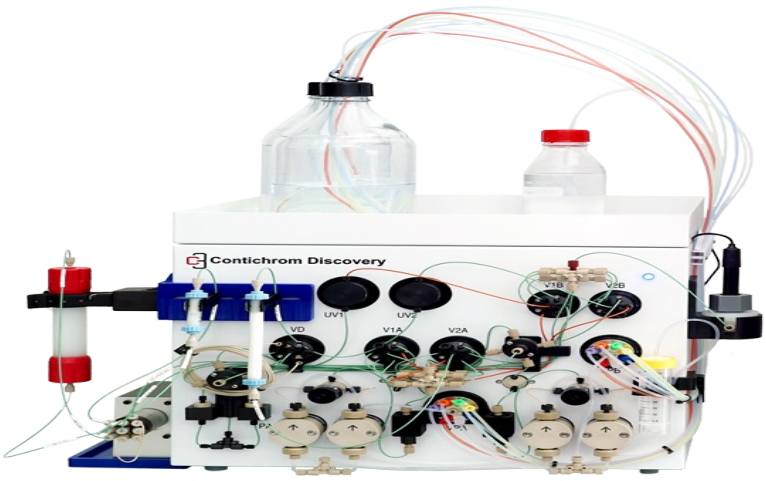
Branch: Chemistry and chemical engineering



Code: PHBITE
Option: Pharmaceutical Bioprocessing Technology
Level: Bachelor
Prerequisites: Scientific baccalaureate or equivalent
Opportunities:
Most students continue their studies after the Bachelor's degree with the consecutive Master's degree in pharmaceutical bioprocess engineering. Graduates find employment in the biotechnology, chemical, cosmetic and pharmaceutical industries as well as in plant engineering. Possible tasks in the subsequent profession could include:

- Monitoring, control, evaluation of biotechnological processes
- Quality assurance
- Planning and design of new plants
- Optimization of manufacturing processes
- Organization of operating technology
- Documentation of plant qualification and validation.

Description
Pharmaceutical Bioprocess Engineering combines the scientific and engineering foundations for biotechnological production in the pharmaceutical industry and related fields

The pharmaceutical bioprocess engineering program combines engineering and natural sciences. For example, this course deals with the structure of micro-organisms that can be used to produce biotechnological products. On the other hand, the technical characteristics of an industrial plant in which several cubic meters of product have to be fermented every day are the subject of this course. Pharmaceutical bioprocess engineering operates in a complex environment with many different requirements:

- Safe genetic engineering methods
- Precise analytical methods to control the process and the product
- Individual adaptation of the fermentation and purification process to the organisms and products used
- Well thought-out design of the production facilities
- Consistent application of quality assurance methods in the pharmaceutical industry
- Further processing of a biotechnological active ingredient into a pharmaceutical product

Quality and competences:

Graduates of the Pharmaceutical Bioprocess Engineering degree program are able to:

- Plan biotechnology production plants
- Produce biotechnological products, e.g. drugs
- Pharmaceuticals, according to legal and hygienic requirements
- Monitor production processes and organize them according to quality management methods
- Analyze and evaluate biotechnological products
- Produce common dosage forms such as tablets and injections
- Work safely and scientifically in the laboratory.