Course: Bioprocess Engineering — credits: 5

Course code	CTVH25BIOPEN
Name	Bioprocess Engineering
Study year	2025-2026
ECTS credits	5
Language	English
Coordinator	F. Faber
Modes of delivery	Assignment Lecture
Assessments	Bioprocess Engineering - Written, organised by STAD examinations Practical assignment - Other assessment

Learning outcomes

- You can apply knowledge of the various biochemical pathways to estimate feasibility of biological production processes.
- You can use the model-based concept of microbial growth to calculate the limiting use of nutrients and the formation of biomass and product in batch and continuous bioreactors.
- You can make a delineation of the anaerobic production of biomass and calculate biogas yield as a function of various process parameters.
- You can calculate biomass production rates of photosynthesis.
- You can rank the applicability of the various types of bioreactors (for example: bubble column, packed bed, stirred tank) for a given biochemical production process.
- You can carry out and evaluate an experiment for the production of bio-ethanol from different feedstocks.

Content

Goal of this module is development of competences in the field of Bioprocess Engineering.

DAS competences

Competence	**Level (I-IV)**
Research	II
Experimenting	II
Development	II
Administration	
Instructing	I
Advising	I
Leadership / Project Management*	I/II*
Autonomy	II

*: level II Project Management to be implemented in 26/27

Included in programme(s)

LST Exchange Minor Renewable Energy, Materials & Processing
Minor Renewable Energy, Materials & Processing

School(s)

Institute for Life Science & Technology

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