Kursanalys[1]

Kursdata

Kursens namn	Design of Permanent Magnet Synchronous Machines
Kursnummer	EJ2221
1	7.5 ECTS
När kursen genomfördes	Period 1 H12
Kursansvarig och övriga lärare	Juliette Soulard, lectures, project meetings and support Stephan Meier, project meetings Andreas Krings, project support
Undervisningstimmar, fördelade på F, Ö, R, L	Lectures 12 hours Project support 44 hours (+ drop-in depending on Andreas' availability) Project meetings 30 hours (15 hours for each student)
Antal registrerade stud.	6 MSc (+1PhD EJ3221)
Prestationsgrad efter 1:a examenstillfället, i %	100% (PhD student not considered)
Examinationsgrad efter 1:a examenstillfället, i %	100%

Mål

Ange målen för kursen	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. See course description for learning outcomes (list of 12 items)

Kursens pedagogiska utveckling I

Beskriv de förändringar som gjorts sedan förra kursomgången	• One less person for project support • No industry participants • Lectures recorded and accessible to all students via Bilda • List of relevant references included in each lecture • Published 3 anonymous final reports from 2010 • Guidelines for feedback on project reports for teachers, feedback given from 2 teachers alternatively for each student • Emetor moved to new server (outside KTH) and improved model description • Small improvements in task 2 description • YouTube videos about manufacturing of windings made available • Examination form for teachers • On Wednesdays, all three teachers available at planned support time

[1] Mallen togs fram av Jan Scheffel, studierektor Alfvénlaboratoriet

Kursansvarigs berättelse

Helhetsintryck	Less students than last year gave an easier flow of the course and each student could be given as much support as was reasonable. This contributed to the good final results for all students (lots of learning took place, even on pre-requisites).
Positiva synpunkter	Better organization leading to more controlled working hours for teachers and fairer conditions for students. Better contact with the students thanks to the weekly presence at one support time of all teachers and alternate feedback.
Negativa synpunkter	The two groups during project meetings lead to different inputs for each student but still some overlap for teachers in some cases. Bad student time planning for report writing led to unattended lectures on Mondays (working all night to fix deadline). Some of the students hardly ever turned up at support times. Booked project room by another course created chaos on the FEM week, delaying the progress in the projects for many students. The workload dealing with final reports is high for students and teachers though it does not seem to give proportional learning.
Syn på examinationen	The students under performed during the question part of the oral exam compared to presentation and final report quality.
Syn på kurslitteraturen	It worked much better now that relevant references were added to each lecture. Maybe the equations presented in the lectures could be numbered.

Teknologernas syn på kursen

Kort sammanfattning av studienämndsmöte eller studentenkäter	Only student questionnaire. Really positive feedback from the students. However, they did not give so many comments to complement their answers to questions.
Speciellt intressanta kommentarer	Many improvements compared with last year's questionnaire. For example it was clearer what was expected, probably thanks to the final reports from previous year. 2 out of 6 students managed to pass the course working within the official time of 20 hours per week. Only ca 50% thought the examination reflect the contents of the course, though they all agreed that the examination had the right level of difficulty. This may be linked to the difficulties to perform during the oral questions, even though the project meetings should have trained them for the situation. It might be because the students did not turn up as much as the other years during support time. Interesting problem rose about remote usage of FEM simulation tool.
Var förkunskaperna OK?	Juliette forgot to ask.

Kursens pedagogiska utveckling II

Hur förändringarna inför detta läsår fungerade	• One less person for project support was not a problem since we had fewer students this year. • Lectures recorded and accessible to all students via Bilda. The students missing the lecture can catch up but then it may help them decide NOT to attend, which is not good. • List of relevant references included in each lecture: really positive, no issues with the course literature any more. • Published 3 anonymous final reports from 2010 made the students understand better what was expected. • Guidelines for feedback on project reports for teachers allowed teachers to plan the time required for report reading (1 hour max per student). Alternate feedback was good for students (fairer) and teachers (better knowledge of every student). • Emetor moved to new server (outside KTH) and improved model description. Still some improvements needed in tool but no issues with new server. • Examination form for teachers guarantees a fairer judgement but it is really time-consuming to write constructive feedback on every point listed in the form. • All three teachers available at planned support time gave better communication with students and within the teaching team.
Förändringar som bör göras inför nästa kursomgång	• Ask about pre-requisites in the questionnaire • Update information on webpage (pre-requisites, only 15 ECTS during the period). • Re-think the project deadlines and organisation to spread the report reading load for the teachers and make only one project meeting for all students. Make sure the student has to make some progress on his/her project every week (oral pres. or report). • Check the models for inductances in Emetor • Choice of FEM simulation program and version, as well as availability outside project room • Equation numbering in lecture slides • Change format of final report, provide guidelines for students • Prepare sets of oral questions for the examination (draw). Use them during project meetings to train students for the exam.

Övrigt

Kommentarer

Document filled in by Juliette with comments from Andreas and Stephan. .

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.