



Course syllabus

Faculty of Technology

Department of Built Environment and Energy Technology

4BT305 Biokemisk konvertering med miljöbioteknik, 7,5
högskolepoäng

Biochemical Conversion with Environmental Biotechnology, 7.5
credits

Main field of study

Bioenergy Technology, Energy Technology

Subject Group

Bio Engineering

Level of classification

Second Level

Progression

A1F

Date of Ratification

Approved by Faculty of Technology 2015-04-14

The course syllabus is valid from spring semester 2016

Prerequisites

Basic eligibility for advanced-level studies and special eligibility: Bachelor's degree in engineering or science faculty, or Bachelor of Science degree. At least 15 credits in chemistry / chemical engineering and one credits in the course 4BT303 Introduction to Conversion Process in Biofuel Production or equivalent.

English B/ English 6

Objectives

After completing the course the student should:

- be familiar with a few different ways to convert biological material into fuel
- propose technical solutions, process design, process control and process for the production of biofuels and storage of biomass material intended for this purpose,
- identify, analyze and manage the microbial community linked to biological and chemical degradation and conversion of biomass into biofuel and purification of process fluids (water and air)
- plan for the evaluation of a substrate potential for use in an existing biogas process.

Content

The course covers the following topics:

- Microbial processes; storage, digestion, treatment and energy conversion
- Dimensioning of biological processes for treatment and energy conversion
- Biological degradation and conversion of different substrates

- Biological degradation and conversion of different substrates,
- biochemical pathways – process possibilities and limitations,
- Design of process solutions and technology to control microbiological Processes
- Process steering and control

Type of Instruction

The course consists of lectures, practical sessions and seminars.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

The examination consists of a written report / s and examination.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Required reading