

Kursanalys¹

Kursdata

Kursens namn	Design of Permanent Magnet Synchronous Machines
Kursnummer	EJ2221
1	7.5 ECTS
När kursen genomfördes	Period 1 H13
Kursansvarig och övriga lärare	Juliette Soulard, lectures, project meetings and support Andreas Krings, project support
Undervisningstimmar, fördelade på F, Ö, R, L	Lectures 13 hours Tutorials 8 hours Project support 41 hours (+ drop-in depending on Andreas' availability) Project meetings 15 hours
Antal registrerade stud.	4 MSc (+2PhD students FEJ3221)
Prestationsgrad efter 1:a examenstillfället, i %	100%
Examinationsgrad efter 1:a examenstillfället, i %	100% MSc, 1PhD student delayed but passed Dec 2013

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)
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¹ Mallen togs fram av Jan Scheffel, studierektor Alfvénlaboratoriet

Kursens pedagogiska utveckling I

Beskriv de förändringar som gjorts sedan förra kursomgången

- Only one group for project meetings with feedback on reports in the afternoon.
- Mainly Juliette reading and commenting feedback, one report per student checked by Andreas.
- All final reports read by Juliette and prepared questions in evaluation form (hand-written).
- 2 oral presentation trainings, instead of 3
- External student group, where only 3 students without the right pre-requisites applied to, started and dropped the course
- Equation numbering in each lecture OH
- Change in order of lectures (nb of turns moved to field weakening)
- Published 2 anonymous opposition reports together with 3 anonymous final reports from 2010
- Introduction of FLUX tutorial with saturated motor at load. Task 2 description reduced to one page.
- Question bank in Bilda to prepare oral examination
- Possibilities to write "compilation" report
- remote usage of FEM simulation tool thanks to student licenses

Kursansvarigs berättelse

Helhetsintryck

Positiva synpunkter

- Controlled working hours for teachers and fairer conditions for students (one group). No course activities on Wednesdays is great. Better contact between the students thanks to the joint progress meetings and support hours (Andreas AND Juliette).
- Students still produce individualized investigations (new ways to look at issues)
- Flexibility left to students to write monograph or compilation report

Negativa synpunkter

The workload is right for students but still heavy for teachers. Difficult to judge if it gives proportional learning. The FLUX tutorial delayed the project and first deadline for opposition was missed (on individual task).

Syn på examinationen

The students performed better than last year during the question part of the oral exam. Still some surprises between oral presentation performance and final report quality.

Syn på kurslitteraturen

Still the Achilles and strength of the course. OHs are too concise, and difficult for students who for the first time read bits and pieces of knowledge in articles.

Teknologernas syn på kursen

Kort sammanfattning av studienämndsmöte eller studentenkäter

Only student questionnaire (5 answers out of 6 students). Really positive feedback from the students. However, they did not give so many comments to complement their answers to questions. Not good to give questionnaire during the oral exam on paper (EES website tool disappeared, no time/energy to implement in Bilda).

Speciellt intressanta kommentarer

100% thought the exam reflected the contents of course, question bank helped.
 Students are happy with deadlines set by course PM.
 OH may need to be extended, and/or explain more the ideas with dedicated sources (articles, reports).
 More team work is asked for, though they work a lot more “together” this year due to small group.

Var förkunskaperna OK?

Mostly, 2 students had some issues. Look for and add proper references for pointed out problems.

Kursens pedagogiska utveckling II**Hur förändringarna inför detta läsår fungerade**

- Much better with only one group at project meeting (and recorded). Good with support in afternoon.
- Lectures recorded were useful for sick students and schedule trouble (unusual parallel course).
- Mostly one teacher feedback was good for students (fairer). Two teachers at support gave better knowledge of every student.
- Slightly less time-consuming to write constructive feedback on every point listed in the form since it was done by hand.
- Tutorial FLUX was good but took much time. Think again.
- Exam was more relax with well-prepared questions and all reports being read by one same person.
- Re-think the project deadlines and especially opposition (tutorial FLUX delays project).
- Choice of FEM simulation program and version, considering availability outside project room
- Change format of final report, provide guidelines for students: keep freedom, no conclusive experience in 2013.
- Inverse class-room or smart usage of recorded lectures, towards web-based learning for lectures.
- Start thinking and implementing e-learning version (last course in H14)

Förändringar som bör göras inför nästa kursomgång**Övrigt****Kommentarer**

Document filled in by Juliette with comments from Andreas.

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

E2C

- 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.