

Dissertation in Engineering Energy, 15 credits

Examensarbete inom energiteknik, 15 hp

Second level

Main field: Energy Engineering AIE

Syllabus is adopted by the Research and Education Board (2015-02-24) and is valid for students admitted for the spring semester 2015.

Placement in the Academic System

The course is included in Master's Programme in Renewable Energy Systems

Prerequisites and Conditions of Admission

90 credits Energy Technology or the equivalent including Scientific Methods Oriented Towards Natural Sciences 7.5 credits.

Course Objectives

This course will provide in-depth knowledge of research in energy technologies, as well as familiarity with independent planning, execution and reporting of research or development within the field.

Following successful completion of the course the student should:

Knowledge and Understanding

- Demonstrate knowledge and understanding for the energy field, including an overview of the field and deeper knowledge of certain parts of the field and insight into current research and development
- Demonstrate deeper methodological knowledge in major field of study

Skills and Ability

- Carry out an analysis of any part of the energy sector
- Both written and orally present reports and results, demonstrate the ability to discuss ones conclusions, the knowledge and arguments behind them, in dialogue with different groups
- Independent identify and formulate problems and with adequate method plan and carry out qualified assignments within given time frames
- Demonstrate the skills that are required to participate in research and development or to work in other qualified areas

Judgement and Approach

- Demonstrate insight into the possibilities and limitations of science, its role in society and the responsibility for how it is used
- Demonstrate the ability to identify their need of further knowledge and to take responsibility for its development.
- Demonstrate ability in the main field of study to make judgments with respect to scientific, social and ethical aspects, and demonstrate an awareness of the ethical aspects of research and development

Primary Contents

Thesis work will be focused in the energy field, depending on the individual student's interest. It may, for example be in wind energy, district heating or other areas. The work can be carried out at the university or in private energy companies or public services.

Teaching Formats

The thesis work will be performed individually. To all student groups will be appointed at least one supervisor and an examiner from the university

In addition one supervisor at a company can also be used, after acceptance from the examiner

The thesis work consists of independently planning, implementation and reporting of research or development. The work will be a specialization within the field of energy technology. The thesis work must be a link between the survey, design and numerical exploratory and evaluative methods.

Finally, the work must be reported. Instructions takes the form of several workshops with tutorials and even individual instructions. At the seminars and the presentation of the final report the students are expected to actively participate with questions and arguments in discussions. Instruction is in English, the master thesis report must be written in English.

Examination

The overall grades of Fail, 3, 4 or 5 will be awarded for the course.

Assessment takes place through evaluation of work implementation, mandatory elements such as written final report and oral presentation at a seminar. Grading criteria apply and are described in a special document that are distributed when the course starts.

Course Evaluation

Course evaluation is part of the course. This evaluation should offer guidance in the future development and planning of the course. Course evaluations should be documented and made available to the students.

Course Literature

Harrad, S. m. Others. Student Project in Environmental Science, Wiley 2008

Scientific articles and supplementary literature depending on the work and direction.