifacts. You will gain knowledge of what kind of tectonic configurations can be enabled by digital fabrication with Additive and Robotic Manufacturing and how we realize high-performance architecture with it. You will also learn how we can build bespoke architecture in a sustainable way.

EARN 5 ECTS

CLICK



Computer Science
3D Graphics Programming

Learn about the principles and methods from mathematics and computer science underlying 3D graphics programming. Methods used in the rendering pipeline of GPUs, and how to programme it using shaders in OpenGL.

EARN 5 ECTS

CLICK

Computer Science
Deep Learning

Learn about the theoretical background and concepts driving deep learning and discuss the most noteworthy applications and their limitations. Apply and implement deep neural networks to solve various machine learning tasks.

EARN 5 ECTS

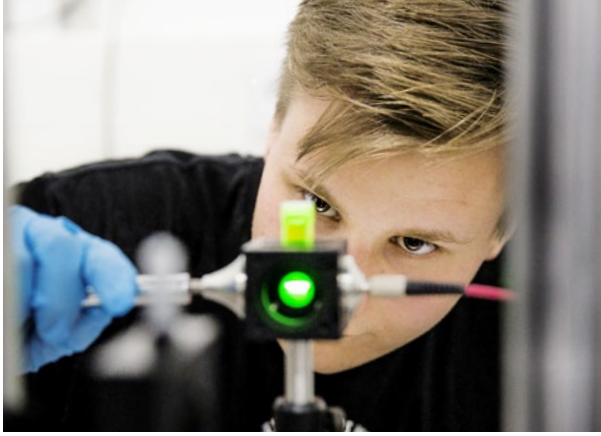
CLICK

Design Engineering
Engineering Imagination

Learn how to rapidly create, design and present products or concepts based on your wildest imagination. A perfect introduction to the worlds of experience design, and creative engineering.

EARN 5 ECTS

CLICK



Electrical Engineering
Modelling and Simulation of Dynamic System

Be prepared for that revolution and join our international summer school course in modelling and simulation of dynamic systems. The objective of the course is to introduce modelling of dynamic systems with focus on electrical and electromechanically systems, and to simulate response under different situations and with different impacts.

EARN 5 ECTS

CLICK

Energy Technology
Complex system modelling & simulation for intelligent energy systems

Learn to understand the basic principles of Object oriented programming and also to analyze and construct program code. You will also gain understanding of the underlying complexity of modern energy systems and modelling them with the right approaches.

EARN 5 ECTS

CLICK

Environmental Engineering
Engineering for Sustainability

Understand the challenges of sustainable development through an introduction to Environmental System Analysis theory, methods and tools. Get insight into the societal frameworks and concepts related to sustainability such as Industrial Ecology, Industrial Symbiosis, Circular Economy and Bio-Economy.

EARN 5 ECTS

CLICK

Innovation and Entrepreneurship
Health Tech Innovator

Learn about the entreprenureal process and skill and get the chance to expand your international network in this course. You will cooperate with students from health and engineering educations on a project defined by you via the real life challenges in the health care system we provide at the beginning of the course.

EARN 5 ECTS

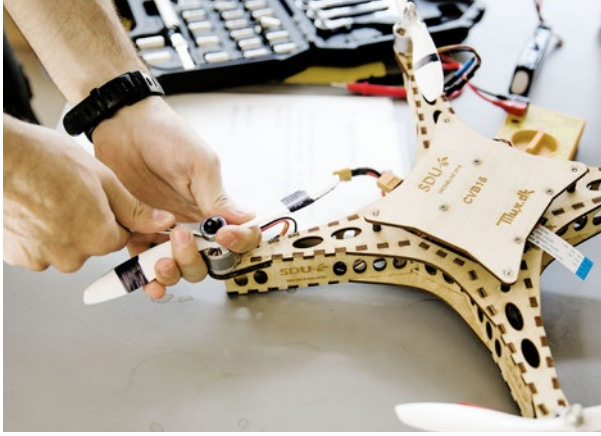
CLICK

Mechanical Engineering
Applied composite drone manufacturing

Make your ideas fly! Build your own composite drone body. The aim of the course is to develop and manufacture your individual composite drone in each team. The teams will get guidance along the way and having the freedom to develop their ideas and manufacture their individual designs.

EARN 5 ECTS

CLICK



Mechanical Engineering
Experimental Fluid Mechanics

Learn methods and techniques for measurement and data analysis in experimental fluid mechanics, e.g. study of aerodynamic in wind tunnels and hydrodynamics in pipes and ducts.

