

Kursanalys ME2016 HT21

0. Utförare

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1. *Beskrivning av kursvärderingsprocessen*

All of the students was asked to fill out the LEQ course evaluation after all the examination was executed and graded. 32 students out of a 168 did (despite 3 reminders), so the response rate was 19%. During the course (at several different lectures) the examiner asked students that had any feed-back to contact her (by e-mail) if they had any ideas of things that needed to be changes, only a couple of students did and their feed-back was focused on the partial exams (number of questions, extensive case descriptions and time constraint since the answers needed to be hand-written). Based on this feed-back we did minor adjustments to the design of the partial exams.

2. *Redogörelse för möten som hållits med studenter*

Due to corona the examiner did not invite the students to a course evaluation meeting after the final examination so no meeting was executed after the course.

3. *Kursen upplägg*

The academic year of 21/22 was still affected by corona and therefore the course ME2016 continued the course design focused on using mainly digital tools for the teaching and examination, but with several campus-based teaching occasions where the students could either choose to participate on campus or online, the design of teaching in-the-room and on-zoom teaching at the same time worked out fine. Approx 30-50 students came to campus, mainly international (TEILM) students. However, the partial exams were conducted through canvas quizzes, closed book exams however unsupervised.

For ME2016 HT19 we made the first changes towards continuous examination, and for the course given HT20 we designed 4 partial exams (instead of 2) so that it was only one or two LO that was examined during each partial exam. During the course given HT21 we kept the structure of 4 partial exams and focused on creating a better more thought through structure of the teaching activities before each partial exam.

The teaching modul for each partial exam consisted of video lectures, seminars (where old exam questions were discussed) and a practice exam that had the purpose of both training the exam format (quizzes in canvas) as well as the knowledge needed for the specific learning objective.

The partial exams were closed-book exams where no collaboration between the students were accepted. The questions were formulated so that the students had to describe, explain and discuss the knowledge gained from the course on specific cases, which made it very hard for them to benefit from unauthorized usage of the books. The examination in the course then also consisted of a case-based assignment (to be submitted in the end of P1) and a voluntary open-book exam undertaken during the examination period. The main point with this increased amount of examination parts was to increase the student learning during the course, so that all students working with the case assignment has the same theoretical knowledge, as well as making it possible for the examiner to evaluate each student's knowledge in relation to the different learning objectives even though the course has a high amount of student (>100 each time) and a high number of LO (due to program directors suggestions).

4. *Studenternas arbetsinsats/tid i relation till poäng*

According to the LEQ course evaluation only 2 students put more time into the course than expected (approx. 40 h per week), and 6 students estimated that they put 23-26 hours/week, but in average the students that filled out the course evaluation put 18-20 hours per week which is exactly the same as for when the course was given in HT20. To put 18-20 hours into this course should be considered satisfactory. Since there is no exam in the end of the course so

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in total the students work maximum 180 hours, and a 6 credit course should correspond to 4 full time weeks of work (which is 160 working hours). We also had 8 students that reprimanded that they had work between 9-14 hours/week, and 6 students that said that they worked 3-8 hours/week.

All though, several of the comments related to the LEQ question focused on how the work load shows a frustration that the course (and the fact that the examination consisted of several different parts). For example:

Comments (I worked: 6-8 timmar/vecka)

Partial exams were highly demanding in terms of mandatory readings (articles and book chapters).
High workload compared to the number of credits of the course.

Comments (I worked: 12-14 timmar/vecka)

Workload was wildly unbalanced. Like completely unrealistic.

Comments (I worked: 15-17 timmar/vecka)

6 hours were the lectures/seminars each week and rest of the time went on reading the course book and course materials, studying for partial exams and doing the group project.

Comments (I worked: 18-20 timmar/vecka)

I think the workload is really high for the amount of credit points. Especially, the readings suggested per week is not manageable in my opinion.
This course took unnecessary long time from my week. The material was extensive and the lack of teacher's support, availability and organization skills made it less productive than I hoped. I spent a lot of time and I am still not satisfied with my learnings/course outcome.

