# Programvaruteknik
# IV1300
# Exam for Spring Term 2010

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**Below, you find instructions on how to answer the exam questions and on how to hand in the exam after you are finished. Read them carefully and don't hesitate to contact Beatrice (`beatrice@dsv.su.se`) if you find any errors or instructions that you find vague.**

## How does this "hemtenta"-thing work?

A *hemtenta* is an exam written by you on your own accompanied by the course literature, other literature and notes from the course. Writing a *hemtenta*, you have plenty of time to structure your answers and to check that your argumentation is clear and easy to follow. This means that the demands on structure and language are considerably higher than when writing an ordinary exam. Since you have all course (and other) literature available, you are expected to use it when writing your answers and you are supposed to show that you use it by referring to it correctly.

You are supposed write detailed answers – if you get stuck you can take a break or continue the next day. Before you hand in your answers you should have read them through and corrected errors and made additions more than once. A *hemtenta* takes longer time to write than an ordinary exam, but the time is more spread out over several days. One could say that a hemtenta takes as long as it takes to write an ordinary exam, plus the time one normally spends on preparations for the exam (though it's not forbidden to use less time). Write *enough* to answer the questions. Don't fill the file with any interesting facts irrelevant to the question you're supposed to answer.

Remember that the exam is given in order for you to get the opportunity to show how much you have taken in of the course literature and material. Don't write your answers in such a way that you omit facts just because you

know that your reader already know this. Make sure the reader understand what *you* know.

The work should of course be done by you on your own and no co-operation is allowed. Identical answers (that is for example exactly the same answer or the same answer with sentences moved around or slightly changed) are not allowed and will be graded **F**. You can't ask the teachers for directions or help, but help to understand the questions will of curse be given.

## Handing in your *hemtenta*

The answers to the *hemtenta* must be handed in both on paper and as a pdf-file.

The file should be named after you, that is if I was to write the hemtenta my answer would be handed in in the file beatriceÅkerblom.pdf. The text should contain your name and email address on the front page.

An electronic version of the *hemtenta* should be handed in attached to an e-mail to Beatrice (beatrice@dsv.su.se). Deadline for handing it in is at 09.55 on Friday, March 19, 2010. A paper version should be handed in at 10.00 (Friday, March 19, 2010) in room 401.

A *hemtenta* is not the same thing as an ordinary assignment and handing it in after deadline means that you fail automatically. The results will be announced by a reply to your e-mail.

## Grading

Except for the correctness of the answers they have to

- be connected to the course (and/or other) literature by referring to it
- be independently formulated and not copied from literature
- have clear and distinct argumentation
- be formulated in relation to the question, stressing the relevant parts from the irrelevant
- motivated – that is you have to explain why they are correct

Each one of the answered questions will be marked with grades **A-F**. The final grade for the entire exam will be the average grade of all questions. If necessary the final grade will be translated to another grading scale.

The grade Fx will be given individual students who has, with small exceptions, reached the grade E, without serious errors regarding facts, serious language errors, typos or other errors due to sloppiness.

The grade E will be given individual students who has shown that all relevant course goals have been reached.

The grade D will be given individual students who has reached the grade E and has motivated his or her answers in a correct way while referring correctly to the sources used to support the argumentation.

The grade C will be given individual students who has reached the grade D and has shown in the answers that he or she can see relevant connections between the different course goals showing the ability to make non-trivial comparisons (if applicable).

The grade B will be given individual students who has reached the grade C and also independently, from his or her own opinions (motivated and well underbuilt) can critisise and value things in a relevant manner.

The grade A will be given individual students who has reached the grade B and also goes beyond the course literature to deepen his or her answers in a relevant way.

*Please remember to check if yo have remembered to answer all parts of the questions, it's sadly a too common error made.*

Good luck!

/Beatrice

## Questions

1. Which ones are the two most important properties of Software Engineering? Which are the properties that makes it important to use Software Engineering methods in software development? Do you think that this will change in a close future (5-10 years)? Discuss and motivate how and why you think it will change, or why you don't think it will change. Has Software Engineering changed in any significant way during the last 20 years? Discuss how and why.

2. Agile methods are becoming more and more used and popular in software development. Do you think that something has changed in the products we produce or other demands from customers that make agile methods more attractive to use or is it that we are starting to see the results of successful examples of projects run with agile methods, or something else? Argue for and motivate your answer.

   What are agile methods and what is really the "agile" in agile? Is it simply a question of implementing a number of practices in your project or is there more to it? What would Cockburn and Sommerville say about this? How does an agile method differ from other software developing methods?

3. No matter what approach to software development is used in a software project, the work has to be estimated and planned. Briefly explain how this could be done in a plan-driven project as well as in an agile project contrasting them and stressing the differences.

4. Cockburn spends a great deal of effort on discussing the difficulty of communication. Shortly describe Cockburn's opinions about this and discuss strategies to prevent problems to arise because of this, both strategies suggested by him and others suggested by you. Could different strategies be suitable in agile projets than those suitable in a plan-driven project? What impact could the concept of "Shu-Ha-Ri" have on the conditions and possibilities for communication in a project? Describe, discuss and motivate.