TU HAMBURG – BACHELOR OF SCIENCE

Process Engineering

Apply now

WHAT DO PROCESS ENGINEERS DO?

You make specific use of the properties of raw materials to convert them into new products. You can mix, separate, evaporate or condense flowable substances or trigger reactions, and mechanical, chemical, physical and biological properties play a major role in these processes. Your specific tasks as a process engineer are to:

- Conceptualize processes and procedures
- Design and build processing plant and apparatus
- Optimize and take forward existing processes
- Develop testing and measuring methods and control and regulation systems
- Check and plan process sequences.

Here is an example of research work

HOW CAN I SHAPE THE FUTURE WITH PROCESS ENGINEERING?

Humankind's basic need for clean drinking water, food, energy and health can only be met with the help of process engineering. Process engineering makes biology, chemistry and physics usable for society by facilitating large-scale production of foodstuffs, cosmetics, pharmaceuticals, fuels, construction materials, metals and plastics. So it also bears a great responsibility for a resource-saving and climate-friendly society. A circular economy with a minimal ecological footprint can only be achieved by means of efficient material conversion processes with far-reaching recycling possibilities.

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

You can do a lot of work in small teams. During your measurement technology practical you will gain first impressions of scientific research on process plant and machinery in the lab and at the Technical Center. In the mechanics, fluid mechanics and thermodynamics lectures you learn how forces, energy and substances are transported and converted in processing equipment. Environmental engineering lectures teach you the skills required to design sustainable processes. Process engineers are in demand everywhere. They play a part in every product development step and therefore develop, design and build processes and plant for the manufacture of products.

HOW IS THE PROGRAM STRUCTURED?

The study program breaks down into one third each of scientific basics (chemistry, physics, math), engineering basics (mechanics, design theory, electrical engineering) and process engineering basics (thermodynamics, heat and material transfer). In addition, non-technical subjects such as "Blue Engineering – Aspects of Social and Ecological Responsibility" or "Ethics for Engineers" are a part of the study program.

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Process Engineering at a Glance

DURATION OF STUDY: 6 SEMESTERS, FULL-TIME DEGREE: BACHELOR OF SCIENCE (B.SC.)

Process Engineering is the right study program for you if you are curious and resourceful and keen to contribute to a better world. You realize that will only happen if raw materials and energy sources are converted in the most resource-saving and climate-friendly way possible into, for example, drugs, foodstuffs, cosmetics, plastics, construction materials or fuels. You are interested in chemistry, physics, biology, math and computer science and look forward to joining an interdisciplinary team. What you would like is a degree that will later enable you to competently support high-performing teams of engineers and lead them to success.

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FURTHER STUDIES?

With a B.Sc. in Process Engineering you can go on to study for the following master's degrees:

→ Process Engineering
→ Bioprocess Engineering
→ Chemical and Bioprocess Engineering
→ Joint European Master in Environmental Studies: Cities and Sustainability
→ International Management and Engineering