Comments (I worked: 21-23 timmar/vecka)

The partial exams were a great way of testing yourself to make sure you have learned the different learning outcomes through the course!

Comments (I worked: 24-26 timmar/vecka)

extremely intense in the opening 6 weeks
then very little
in this sense unbalanced

I spent much more time studying this course than my other courses, even though one of them had the same amount of hp. All in all, it required much more time than it should have.

Extremely time-consuming considering a half-time pace. We had other two concurrent courses with also important and time-consuming assignments. This course seems to ignore this fact. It felt like a marathon. Not enough time to digest, internalize, and deeply understand what we were doing.

We have gotten this feed-back that the work-load is heavy, during the courses given for the entire covid pandemic period (HT20, HT21) and I think it is because of (1) the online format of the partial exams since this means that we need to have advanced questions (with regards to Blooms taxonomy) and (2) since we have chosen continuous examination and all of the partial exams are scheduled in the teaching period (and none in the examination period). We will try to manage both aspects better for next time the course is given and (1) diminish to 3 partial exams and include the examination of more LO in the case-based assignment and (2) execute 2 of these partial exams on campus (vigilanted digital exams) and one partial exam on a distance. But also, each time the course starts I am clear (at the introduction lecture) that this is an intense and time demanding course.

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5. Studenternas resultat

The result of the examination is satisfactory. The grades were divided according to this table:

- Grade A – 8 persons (6.4%)
- Grade B – 11 persons (8.8%)
- Grade C – 8 persons (6.4%)
- Grade D – 10 persons (8%)
- Grade E – 57 persons (45.6%)
- Grade F – 31 students (24.8%)

Out of the 125 students actively taking the course approx. 37% of the students took the voluntary open-book exam (in order to strive for a grade higher than E). It might be good to have a higher percentage of students receiving the highest grades (A-C) however since that is only achieved if the students choose to work with the voluntary open-book exam it's hard for the course management team to influence without change the entire course examination structure. The number of students listed for the grade F corresponds to all the registered students who do not have a grade listing in Ladok (so also the students that chose to quit the course during the execution is included in this number).

6. Svar på öppna frågor

Selected answers from the course evaluation to the question: What was the best aspect of the course?

What was the best aspect of the course? (I worked: 6-8 timmar/vecka)

Lectures

The application of concepts in the case assignment was positive, not only for the development of group work and discussions, but also for providing more practical insights related to the content of the course.

Good PM Tools

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)

Video lectures

Learning project management

What was the best aspect of the course? (I worked: 12-14 timmar/vecka)

Having study instructions was very helpful in organizing the self-studies. The solutions to the practice quizzes were also useful to help see what we were supposed to learn.

What was the best aspect of the course? (I worked: 15-17 timmar/vecka)

It was good that there were example exam questions. The group project.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)

Interactive sessions

I like that the partial exams are pass/failed. Anything else would be unfair. Also, it is nice that you can take the course later in order to improve your grade, very helpful towards students.

The professors were clear and objective and willing to teach this course, also course material was interesting

Pretty straight forward practice quizzes made it easy to understand the kind of quizzes and answers we need

The project management is an interesting topic.

What was the best aspect of the course? (I worked: 21-23 timmar/vecka)

Everything. Great lectures and seminars, very clear communication regarding what learning outcomes that were to be tested for each partial exam!

The best aspect was the layout of mixed tests (group work/individual work)

What was the best aspect of the course? (I worked: 24-26 timmar/vecka)

interesting topics

guest speakers

Selected answers from the course evaluation to the question: What would you suggest to improve?

What would you suggest to improve? (I worked: 6-8 timmar/vecka)

Project instructions

Partial exams were demanding, both regarding the amount of content that was covered and the time constraints for their submission. However, they did not provide the most efficient outcome in terms of application of the course's concepts.

Workload and size of class, both for students and the instructors. It seems like the instructors are overloaded as well. As their response to help and giving results early etc was always that "there are too many students, we cannot do that".

