

Syllabus

TN0033.1 Biogas and Liquid Biofuels, 7.5 credits

Biogas och flytande biobränslen

The course is given as course independent of study programme

Syllabus discontinued 7 December 2010

Version 1 in Slukurs. Corresponds to version 1 in Ladok

Syllabus approved

26 May 1997

The version applies to students admitted from autumn 1999 to autumn 2011

The version is not a module version

Subjects

Technology

Education cycle

First cycle

Modules

Title	Code	Credits
Single module	0101	7.5

Advanced study in the main field

Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

Swedish

Prior knowledge

The equivalent of: 5 Swedish University Credits (SUC) of intermediate (B-level) courses in Solid biofuels; and 10 SUC of basic (A-level) courses in Chemistry for foresters; and 5 SUC of basic courses in Combustion chemistry; or the following courses from the Energy engineer programme at the University of Umeå, 10 SUC of basic courses in Solid biofuels; and 5 SUC of basic courses in Chemistry; and 5 SUC of basic courses in Combustion chemistry.

Objectives

The course will give the students basic knowledge of production and use of biogas and liquid biofuels. Having completed the course the students will have:

- good knowledge of raw materials and processes for production of biogas and liquid biofuels
- good knowledge of handling and use of biogas and liquid biofuels
- good knowledge of environmental aspects concerning production and use of biogas and liquid biofuels.
- knowledge of economic aspects concerning production and use of biogas and liquid biofuels.

Content

The course starts with basic chemical concepts concerning biochemical conversion/fermentation, vegetable oils, and esterification through hydrolysis. Further, different processes and properties of raw materials used for the production of biogas and liquid biofuels are discussed thoroughly together with handling and areas of use. Finally, the economic requirements for production and use of biogas and liquid biofuels are considered.

Implementation

Lectures ca 40 h

Exercises ca 30 h (compulsory)

Study tours ca 20 h (compulsory)

Laboratory work ca 10 h (compulsory)

Examination

Requirements for examination

Written examination and report of laboratory work.

Approved written examination, reports and participation in compulsory parts of the course.

- If the student fails a test, the examiner may give the student a supplementary assignment, provided this is possible and there is reason to do so.
- If the student has been granted special educational support because of a disability, the examiner has the right to offer the student an adapted test, or provide an alternative assessment.
- If changes are made to this course syllabus, or if the course is closed, SLU shall decide on transitional rules for examination of students admitted under this syllabus but who have not yet passed the course.
- For the examination of a degree project (independent project), the examiner may also allow the student to add supplemental information after the deadline. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Additional information

The course is planned for 25 students and is part of an educational co-operation between SLU and University of Umeå within bioenergy. According to agreement, the distribution of students to the course is 70 % from the Energy engineer programme (UmU) and 30 % from the Forester programme (SLU).

- The right to take part in teaching and/or supervision only applies to the course date to which the student has been admitted and registered on.
- If there are special reasons, the student may take part in course components that require compulsory attendance at a later date. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Responsible department

Department of Forest Biomaterials and Technology

Supplementary Information

Finalized by: Programnämnden för skogsvetarprogrammet