HÖGSKOLAN I GÄVLE

Degree project for a Master of Science with major in Energy Systems 15 cr

Examensarbete för magisterexamen inom Energisystem 15 hp

Set by Faculty of Engineering and Sustainable Development

Version	**Set at**	**Valid from**
	10/15/14	**VT2016**

Level	A1E
Education level	Second cycle
Course identifier	ETA700
Credits	15 cr
Main field of study	Energy Systems
Subject group	Energy Technology
Disciplinary domain	Technology 100.0 %

Learning outcomes After completion of the course the student shall be able to

Knowledge and understanding
1. present fundamental concepts and definitions in energy systems
2. demonstrate in-depth knowledge in the field of energy systems
3. present and demonstrate understanding of current research and development work in the field of energy systems that are necessary for the implementation of the project
4. demonstrate insight into possibilities to seek new knowledge
5. present and demonstrate methodology understanding in energy systems

Competence and skills
6. autonomously discuss energy systems with external and/or internal clients
7. autonomously identify, define and methodically plan an own project as well as, using appropriate methods, undertake the same within predetermined time frames
8. through studies of publications of the current research and development work and other advanced literature, acquire new skills necessary for the implementation of the project
9. scientifically apply the knowledge gathered through the program's courses and new

knowledge gathered through literature studies
10. in speech and writing report their project work and discuss their conclusions and the knowledge and arguments on which they are based
11. critically review the work of others

Judgement and approach
12. demonstrate awareness of ethical aspects of research and development work
13. demonstrate insight into the possibilities and limitations of science, its role in society, and people's responsibility for how it is used

Course content

Find a suitable project within the main topic
Discuss with clients and supervisors about the appropriate content in the project
Define and methodically plan the project
Literature studies for knowledge deepening and studying of new areas
Communicate the project and its results both in speech and writing
Take part of other people's works and discuss these in group
Presentation of the completed work before the project's external clients

Teaching

Supervision and self-study

Prerequisites

Completed studies of at least 30 credits within the Master Program in Energy Systems or equivalent. Courses relevant to thesis work should be completed.

Examination

Written report, oral presentation, opposition of another's work, and participation in the oral presentation of two other thesis works

Grade

A, B, C, D, E, Fx, F

Limitations

For degree project work performed in industry or equivalent, rights to e.g. patents and ownership have to be stated in a written agreement before starting the work. After examination and approval of the examiner, the thesis is official and treated as a public document. The degree of publicity may be limited partly or totally by means of an agreement of confidentiality. Such an agreement of confidentiality is made with the University of Gävle, normally at the time when the project is formulated. However, a minimum requirement is that the official part of the thesis consists of an abstract in either Swedish or English.

Other regulations

The report is written either in Swedish or English. If the work is confidential, the thesis has to be presented in two versions. One complete version is presented to the examiner and supervisors, and another version to the public where confidential parts are omitted.

The thesis is defended publicly in a seminar. For approval, the student must also act as an opponent of another thesis and be present at the presentation of at least another two thesis works. These activities are noted in a personal examination record (the Examination Book) by the examiner in duty.

Sustainable environment

The majority of the course content deals with sustainable development..

Module

0010	Written report and oral presentation	14 cr	Grade: AF
0020	Opposition of other work	0.5 cr	Grade: UG
0030	Participation in presentation of two other thesis works	0.5 cr	Grade: UG