If the number of students cannot be handled by the instructors in an efficient way then the course should be divided by 2 instructors or the number of students should be reduced

What would you suggest to improve? (I worked: 9-11 timmar/vecka)

- better define what is expected for fulfilling the learning objectives for the open book exam
- not really an idea what to do for the case study beside the fact "the more the better" which is in my opinion also not a good thing
- the course is the opposite of learning how to manage projects. Focus more on hands on stuff and tools that could be used
- papers are difficult to read since the quality of the pictures is bad

More concrete case analysis

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Too much workload and very long time to correct the KS

What would you suggest to improve? (I worked: 12-14 timmar/vecka)

- The grading system was atrocious. I failed almost all of the 4 partials (by a point or two). These "exams" rather stress induced 1 hour for 4 questions where you had to explain various concepts from different articles, no help from books. These 4 partials were such a horrible and stressful experience. We also had to HAND WRITE THEM, TAKE PICTURES OF THEM, PUT THEM in a PDF and then post them to canvas.

- They give you a book and over 10 articles to quote in these exams, but HEY you arent able to use them during the partials? How is this making me learn? If you gave us the day to research and understand the concepts, these partials would be SUCH a better experience. And I would actually learn something.

- The group project, was so messy. I had great team-members and thats why we pulled through but the directions were SO chaotic. Nothing made sense. Horrible guidelines, no help, we were so lost.

If the case study would be about a case that the participats are more familiar with, we could focus more on the problems we were meant to solve, and less on just understanding what the case meant. Now, we spent much energy on questions just related to what is even meant by a "smart pump", which culminated in that for part 2, we even had to write a section on how we even interpreted the alternatives in the question to even make it make sense. I do see the point that in the beginning of a project, we only have a limited amount of knowledge about the project. However, the kinds of knowledge that are lacking in a real company would probably not be along the lines of "Does a smart pump have a different hardware than a dumb pump or do you just need to install new software to convert it?" or "Does an IV pump fit in a cupboard?".

Especially since the people involved are clinical experts, and also can contact other people in the organization. We were also a bit lost on what to do with the budget. How do you estimate how many IT-experts participate in a project like this, and what salary they want?

What would you suggest to improve? (I worked: 18-20 timmar/vecka)

I think the partial exams are a bit to tough (and I passed all of them but anyway).

I feel like for the open book exam it is so hard to know what is expected and the literature in my opinion was not that good.

Way to much reading material for each partial exam, and since we weren't allowed to use any information during the exams, it was required for us to learn it by heart which is not achievable. Also, how partial/open-book exams are graded is very vague and unclear. It is really hard for us to know if we are answering correctly because we have no idea if we are saying the things the teachers want to hear. And since there is never only one solution (like in math), this is very confusing.

The case assignment was not intuitive or practical and the topic was uninteresting. Maybe find something more practical for next year?

Also, one thing that bothered me was that when presenting the case assignment, the instructor said openly that we should not expect to be able to get an A for this assignment, indicating that it wasn't possible. It is really unclear how the assignment will be graded and we got the feeling that we had little chance to impress the instructor with our answers.

Finally, the textbook is very confusing. The author wanders from one thing to another and the structure is all over the place. When working on the open-book exam, the information in the book is very limited and unhelpful.

-A bit less history and more platform computer aided PM

-the workload should allow for more than E Grade

-Exams should evaluate different levels of knowledge

-Partial exams can be partially digital and another part scanned and uploaded

-Narrow content to be evaluated in each exam, in one exam we had more than 5 chapters to study from the book.

-Add more lectures/seminars per week

Maybe a few alternative practise quizzes to be ready for anything, and make only one way that can be wiewed as a possible place to submit the test answers.

The things we were graded on felt like it was depending on knowing modules, texts or tools down to the small details while missing out on the concrete use or understanding of concepts within the subject.

