

The digital exam

January 3, 2013

In the course MM508, Topology I there is a written exam which will be digital and we shall here explain the technical guidelines in general and guidelines specific for this course; the latter is of course open for discussions and suggestions.

1 Digital exams in general

The answers for written exams must be turned in digitally via **SDU Assignment** in Blackboard for the specific course (in this case MM508). Note that this is NOT the same as Assignment hand in on the menu. **SDU Assignment** can be found under Tools in the menu for the course. The menu appears when you press the small square on top to the left on the course page in Blackboard. When you have turned in your answers you must download a receipt and save it on your computer. The above means that you must make sure that you are a registered participant of the course with access to that course through Blackboard.

Since you should bring your own computer, you should check it well in advance and also make sure well in advance that your computer can access the University's wireless network EDUROAM. If you have problems with the latter, please contact the IT-service of the University.

On the day of the exam you should come one hour in advance to test your equipment before the exam. Bring along an extension cord (approximately 3m) for 230 V, and a USB memory stick in case your computer goes down. During the exam it is a good idea to save your work quite often both on you computer and on the USB stick.

You will be allowed to use the internet during the exam, but only through the eduroam network. As usual you are not allowed to be in contact with other people during the exam.

Note that the uploading of your answer of the exam must be done through Eduroam. You are not allowed to use your own modem for this.

You can read more about the rules for digital exams on the homepage of SDU.

2 The digital exam in MM508

In the exam you can choose yourself which kind of software/editing programme you want to use. even ascii can be used. BUT:

The answers must be be uploaded as **ONE** pdf-file.

Therefore you must have a programme that can convert your file to a pdf- file.

Since it is a bit troublesome to write mathematics on a computer, you can use an electronic pen (589 kr in the SDU–bookshop), but it is not necessary to answer the questions for the exam, more about that later.

To make things easier I can suggest a few simple codes:

- \leq can be written as le.
- x_n can be written as x_n.
- x^n can be written as $x \wedge n$
- $x \in A$ can be written as x in A , or x element in A etc.
- $A \cup B$ can be written as A cup B or A union B, or just in words: The union of A and B.
- $\cup_{j \in I} A_j$ can be written as cup{A_j: j in I} or in words: The union of all the A_j's.
- $A \cap B$ can be written as A cap B or just in words: The intersections of A and B. Similarly as above if there are many sets.
- $A \subseteq B$ can be written as A subset B or in words: A a subset of B

These are just examples and suggestions. I will be quite liberal on notation, just that it makes sence and cannot be misunderstood. After all this is **an exam in Topology** and **not an exam in how well to make a written digital exam!**

If you look on earlier exams you will see that in the first problem a set in the plane is described and the first question is to make a sketch. This question has always been meant as a help to get an idea of how this set looks. If a set is descibed in the forthcoming exam, I will make a few sketches and ask you to determine which drawing is the right one. Hence you do not need to make a drawing and this is the main reason for that the use of an electronic pen can be avoided in the exam.

I bought an electronic pen to test it and it actually works fine. In the beginning I had some difficulties placing the sensor for the pen so that the text looked nice on the paper

when I used the programme which came with the pen, even that I followed the instructions for left-handed people. I had no trouble at all if I used the programme **scribble** which has been developed by SDU and can be found on the homepage of SDU. This programme also has the advantage that the output is automatically in pdf, contrary to the enclosed programme where the output is in jpg, that is a picture-file.

If you wish to buy the pen or already have one, you are of course welcome to use it, but please try it out beforehand.

Latex is of course the best programme to use in mathematics and also the one I use writing scientific papers and lecture notes. It is probably a good exercise for students to write their take home exams and projects in latex. BUT:

Latex is a bit time-consuming and therefore I will not recommend that you use in an four-hour exam. You should really be recognized as a specialist in latex to do so. It is not enough that you feel yourself that you are an expert.