

This is the specification for the project and associated talk for MATH3302. The project and talk together contribute 30% towards your final assessment.

- The project report contributes 27%, and should be submitted to the lecturer by 13:00 on Tuesday 2nd June 2009 (that is, the beginning of the last lecture). Late submissions will only be accepted in exceptional circumstances, verified by medical certificates or other official documentation. In the absence of such documentation, any project submitted after 13:00 but before 14:00 will be worth half marks, and any project submitted after 14:00 will be worth zero marks. **Pay attention to this due date and time: the deadline is very firm!**
- The talk will consist of a short, 5-10 minute presentation, to be held in the last 1 or 2 weeks of lecture and tutorial classes. You should speak about your project, communicating some of the highlights of your work. The talk is worth 3%: if you give a talk, you will be awarded 3 marks. If you give no talk, you will be awarded 0 marks.
- I will monitor your attendance at student talks given by your classmates. If you miss more than 1 class without a medical certificate or other documentation then I will reduce your project result by 2 marks for each class you miss (including the first one).

Your project is to choose some aspect of coding theory or cryptography, investigate this aspect, and write a report on your findings. There are no restrictions on the topic, except that

- your topic should not have been directly covered in class. This means that if the topic was considered in class, you will need to research different aspects of the topic, or in more depth, or from a different perspective. If you are in doubt, then ask the lecturer for advice.
- your topic should not be shared with another class member. It is fine for people to work separately on different aspects of the same topic, or even to work demonstrably independently on the same topic.
- your topic and presentation should be substantial enough to be worth 30% of the assessment for a third level course. If you are in doubt, see the lecturer.

Please note the following additional points:

- You may select your own topic. However, if you wish to have a topic suggested to you, then see the lecturer. I will distribute the titles of projects that students have completed in previous years. This list of titles might inspire you to select a particular topic, but the choice is yours.
- When you have chosen a topic, it is suggested that you tell the lecturer what you have chosen.
- Your project must include an appropriate write-up, presented as a scientific document or essay. You must include a list of all references you used (including web addresses), presented in a standard scientific format. Your report should be logically and sensibly written, and demonstrate that you have obtained an in-depth understanding of your topic, and ideally show some evidence of critical thought and analysis.

- Potential sources of information include the library, the internet, scientific papers or books. If you feel that you need help with locating material (particularly using the library), I am happy to offer advice.
- You may wish to (but certainly don't have to) write software implementing something related to your topic. If you choose to do so, include a copy of your code and any results in your report. (This is not a subject on programming or computer science. Your code does not need to be perfectly written and does not need to be commented.)
- If you write code, or show other evidence of original thought and effort, then your report can be shorter in length. If you are simply researching a known topic and writing a summary of what you find, then your report will need to be more comprehensive. In any case, your overall submission should be sufficient to demonstrate an appropriate level of effort and understanding for a third-year course. For more information, see the list of assessment criteria distributed in the first lecture, or speak to the lecturer.
- As this project and talk contribute 30% towards your assessment, it is expected that it will take you around 30% of your total time commitment to MATH3302. As such, it would be expected that you would average a total of around 3 to 4 hours per week over the duration of the entire semester (so a total of around 50 hours work). You should ensure that your report is of length and quality to reflect a time commitment of this order.
- I do not wish to suggest an indicative page or word-count, as different topics will produce reports in very different formats (so a large software development may give rise to a shorter report). See the lecturer if you need advice.
- Attached to this instruction sheet is a very short example of a possible submission format (of course, your report will be longer). You do not have to use such a format. In particular, if you are writing in essay style, then the sample format might not be appropriate. Again, seek advice if in doubt.
- Talks are not meant to be threatening or difficult. I'll schedule everyone to give a short, 5-10 minute talk (including questions), in the lecture or tutorial classes in the last few weeks of semester. The talks are a good chance to become comfortable with making short, scientific presentations to a group of your peers. Note that you will receive 3% for your talk irrespective of how well (or badly) you do, so there is no need to worry too much. However, to receive the 3% you do need to talk about your project topic.
- Students over recent years have usually really enjoyed this project (and even the talk), and marks tend to be fairly high.

All reports will be marked out of 27, and will be worth a maximum of 27% towards your final assessment. Reports need not be typed, particularly if they contain a great deal of mathematics or equations. However, if they are largely textual in nature, then you are urged to consider typing them.

Reports will be assessed on their clarity of presentation, adherence to a scientific form, inclusion of a list of references in scientific form, content and demonstration of critical insight and original effort (where appropriate). You are urged to try to include some of your own analysis, reflective evaluation or some other original work of yours, rather than merely repeating data or someone else's opinions.

This specification sheet will be distributed in the first lecture. We will discuss the specifications, and finalise the details of any minor changes. Once details are agreed, we will only make subsequent changes in the event of unanimous class and lecturer agreement.