



## Course syllabus

Faculty of Technology

Department of Built Environment and Energy Technology

4BT310 Vetenskaplig teori och metod, 7,5 högskolepoäng

Scientific Theories and Methods, 7.5 credits

### **Main field of study**

Bioenergy Technology

### **Subject Group**

Energy Technology

### **Level of classification**

Second Level

### **Progression**

A1N

### **Date of Ratification**

Approved by Faculty of Technology 2017-05-22

The course syllabus is valid from spring semester 2018

### **Prerequisites**

English B. Basic eligibility for advanced level studies. 90 credits in a technical focus such as energy or chemical engineering or equivalent

## Objectives

After the course the student is expected to:

- comprehensively explain the purpose of basic scientific concepts
- search for relevant information and literature
- identify, formulate and describe the scientific issues
- motivate by reflecting on the choice of alternative approaches for research
- comprehensively describe, compare and explain the pros and cons of different scientific methods to collect quantitative and qualitative data
- apply basic scientific methods to analyze quantitative and qualitative data
- explain different frameworks for theory building
- assess and review scientific publications within the field of bioenergy.

## Content

The course covers the following topics:

- Investigation of epistemological and methodological approaches in technical science
- Collection of scientific literature
- Structuring and writing scientific articles of international standards for scientific publishing
- Presentation and discussion of relevant scientific issues in technical science

## Type of Instruction

The course consists of lectures 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).

Examination takes place through written and oral presentations. Students who do not pass the regular examination arranged renewed examination shortly after the regular sample.

## 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.

## Credit Overlap

The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: 4TS011/4BY363

## 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**

Material provided by the department. Scientific papers depending on orientation.