

**Department of Green Technology
Faculty of Engineering
University of Southern Denmark**

**Your partner in developing
tomorrow's sustainable solutions**



Engineering a sustainable future for all

Through our research, innovation and study programs in chemical engineering, biotechnology or life cycle engineering the Department of Green Technology aims to find solutions for a sustainable future in e.g. energy production, food production and medical applications.

We collaborate with society to create innovative engineering solutions to current problems in society. We do that using our solid background in our core research and study programs that easily integrate other disciplines. This creates a platform for continued learning and development for employees, students, and project and network partners.

We collaborate with the industry and other academic institutions through internships, student projects, networking, research projects etc. This results in continued exchange of experience and knowledge, ensuring that all parties have access to the latest research and development.

Through our focus on developing sustainable solutions and technologies, we are always seeking partnerships to help tackle today's and tomorrow's challenges in contrasting climate change, preserving the environment, providing health and food security.

The Department of Green Technology is involved in research and development of environmentally efficient technologies and sustainable bioproduction systems where the raw material is sustainable and where the product is e.g. energy, food, industrial products, and medical applications.



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The Department of Green Technology is divided into three sections, each with a specific research area

SDU Chemical Engineering

The section for Chemical Engineering develops new technologies and processes to enable sustainable manufacture of chemically based products and environmentally friendly agriculture.

The research groups focus on development and upscaling of chemical and biochemical processes for industrial production, biorefining, mitigation of gas emissions from biological systems, renewable energy storage and conversion, power to X, recovery and recycling of valuable materials including metal catalysts and nutrients.

The research subjects cover industrial microbiology and biochemistry research, protein production and purification, natural product chemistry, membrane separation technology, reactor design, chemical reaction engineering, process synthesis, simulation and optimization, industrial crystallization of organic and inorganic substances, reduction of gas emissions from agriculture, CO₂ capture and conversion, (electro)catalysis and industry oriented material science.

SDU Biotechnology

The section for Biotechnology investigates organisms, natural products, nucleic acids, enzymes and different types of biomass to drive new sustainable applications in medical technology, food and bio-production.

The research groups focus on biological processes and technologies with industrial potential for the study and manufacture of products based on e.g. plants, microorganisms, algae, biomaterials and organic residues. The goal is for the research to form the basis for an environmentally

friendly and sustainable production and development of new, better products and technologies within e.g. medicines, ingredients, food, feed, agriculture and energy.

The research is primarily targeted at bioactive natural substances from plants and algae, biogas technologies and recycling of biological waste from industry and agriculture as well as bioimaging, spectroscopic methods, food technology, microbiology, biomedical materials, production and characterization of enzymes and synthetic biology.

SDU Life Cycle Engineering

The section for Life Cycle Engineering focuses on the environmental aspects of systems in industry, agriculture and societal infrastructures.

The research groups work with the overall product and service systems, as well as the individual company's production system, processes and emissions.

The research is centered around the environment and its ecosystems and the environmental consequences of technology, including climate change. Particular attention is paid to the development of environmentally friendly and resource-efficient solutions for technical systems, products and processes using life cycle analyzes and waste sorting.



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We often collaborate with students in projects and/or internships. For more information, contact us or visit our website:

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The Department of Green Technology is open for collaboration at all levels, from local industry to large international businesses and universities. Contact us if you are interested in joining our mission to develop tomorrow's sustainable solutions and technologies.

Contact

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Learn more about

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SDU Biotechnology
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SDU Life Cycle Engineering
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