Halmstad University
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School of Business, Engineering and Science

Master's Programme (60 credits) in Renewable Energy Systems, 60 credits

Magisterprogram i energiteknik - förnybar energi, 60 hp

Study programme is approved by the Academic Board of the School of Business, Engineering and Science (2015-03-04), but is not yet adopted. Refers to autumn 2015.

Degree Programme Objectives

The objective of the master's program is to provide an additional and in-depth training to the university's basic training in the energy courses. The program is useful both for students and professionals.

The courses includes parts with advanced modern methods, such as computer based simulation methods suitable for working with the development and use of new technologies for renewable energy but also as a start for further graduate studies in the energy sector. Energy is by nature a cross-border scientific field and there are links to our university's other educational and research fields such as environmental engineering, mechanical engineering, electrical engineering and economics.

Following successful completing of the program, the student will be able to:

Knowledge and Understanding

- have a detailed understanding of the complex processes used in modern and current energy technologies and how they can be used.
- have a comprehensive knowledge of the environmental impacts of different energy sources and their advantages and disadvantages in a global perspective.

Skills and Ability

- propose and design appropriate energy sources for different needs.
- evaluate and analyze the impact of selected energy sources.
- conduct advanced investigations in the energy field.
- to use scientific methods.

Judgments and approach

- evaluate and assess energy and technical processes on a scientific basis .

Degree Programme Primary Contents and Planning

The Master's program is a one-year supplementary program on advanced level and comprise of 60 credits within the main field of study – Energy Engineering. All courses on the program are eligible, except Scientific method oriented towards natural sciences and the Dissertation that are compulsory.

For example an appropriate course package can be chosen from the courses below (all within the main field Energy engineering and at advanced level):

Design of Wind Energy Plants 7.5 credits
Calculations of Electrical and Magnetic Fields 7.5 credits
Electrical Distribution Systems 7.5 credits
Exergy 7.5 credits.
Advanced Course in District Heating Technology 7.5 credits

Compulsory courses:
Scientific Methods Oriented Towards Natural Sciences 7.5 credits
Dissertation in Enerineering Energy 7.5 credits

For a degree in Energy Engineering at least 45 credits must be at the advanced level within the main field of study, with a minimum of 15 credits that have to be a dissertation. First level courses may be included only in the case when such a course is needed for the student to be able to take another course in the program, and of no more than 15 credits.

Prerequisites and Conditions of Admission

Bachelor of Science with a major in Energy Engineering or Bachelor of Science in Engineering Energy Engineering.

Applicants must also have written and verbal command of the English language equivalent to English course B (Swedish Upper-Secondary School). This can be proved by grades from English education or by such tests as:

- IELTS: score (Academic) of 6.5 or more (with none of the sections scoring less than 5.5)
- TOEFL paper based: score of 4.5 in written test and a total score of 575

- TOEFL internet-based: score of 20 in written test and a total score of 90

Degree Title

Following successfull completion of the degree, a degree certificate will be issued with the title Deegree of Master of Science (60 credits) with a major in Energy Engineering.

Requirements for Progression to Higher Levels within the Degree Programme

To be accepted to the next course/level within the program the prerequisites in respective syllabus must be fulfilled. To be accepted to the Dissertation the student must have passed 30 credits.

Appendices

In addition to the syllabus there is also Appendix 1 which shows the sequential order of the programme's subcomponent courses. In cases where the programme leads to the award of a degree, there is also Appendix 2 which states which courses fulfill nationally-established degree objectives.

These appendices can be obtained from the School of Business, Engineering and Science.