

Biogas Solutions, 6.0 credits

Biogaslösningar, 6.0 hp

Third-cycle education course

6FIEI09

Department of Management and Engineering

Valid from: Second half-year 2025

Approved by
Head of Department

Approved
2019-04-12

Revised by
Head of Department

Revised
2023-08-25
2025-06-11

Registration number
IEI-2023-00416; IEI-2025-00349

Entry requirements

Registration as PhD student. PhD students at IEI are prioritized.

Specific information

This is a translation of the decided syllabus in Swedish. In case of any differences the Swedish version stands.

Learning outcomes

This course aims to broaden the understanding of biogas solutions by including process technology as well as systems perspective, societal effects and requisites for implementation.

Upon successful completion of the course, the participants are expected to be able to:

- Describe the biochemical processes of anaerobic digestion
- Describe and analyze existing and future biogas and digestate production concepts
- Explain and analyze the implications of choice of feedstock
- Describe uses and business development of biogas and digestate
- Critically analyze well-to-wheel assessments and other system studies of biogas solutions
- Discuss the role biogas solutions can play within a sustainable bioeconomy
- Reflect upon the role of public and private actors in the development of biogas solutions
- Reflect upon the role of national and EU policy as development factors for biogas solutions
- Apply gained knowledge in a transdisciplinary project on regional biogas strategies

Contents

Topics will include:

- Basic facts on biogas solutions
- Biogas solutions – effects and implementations
- Business development of biogas solutions – the role of policy, business structure and market development
- Production of biogas and digestate – process, concepts and feedstock
- Biogas solutions from a systems perspective
- Biogas solutions and its present and future role in society

Educational methods

The course includes lectures, seminars, workshops, and project work.

Examination

Evaluation will be based on learners' active participation and performance in seminars and workshops (3 hp) and on the quality of their project report (3 hp).

Grading

Two-grade scale

Course literature

Details of required/recommended reading will be presented at the start of the course.

General information

The course considers equal conditions and aims to utilize the resources that students with diverse backgrounds, life situations, and competencies bring to the education.

The reading list and schedule are determined elsewhere.

Course evaluations will be conducted by the course responsible after each course round. The results of the course evaluation will be communicated to the participants for this course round and future course rounds, as well as to the Research Education Council at IEI.