Organizational structure, timing of seminars (not too far a way and not too close to tests), timing of tests (not on a Monday 8am after a major hand-in on Friday 5pm; are we supposed to study all weekend?!), quality of lectures (too little time to explain complex concepts), workload of the course (it was way too crammed in way too little time), less self-studies (I feel that 60% of what I learned was self-studies and searching the book or the internet).

Upplässet och planeringen ! Kursen krävde så mycket tid samtidigt som vi hade 2 andra kurser..

No more hand writing exam

What would you suggest to improve? (I worked: 24-26 timmar/vecka)

ks structure needs adjusting

it was too much for the time allowed I was always running out of the time/ not having time to write answers even though I felt comfortable with the material and competent to answer(I did pass all)

perhaps a mix of essay q's and multiple choice....

The case assignment in general. The first deadline included more of the work and the deadline should therefore probably be extended.

Also, there were a lot of things that we were supposed to do in the assignment that we didn't cover in lectures or in the course material. This made it very difficult sometimes. The case was also very hard to relate to, we have no general knowledge of what is required of IV pumps or

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Analys

We have gotten the feed-back both in emails and at lecture/seminars that the content of the course is appreciated so we cannot see a need to change the LO, even if it's the amount of learning objectives that creates a need to design an examination that cover an extensive scope. But based on all the submitted answers to the open-ended questions will be discuss with the different program directors and Indeks head of studies how the course is placed in the program structure and if the students have the possibility to achieve all the LO:s.

Since the covid-19 pandemic seems to come to an end we will make changes for the structure of the learning activities next time the course is given and choose which teaching and examination sessions that should be done digitally and which one that can be executed on campus for the fall semester of 2022 based on more pedagogically reasons. We will continue to have a flipped-classroom course design with video-lectures and teacher-lead seminars focused on discussing and problematizing mini-case exam questions from previous courses. But this design means that the students must do a lot of knowledge gathering with regards to facts and concepts from the course literature and video lectures. So, one important question to always discuss when developing the course is if the synchronic and synchronic learning activities has a good balance in relation to the schedule.

A lot of the comments are focused on the work load and the demand to answer the question in the quiz by hand, and that all hand-written answers needs to be scanned and submitted into canvas which a lot of the students had difficulties with (even though we clearly informed them to prepare for this by using the e-learning pages at www.kth.se). For the fall semester of HT22 we will change so that some questions can be answered directly into the quiz, and schedule 2 of the partial exams to be conducted as closed book exams on campus (where hand-written answers can be scanned by administrators). When a partial exam is executed as a closed-book exam on campus we can give the students more time and not so advanced questions (with regards to Blooms taxonomy) which suits the examination of some of the LO better. Then we will have 1 partial exam executed unsupervised online, were the more advanced mini-case questions fit that specific LO. We will also change so that the partial exams examine only one LO.

The case-based assignment is appreciated by some of the students and at the same time subject of a lot of frustration. We need to keep it as an examination part due to how the LO is formulated but the alignment of it in the course structure needs to continuously be improved. So we will evaluate both the type of case used now, discuss how to extend the supervision even though it is such a large course and also extend the groups to include more students (maybe 5 or 6) which will render the work-load to diminish a bit.

Helhetsintryck

As the course examiner I am satisfied with the outcome of the course, since the distribution of grades was satisfying. But I noticed that there is a higher level of the grade E compared to last time the course was given which enhances the student feed-back that it was hard to receive the higher grades. The complaints from some students that the work-load was heavy and the literature extensive is not something I regard as only negative. The subject area of project management is important knowledge for an engineer and therefore the student's needs to learn a lot (a majority of KTHs students also work in projects after their graduation). But off course there are aspects that needs to be developed until next time course is given.

Prioriterad kursutveckling

The case-based assignment must be reviewed and will be changed for next time the course is given in order to balance the workload and the contribution to the final grade. Since the students appreciates the guest lecture I will invite more project managers, and then change the shape so that the guest lecture presents their knowledge during the first hour (off a two-hour lecture) and I will lecture during the second hour. In this way practical vs theoretical knowledge can be compared in a better way.