

# Kursanalys<sup>1</sup>

## Kursdata

<b>Kursens namn</b>	Design of permanent magnet synchronous machines
<b>Kursnummer</b>	EJ2221
<b>Poäng</b>	7.5 ECTS credits: 3 for oral examination and submission of final report 3 for submission of 6 status reports 1.5 for 5 presentations, 4 progress oppositions and 1 final opposition
<b>När kursen genomfördes</b>	HT09
<b>Kursansvarig och övriga lärare</b>	Juliette Soulard (Course examiner, lecturer, project) Stephan Meier (Course head teacher, project, Emetor-support) Dmitry Svechkarenko (Project, Flux-support) Mats Leksell (Project)
<b>Undervisningstimmar, fördelade på F, Ö, R, L</b>	69 hours: 12 h Lectures 42 h Project support 15 h Project presentations (in 2 groups)
<b>Antal registrerade stud.</b>	7
<b>Prestationsgrad efter 1:a examenstillfället, i %</b>	77%
<b>Examinationsgrad efter 1:a examenstillfället, i %</b>	71.4%

## Mål

<b>Ange målen för kursen</b>	The aim of the course is to understand how to make an electromagnetic and thermal design of permanent magnet synchronous machines from any given set of specifications. The knowledge is applied by designing a machine for an industrial application.
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## Kursens pedagogiska utveckling I

<b>Beskriv de förändringar som gjorts sedan förra kursomgången</b>	<ul style="list-style-type: none"> <li>- A pool of individualized task descriptions was created.</li> <li>- Emetor was improved to make it possible to save motor designs.</li> <li>- A parameterised Flux-model for outer-rotor motors was implemented.</li> <li>- A list of aspects that should be looked at for the opposition was provided.</li> </ul>
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## Kursansvarigs berättelse

<b>Helhetsintryck</b>	Very positive
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<sup>1</sup> Mallen togs fram av Jan Scheffel, studierektor Alfvénlaboratoriet

<b>Positiva synpunkter</b>	The course went very well, even with Juliette on part-time parental leave. It is very positive that the effort of the teaching team is appreciated by the students. The constant feedback and attention to every individual student led to clear improvements of technical and communicational skills of the students.
<b>Negativa synpunkter</b>	Communication inside the teaching team and with the students could be improved in order to avoid confusion and misunderstandings: Expectations of the course, opposition, project tasks, submission of preliminary final report, attendance during examination, etc.
<b>Syn på examinationen</b>	The examination is fitting really well with the course structure and reflects the contents of the course (all students agree with this pretty much or absolutely), while the difficulty of the examination is at a right level (fully confirmed by the students).
<b>Syn på kurslitteraturen</b>	<ul style="list-style-type: none"> <li>- A compendium would be an improvement compared with slide handouts.</li> <li>- The hand-outs for the tasks and the Emetor tutorial could still be improved somewhat, according to the students.</li> <li>- It is positive to encourage students to use new sources such as articles and M.Sc reports, which were available in library boxes. Students should be further encouraged to search for their own references, which could be achieved by providing a more comprehensive electronic library.</li> </ul>

## Teknologernas syn på kursen

<b>Kort sammanfattning av studienämndsmöte eller studentenkäter</b>	<p>Student questionnaire:</p> <p>Students have a really high (80%) interest for this course and are also absolutely encouraged to study actively (80%) due to the course set-up. Even though, other parallel courses and individual study speeds (40% studied on average 10-20 hours per week, while 60% studied more than 30 hours), resulted in some students not having enough time to study for this course. Students appreciate the feedback they get from the teaching team (100%, "actually more than enough"), as well as from the other students from discussion and oppositions, which made the students learn a lot (80%). Students rated the project meetings as excellent (80%) and the project support as really good (100%), "especially Dmitry provided a lot of help".</p>
<b>Speciellt intressanta kommentarer</b>	<p>"I think there should be more lectures in the course."</p> <p>"One lecture or tutorial in conjunction to each project would be helpful."</p> <p>"Teachers for project meetings could be exchanged sometimes, to get different aspects of feedback."</p> <p>"The project meetings and the feedbacks were really useful."</p>
<b>Var förkunskaperna OK?</b>	Required pre-requisites according to the course Electrical Machines and Drives (EJ2200) are sufficient. Students without comparable pre-requisites should not be accepted to the course.

## Kursens pedagogiska utveckling II

### Hur förändringarna inför detta läsår fungerade

- There were no problems encountered with the computers running FEM or limited storage capacity this year.
- It was appreciated to have an available pool of individualized task descriptions, in order to choose an appropriate task from week to week together with the assistant.
- Improvements in Emetor and new Flux-models were appreciated by the students (100% rated the provided support for the project as really good).
- A list of aspects that should be looked at during the opposition made it clear to the student what they were expected to do.

### Förändringar som bör göras inför nästa kursomgång

- Improve the communication between teachers, as well as between teachers and students.
- Improve the course material.
- Ensure continuity in the quality of the teaching team by choosing assistants who have read the course in previous years.

## Övrigt

### Kommentarer

This course is a challenge for the teaching team in terms of invested time per student. However, all the involved teachers believe that their efforts put in the 2009 course were worth the results and improvements achieved by the students.

## Instruktioner

- 1) Fyll i fälten nedan **inom en månad efter kursens slut**. (Viktigt krav från KTH!)  
Skicka sedan till studierektor (som vidarebefordrar till prefekt och programansvarig).
- 2) Försök att **ge så kompletta uppgifter som möjligt**.  
Tänk på att kursanalysen blir ett hjälpmedel inte bara för teknologerna, utan även för Dig som lärare.
- 3) Om du behöver flera rader, är det bara att trycka retur; fälten expanderar automatiskt.
- 4) Nomenklatur: F - föreläsningar, Ö - övningar, R - räknestugor, L - laborationer
- 5) Med "prestationsgrad" avses antalet presterade poäng hittills på kursen (inlämningsuppgifter, projektuppgifter, laborationer etc.) dividerat med antalet möjliga poäng för de registrerade studenterna.
- 6) Med "examinationsgrad" avses antalet studenter av de registrerade, som klarat samtliga kurskrav. Kurssekreteraren hjälper gärna till här.
- 7) **Teknologernas syn på kursen** skall framgå genom diskussion med dem (vilken

sammanfattas i kursnämndsprotokoll) eller genom sammanställning av utdelade enkäter.

Det är viktigt att kursanalysen tydligt **visar utvecklingen av kursens kvalitet** från ett läsår till nästa.