



Utbildningsplan

En tillgänglighetsanpassad version av utbildningsplanen finns i Kurs- och programkatalogen.

Masterprogram, hållbar energiteknik 120 hp

Master's Programme, Sustainable Energy Engineering, 120 credits

Gäller för antagna till utbildningen fr o m HT09.

Utbildningens mål

Beyond the objectives which are specified in the Higher Education Degree Ordinance, there are also specific goals for this programme. After completing the programme, the student should:

Kunskap och förståelse

Knowledge and understanding

- Have a broad, scientific foundation to be able to work within the energy engineering area. It should comprise knowledge about sustainable systems, energy sources and usage, and judgements of technical, economical, and environmentally-related consequences related to different energy re-usage processes.
- Show broad knowledge within this technical area, including knowledge in mathematics and natural science, and essentially deepened knowledge within certain parts of the area.

Färdigheter och förmågor

- Show a good ability to, independently as well as in a group, be able to apply knowledge and abilities in practical activities with regards to relevant scientific professional and social judgements and viewpoints.
- Show a good ability to analyse, formulate, and handle technical problems from a system perspective, with an overview on their life-cycle, from idea/need to specification, development, maintenance and termination, and the ability to set conditions, decide necessary resource consumption and manage processes for problem solving and realisation.
- Possess individual and professional skills like languages, leadership, project management, and communication for work as an engineer in a leadership role or as a leader in a technical intensive company, or in order to be able to continue toward a research career.

Värderingsförmåga och förhållningssätt

- Have especially good understanding that engineering-related problems are often complex, can be incompletely defined and sometimes contain conflicting conditions.
- Be aware of the responsibility and the ethical viewpoints which can arise in connection with different technical, organisational, economical, ecological and social activities.

Reference to the local degree ordinance of the Royal Institute of Technology (The KTH-Handbook).

Utbildningens omfattning och innehåll

The programme consists of 120 higher education credits which correspond to two years full time studies. The programme is mainly on the second level.

Possible specialisation areas for Sustainable Energy Engineering:

- Energy usage
- Power Production
- Nuclear Power Technology
- Solar Energy

The language of instruction for the programme is English.

Behörighet och urval

In order to be eligible to apply to the master's programme, a relevant higher education degree of at least 180 higher education credits, degree of bachelor in science and engineering or technical bachelor's degree preferably within Machine Engineering or Chemical Engineering is required. Other corresponding technical or natural scientific degrees on the first level can also give eligibility, providing that courses in technical thermodynamics, heat transference and technical Electro-mechanics are included. Other studies or work experiences are judged on the basis of the actual competencies which are referred to.

The selection to the programme is based on the evaluation of the following criteria: university/higher education institute, grades, courses relevance for the programme, suggestion to the degree project, recommendation letters, work experience and references.

The reference to KTH's admission policy can be found in the KTH-Handbook.

Utbildningens genomförande

Utbildningens upplägg

The programme begins with a common course packet which gives a solid base for the four specialisations – Power Production, Energy Usage, Nuclear Power Safety, and Solar Energy – which is given mainly during the second term. The third term consists of extended studies within the energy area with a research preparation perspective. The programme is concluded with a degree project during the last term.

Study years, terms, and study period descriptions can be found in the KTH-Handbook.

Kurser

Utbildningen sker i kursform. Kurslistor finns i bilaga 1.

Betygssystem

För kurser på KTH används en sjugradig målrelaterad betygsskala A-F som slutbetyg för kurser på grundnivå och avancerad nivå. A-E är godkända betyg med A som högsta betyg. Betygen godkänd (P) och underkänd (F) används som slutbetyg då särskilda skäl föreligger.

Villkor för deltagande i utbildningen

Term Enrolment

A condition in order to be able to participate in the studies is that the student must enrol for the next term every spring and fall. This is done via “Mina Sidor” on KTH’s website between November 1st and 15th and between May 1st and 15th.

With the enrolment, the student has submitted their intention of studying and participating in the programme. Only after that is it possible for the student to:

- register for courses
- register for the term
- get results

Course Selection

Certain opportunities to take optional courses exist. The selection is done on “Mina Sidor” on KTH’s website in the same manner as the term enrolment.