EARN 5 ECTS

CLICK

Engineering Physics
Nonlinear and Quantum Nanophotonics

In this course, students will be introduced to basic topics and concepts of quantum optics in nanophotonic environments, including plasmonic and dielectric nanostructures and 2D materials, as well as to their potential applications in modern quantum technologies.

EARN 5 ECTS

CLICK

Physics
Galactic Dynamics and Dark Matter

This intensive course will introduce you to galactic dynamics and the role played by dark matter. We will develop galactic models and analyze galactic data in order to test the DM hypothesis. We will further look at the dynamics of larger structures like galaxy clusters.

EARN 5 ECTS

CLICK

Manufacturing Engineering
Basic Automation

Get a hands-on experience in basic programming of a robot and a PLC, and learn about the underlying principles of automated production- & assembly lines. Gain insight to Plant simulation and how to manage and implement Automation.

EARN 5 ECTS

CLICK

Project Management
Project Management

You will obtain insight into the project management discipline and its concepts and assumptions, and be able to independently utilize the knowledge obtained to work out a project mandate with matching analyses and plans.

EARN 5 ECTS

CLICK

Robot Systems Engineering
Introduction to Reinforcement Learning for Robotics

Using a wide range of simulation tools and state-of-the-art techniques, you will get hands-on experience on how to solve robotic problems using Reinforcement Learning. The course will cover the underpinning theoretical concepts of reinforcement learning, its potential and limitations. You will have the opportunity to apply these concepts in practical robotic case studies.

EARN 5 ECTS

CLICK

Robot Systems Engineering
Robots in Context

Test robot-related methods on simplified problems, including development of path planning applications for mobile robots and handling uncertainty in the real using for instance Kalman filters.

EARN 5 ECTS

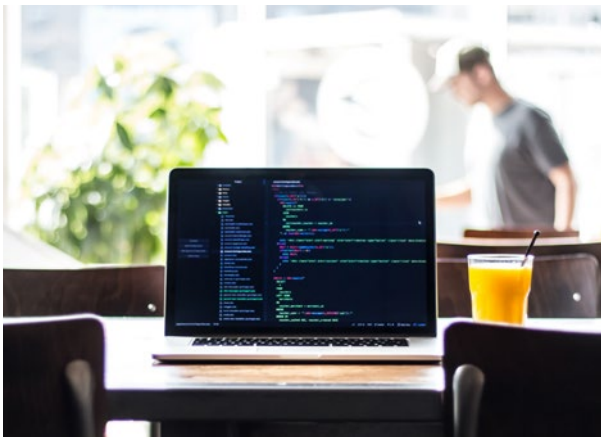
CLICK

Software Engineering
Continuous Delivery and DevOps

You will learn about the developer mind-set and how to use cutting-edge tools in hands-on exercises on the best practices of the modern era of Continuous Delivery and DevOps together with the industry.

EARN 5 ECTS

CLICK



Oh, the choices...

18 scientific and technical courses to choose from. If you want to know more about the courses - check our website or e-mail us. We would love to get in contact with you.

5 reasons to choose Summer School in Odense

1. State-of-the-art facilities and laboratories

2. Hands-on learning philosophy

3. Work closely with inventive industries

4. Earn 5 ECTS

5. Great social life

Free admission

Have a great summer for free – that sounds almost too good to be true!

CLICK AND READ MORE

Exchange students from a partner university pay no tuition. Ask your International Coordinator if your university is a partner university and to nominate you for SDU Summer School.

Guest students pay tuition fees.
For tuition rates and more information please refer to the website or contact us at:
summerschool@sdu.dk

How to get here

Odense is placed in the middle of Denmark on the charming island of Funen.

It is really easy to get here:

By plane:

Two international airports are located just an hour and a half away: One in Copenhagen and one in Billund.

By train:

Travel by train and enjoy the flat Nordic landscape on your way. The train station is located in the middle of the city close to the harbor, shopping, cafes and only 5 km from the university.

By bike:

Yes, Odense is too far away to reach by bike. But when you get here you will realize why Odense is internationally praised for its many bike lanes connecting the city. The locals say you can reach any point in Odense on your bike within 20 minutes.

Want to apply?

Find more info about Summer School in Odense and our courses at:
sdu.dk/summerschool

CLICK AND APPLY NOW!

Facts:

Dates: 5 –16 August 2019
Venue: SDU Campus Odense
Level: Advanced bachelor 5 ECTS
No fees for exchange students

Admission & Practical stuff

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