



8 Päätösasia/Decision item: Master's Programme in Biotechnology: muutokset ohjelman osaamistavoitteisiin / Master's Programme in Biotechnology: alterations in programme level intended learning outcomes (Pauliina Ketola)

Perustelut/Justification

Kemian tekniikan korkeakoulun akateeminen komitea hyväksyi neljän uuden maisterikoulutusohjelman ohjelmaston osaamistavoitteet kokouksessaan 2/2023.

Vastuuprofessorin vaihdoksen myötä on noussut tarve tarkastella ja sanoittaa Master's Programme in Biotechnology -maisterikoulutusohjelman osaamistavoitteita uudelleen.

Kemian tekniikan korkeakoulun koulutusneuvosto on kokouksessaan 12.12.2023 keskustellut muutoksista ohjelman osaamistavoitteissa ja tehnyt akateemiselle komitealle esityksen (liite 5).

Academic Committee for Chemical Engineering confirmed programme level intended learning outcomes for four new master programmes in its meeting 2/2023.

Responsible professor of the Master's Programme in Biotechnology has changed. Thus, there is a need to revise the intended learning outcomes of the programme.

The Degree Programme Committee of the School of Chemical Engineering has discussed the alterations in the intended learning outcomes of the programme in its meeting 12 December 2023 and has provided the Academic Committee with a proposal (attachment 5).

Liitteet/Appendices

Liite/attachment 5: Biotechnology: osaamistavoitteet / intended learning outcomes

Päätösesitys/Decision proposal

Vahvistetaan Master's Programme in Biotechnology -maisterikoulutusohjelman osaamistavoitteet Koulutusneuvoston esityksen mukaisesti (liite 5).

Intended learning outcomes in the Master's programme in Biotechnology will be confirmed according to the proposal by the Degree Programme Committee (attachment 5).



Aalto-yliopisto
Aalto-universitetet
Aalto University

Kemian tekniikan akateeminen komitea
Academic Committee for Chemical Engineering

Pöytäkirja/Minutes

Kokous/Meeting 7/2023

Aika/Time: 19.12.2023 klo/at 13:00

Paikka/Venue: A303

Julkinen

Päätös/Decision

Päätettiin esityksen (liite 5) mukaisesti. / *The motion was passed as proposed (attachment 5).*

KTAK 7/2023, liite/attachment 5

Biotechnology: ILO's

A graduate is able to:

- Evaluate and explain the impact and potential of biotechnology for society and industry
- ~~Describe~~Explore the molecular ~~basis~~bases of living systems ~~and devise them~~ in the context of biotechnology
- Apply experimental and computational methods to analyze problems in a systematic manner and ideate and implement biotechnology-based solutions that support sustainable development
- Devise genetic engineering strategies to modify proteins, metabolic pathways and cellular functions leading to improved ~~productivity~~performance or to novel or improved products
- ~~Describe~~Set up the bioreactor environment and ~~explain how it influences~~verify its influence on cells ~~or~~, enzymes, ~~or other biological systems~~ and thereby the ~~bio~~process ~~application~~ outcome
- Differentiate the suitability of different raw materials and recommend the most suitable bioprocessing approach
- Apply mechanistic and data-driven ~~modelling~~ approaches to ~~predict~~model biological and biophysical phenomena
- Design, execute, and report on a scientific or research and development project to address academic, industrial, and societal problems.
- ~~Capability~~Have ~~capability~~ and perseverance for acting in an environment of risks and uncertainty.
- Engage in scientific discussions in fields of science, engineering and technology and communicate the findings in oral and written form
- Follow development of ~~{one's}~~ field and acquire and process new scientific, technological, and societal information
- Act and communicate as an expert in multidisciplinary teams on multi-dimensional problems, and being able to reflect, present and justify decision making in such teams

Commented [JP1]: Revised for higher level verbs in Bloom's taxonomy for this central substance in the program.

Commented [JP2]: Productivity is only one of the measures important in industrial biotechnology processes.

Commented [JP3]: Revised for higher level verbs in Bloom's taxonomy for this central substance in the program.

Commented [JP4]: Not all models useful in the field are predictive.