TU HAMBURG – BACHELOR OF SCIENCE

Chemical and Bioprocess Engineering

Apply now

WHAT DOES A CHEMICAL AND BIOPROCESS ENGINEER DO?

You specifically use the properties of raw materials and develop (bio-catalysts and processes to get new products or to realize more sustainable, energy-saving ways to existing products. Chemical, biological, mechanical and physical principles play an important role.

HOW CAN I SHAPE THE FUTURE AS A CHEMICAL AND BIOPROCESS ENGINEER ?

You are interested in climate and environmental protection? In how carbon dioxide released from fossil combustion processes is used sensibly or how it can best replaced by renewable raw materials? You want to produce vegan food to feed the world population better? Or you are looking for a way to fight diseases with new drugs and vaccines?

The basic human needs for clean drinking water, food, energy and health can only be met with the help of chemical- and biotechnology. They make biology, chemistry and physics usable for the benefit of society by improving the production of food, chemicals, pharmaceuticals, fuels, building materials, metals and plastics on a large scale.

In this way, chemical and bioengi neering also bears a great responsibility for a resource-conserving- and climate-friendly society. Only through efficient material con version processes with extensive recycling possibilities it is possible to achieve a circular economy with a minimal ecological footprint.

WHAT DO I LEARN ON THE COURSE AND WHERE DO I LATER FIND A JOB?

You have the opportunity to work in small teams. During various internships you can gain first impressions of scientific research on (bio-) process engineering plants and a paratus in the laboratory.

In addition to the scientific and technical basics, you will learn a lot about the various methods and equipment to understand and calculate man facturing processes and (bio)chemical reactions. Chemical and bioengineers are needed everywhere. They are involved in all development steps of a product. Accordingly, processes and plants for the manufacture of products are also developed, designed and built by them.

HOW IS THE PROGRAM STRUCTURED?

During your studies, you will learn the fundamentals of the natural sciences (chemistry, biology, physics, mathematics), engineering (mechanics, measurement technology, construction) and process technology (thermodynamics, heat and mass transfer). In the fourth semester, you can specialize in chemical engineering or bioengineering.

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Chemical and bioengineering at a glance

STUDIES:
6 SEMESTER FULL-TIME
DEGREE: BACHELOR OF SCIENCE (B.SC.)

Chemical and bioengineering is the right study program for you if you are curious and eager to experiment and contribute to a better world. You are aware that this can only be achieved if raw materials and energies are converted into our everyday products like for medicines, food, cosmetics, plastics, building materials or fuels in the most resource- and climate-friendly way possible.

You are interested in chemistry, biology, physics, mathematics and computer science and you are looking forward to being part of an interdisciplinary team. You want to achieve a degree with which you can competently support high-performance teams of engineers and lead them to success.

Links: → Studiengangsinfo

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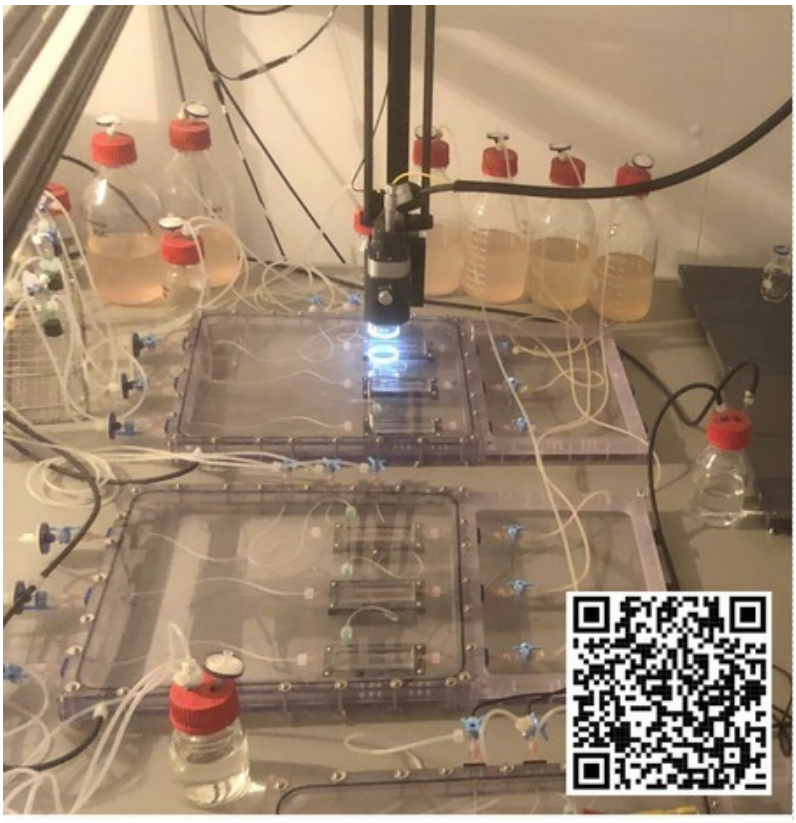
The specialization on bioengineering major focuses on the areas of engineering microbiology, biocatalysis, and bioprocess engineering, and thus methods of biochemistry, genetics, and micro-, molecular-, and cell biology. You will develop biocatalysts and design scalable biotechnological processes, in which the catalysts can be applied biotechnologically.

The chemical engineering specialization enables students to recognize and formulate laws that can be used to plan, calculate, design, build and operate apparatus, machines and entire production plants for environmentally compatible processes.

FURTHER STUDIES ?

These master's programs offer looking for a bachelor's degree in chemical and bioprocess engineering at:

→ Verfahrenstechnik
→ Bioverfahrenstechnik
→ Chemical and Bioprocess Engineering
→ Regenerative Energien
→ Internationales Wirtschaftsingenieurwesen



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