Conditions for participation in the programme

For studies in study year 2:

At least 45 higher education credits from study year 1 must be completed by the exam period in August. Students which have not fulfilled this requirement must consult with the study counsellor and set up an individual study plan. The main goal with the study plan is that the student should complete the remaining elements during the next study year. In the study plan, the remaining elements and also suitable courses from the next study year are included. Special regard should be taken to the courses’ prerequisites.

Specialisation Selection

The selection of specialisation is carried out in the form of the course selection before the second term starts. There is no limitation to the number of places available.

Tillgodoräknanden

The student has the possibility to apply to receive credit from courses taken at another university /higher education institution both in Sweden and from abroad. The application can be found on KTH’s website.

KTH’s policy for recognition of previous academic studies can be found entirely in the KTH-Handbook.

Utlandsstudier

Students in this programme have no possibility to study abroad.

Examensarbete

KTH's rules for the degree project for the Master's degree with specialisation can be found in the KTHHandbook.

Generally, the degree project work can be started only after a large portion of the studies have been completed.

KTH's rules for the degree project can be found in the KTH-Handbook

KTH-Handbok 2, page 15.5

www.kth.se/info/kth-handboken/II/15/5.html

Examen

In order to graduate with the Degree of Master of Science (Two Years) within the main area Machine Engineering, a passing grade must be achieved in all courses which are in the student's study plan. The study plan must constitute 120 higher education credits including a degree project consisting of 30 higher education credits.

KTH's local degree ordinance can be found in the KTH-Handbook.

Bilaga 1 - Kurslista

Bilaga 2 - Inriktningsbeskrivningar



Bilaga 1: Kurslista

Masterprogram, hållbar energiteknik (TSUEM)

Gemensamma kurser

Årskurs 1

Obligatoriska kurser (48,0 Högskolepoäng)

Kurskod	Namn	Omfattning	Utbildningsnivå
MJ1402	Energiteknik, introduktionskurs	3,0 hp	Grundnivå
MJ2405	Uthållig kraftproduktion	9,0 hp	Avancerad nivå
MJ2407	Uthållig energianvändning	9,0 hp	Avancerad nivå
MJ2409	Tillämpad energiteknik, projektkurs	9,0 hp	Avancerad nivå
MJ2410	Energy Management	6,0 hp	Avancerad nivå
MJ2411	Förnybar energi	6,0 hp	Avancerad nivå
MJ2413	Energi och miljö	6,0 hp	Avancerad nivå

Villkorligt valfria kurser

Kurskod	Namn	Omfattning	Utbildningsnivå
MJ2412	Förnybar energi, fortsättningskurs <i>för Kraftproduktion</i>	6,0 hp	Avancerad nivå
MJ2422	Termisk komfort och inomhusmiljö <i>för Energianvändning</i>	6,0 hp	Avancerad nivå
MJ2423	Tillämpad kyl- och värmepumpsteknik <i>för Energianvändning</i>	6,0 hp	Avancerad nivå
MJ2426	Tillämpad kraft- och värmeteknologi <i>för Kraftproduktion</i>	6,0 hp	Avancerad nivå
MJ2427	Tillämpad reaktorteknologi och kärnkraftsäkerhet <i>för Kraftproduktion</i>	6,0 hp	Avancerad nivå

Kompletterande information

För spåret Kraftproduktion måste MJ2426 läsas + en av MJ2427 och MJ2412.

Årskurs 2

Obligatoriska kurser (13,5 Högskolepoäng)

Kurskod	Namn	Omfattning	Utbildningsnivå
AK2030	Vetenskapsteori och vetenskaplig metodik (naturvetenskap)	4,5 hp	Avancerad nivå
MJ2424	Numeriska beräkningsmetoder inom energiteknik	6,0 hp	Avancerad nivå
MJ2440	Mätteknik	3,0 hp	Avancerad nivå



Bilaga 2: Inriktningar

Masterprogram, hållbar energiteknik (TSUEM)

Programmet har inga inriktningar.