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The aim of this course is to introduce the basic mathematical tools of computer science, to train students in mathematical thinking and reasoning, and in presenting their reasoning in rigorous written text. This is done by your working to solve problems, with assistance from teachers, and writing up solutions of them to hand in. It should be emphasized that your solutions *cannot* consist solely of computations; *everything* you hand in must be embedded in coherent, easily understandable *text*. This may sound novel to you, but this is part of what the course is about. On the course home page there is a sample solution that gives an idea of what I expect from you. Here are some important things:

- Hand-in homework must be machine written, except that you are allowed to draw pictures by hand. You might want to check out \LaTeX (see \MiKTeX if you use Windows). *Machine written*
- Always explain your solutions carefully in words. You must often show computations for your results, but these should be integrated into the text (as is done in almost all maths textbooks). *Explain carefully*
- On each problem set you hand in, list your collaborators on the front page, and your tutorial room in the *top right corner of the front page*, so we can give it back to you. *List collaborators*
- It is a *very serious offence* to copy the work of others in what you hand in, regardless of the source. *Never copy!*

You are to hand in homework three times during the semester. Tentatively, this will be in weeks 4, 7 and 10 (the last week of teaching), but definitive dates will be announced during the semester. You can collaborate on solving the problems (unless otherwise noted), and I strongly encourage you to do so. However, each student *must* formulate and write up her/his solutions alone. You must therefore *never* share your written solutions, or drafts of these with others, until the assignments have been marked and handed back. (Violating this is equivalent to cheating on a traditional exam and will be dealt with accordingly.) The solutions should be carefully formulated, convincing and easy to read.

For some of the hand-ins there may be bonus problems. You don't have to solve these, but if you do, it must be done individually, without any collaboration. There will also be much more stringent requirements for the solutions of these in terms of depth and clarity.

There is an individual oral exam at the end of the semester (in week 11), where I will ask questions about the work you handed in during the course. You are expected to be able to give convincing answers about any problems that you have received significant credit for, and you should also be able to explain simple, basic concepts behind these problems. Your final mark will depend on the scores you gather on your homework, assuming you can adequately explain your solutions at the oral.

I will set up a web page for the course¹, where I will post all material, including the problem sets, for the course. Important announcements will normally be sent by email to your university address. It is your responsibility to check that email, and what is posted on the course web page.

¹<https://personal.cis.strath.ac.uk/einar.steingrimsson/cs110>

About the oral exam

You must bring to the oral exam your assignments, which will have been handed back with my comments on them.

The purpose of the oral exam, at the end of the course, is to make sure that you have grasped the solutions you handed in and received significant credit for.

The exam typically takes 5-15 minutes, depending on how quickly you convince me of this.

I will ask you to explain a few of your solutions, so make sure you are well prepared to do that.

If you like, you can start by explaining one of your solutions that you pick yourself, from a list of those problems I deem appropriate for this, and which I will announce at the end of the course.

I will not try to grill you, but rather try to help you show me what you know, so try not to be nervous.

Marks

Your mark will be determined by your score on the assignments you handed in, assuming you can explain your solutions reasonably well in the oral. However, your final mark (as a percentage) will *not* necessarily be the exact percentage of the maximum score you received for the assignments. This will be adjusted according to how hard I think the assignments are. Nevertheless, you can be certain to pass the course if you obtain 50% of the maximum score for the assignments (and can “defend” them convincingly at the oral), and the pass mark will probably be close to the usual 40%.