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Ostbayerische Technische Hochschule
Amberg-Weiden

Information Sheet
Course of Study

Biotechnology & Environmental Process Engineering

General Information
This degree programme is concerned with the application of scientific and engineering principles for the protection of environments and the improvement of environmental quality. It provides the know-how for the development of innovative, environmentally friendly and sustainable technologies. Besides a sound basis in **mathematics, physics and chemistry**, students acquire in-depth knowledge in all aspects of **biotechnology**, **process engineering**, **power engineering** and **environmental analysis**.
Special emphasis is placed on **practical application**: Work placements, practical projects and laboratory experience provide the practical context that complements the taught material. Students benefit from the University's **state-of-the-art laboratories** and gain **hands-on experience** right from the start. Thus, our graduates are well equipped for a career in the field of biotechnology or environmental engineering.

Course of Study
The programme takes **seven semesters** to complete and is divided into different modules which fall into the following groups according to the respective stage of study:

The group **Scientific and Engineering Basics** during **stage one** (semester 1 and 2) is designed to lay the groundwork for the further course of study. It comprises the following modules:

- Mathematics
- Physics
- Basics in Chemistry and Biology
- Materials Science
- Technical Mechanics and Design
- Electrical Engineering and Information Technology

The **second stage of study** focuses on **application-oriented modules**, such as

- Thermodynamics and Fluid Mechanics
- Process Engineering
- Heat Transfer and Chemical Reaction Engineering
- Biotechnology
- Physical Chemistry
- Control Engineering
- Measurement and Sensor Technology
- Basics of Energy Technology

The **third stage** is concerned with **environmental engineering modules** and includes the following topics:

- Organic and Inorganic Environmental Chemistry
- Environmental Analysis
- Water and Waste Water Treatment
- Air Pollution Control
- Waste Management (Soil Pollution Control, etc.)
- Environmentally Friendly Energy Technology
- Production-integrated Environmental Protection

Two additional groups of **interdisciplinary** modules allow sufficient flexibility for further specialisation in **areas of individual interest**. Students can choose from a variety of subjects including the following:

- Business Management
- Environmental Management
- Environmental Law

Hands-on practical experience involves a **pre-study internship of 12 weeks** to be completed prior to the start of study or within the first 4 semesters, as well as a **practical semester** (of at least 22 weeks) in semester 5.

The 7th semester is intended for the completion of the **final research paper** (Bachelor's Thesis) which may also cover research carried out in connection with a practical placement at a company.

The programme leads to a **Bachelor of Engineering degree (B.Eng.)**.

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