



## Process Technology and Sustainability - Bachelor of Engineering -

### IMPORTANCE OF PROCESS TECHNOLOGY AND SUSTAINABILITY

Global issues such as scarcity of drinking water, pollution of the oceans with plastic, climatic change, emission of noxious substances or decreasing natural resources are in the focus of politics, society and the economy already. Companies are increasingly required to make their contribution by developing comprehensive recycling and sustainability strategies to cope with the environmental problems immanent in any form of production. Sustainability and protection of resources have become core elements of modern production processes.

### YOUR PROFESSIONAL ENVIRONMENT

Students of Process Technology and Sustainability will receive a strongly process-oriented education on the basis of engineering and natural sciences. This study course includes new elements and specializations in recycling processes, water management and environmental technology. Future graduates will be able to control and optimize internal recycling and sustainability of processes. They will help to make production more environmental-friendly, more sustainable and less expensive.

Our graduates will find work in industrial enterprises of various branches such as the chemical or pharmaceutical industries, food and packaging, plastics processing, but also in biotechnology, mechanical engineering or in commerce. Focal points can be put on various different areas:

- Waste management and recycling
- Efficiency of resources and material flow management
- Energy efficiency and alternative energies
- Efficient use of raw material
- Water and wastewater treatment
- Air pollution control
- Contaminated sites
- Sustainable processing technology

### PERSONAL REQUIREMENTS

As a prospective student on this course you should be enthusiastic about technology and have a liking for natural science. Moreover, you should be interested in sustainable and resource-efficient processes, and have a high level of social competence.

### HOW THE STUDIES ARE ORGANISED

The Basic Studies Period (semesters 1 and 2) mainly focuses on fundamentals of technology and the natural sciences.

The Advanced Studies Period (semesters 3 to 7) comprises a work placement semester in semester 5, which will be done in a company. Semesters 3 and 4 provide knowledge in the area of process technologies and on special focal points such as effective use of resources in process technology, sustainability, environmental technology, domestic water management and sustainable packaging technology. In semesters 6 and 7 more emphasis is put on sustainable processes with the study modules recycling and waste management, renewable energies and plants and processes of environmental technology. Business and project management and compulsory electives complete your education.

You will cap off your studies with a Bachelor's thesis which can be done either in a company or at the university. Upon successful graduation our University will award the academic degree Bachelor of Engineering (B.Eng.).

### PRACTICE-ORIENTED TRAINING IN COMPANIES

In the work placement semester 5 you will be familiarized with the work of an engineer by hands-on experience in a company covering the issues of your study course.

## LIST OF STUDY MODULES

### Basic Studies Period (Semesters 1 and 2)

- Mathematics
- Chemistry
- Technical Mechanics
- Machine Elements and Design
- Energy Systems
- English level B2
- Physics
- Electrical Engineering
- Materials and Processing Technology
- Sustainable Processes and Technologies

### Main Studies Period (Semesters 3 to 7)

- Mathematics and Simulation of Dynamic Systems
- Informatics
- Sustainable Packaging Technology
- Thermodynamics, Transmission of Heat and Material
- Chemical Process Technology and Microbiology
- Biotechnology
- Thermal Process Technology
- Basics Environmental Technology
- Effective Use of Resources in Process Technology
- Fluid Mechanics
- Domestic Water Management
- Work Placement Semester and Work Placement Seminar
- Renewable Energy Technology
- Systems and Processes of Environmental Engineering
- Project Management
- Recycling and Waste Management
- Metrology and Control Engineering
- Project (5 ECTS)
- Product Life Cycle Engineering
- Business Management
- Compulsory Electives
- Bachelor Thesis and Bachelor Seminar

## CONTACT

### International Relations Coordinators

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## IMPORTANT LINKS

(Information in English on our website)

[www.hs-kempton.de](http://www.hs-kempton.de) > INTERNATIONAL > click English flag (in the top left-hand corner)

[Information for international exchange students](#)  
(> INTERNATIONAL > EXCHANGE STUDENTS / INCOMING)

[Study programmes – short description in English](#)  
(> INTERNATIONAL > DOWNLOADS > Study Programmes)

[Guests and Visitors at Kempten University](#)  
(> INTERNATIONAL > GUESTS AND VISITORS)

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**PLEASE NOTE** that, although this description is written in English, the study course is taught in German.