

# Kursrapport MM5010 VT24 period AB

Antal respondenter: 2  
Antal svar: 1  
Svarsfrekvens: 50,00 %

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## . Beskrivning av kursupplägget.

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The course is a continuation of the analysis part of MM2001, but weighing in also the theoretical aspects of the topics.

It covers:

Analysis in one variable: Theory of limit values, continuity, derivatives, integral and Taylor's formula, series and generalized integrals.

Analysis in several variables: Limits, continuity, differentiability, the chain rule, gradient and directional derivatives. Higher order derivative, Taylor's formula, optimization problem, local extreme values.

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## . Kursens fördelar, beakta studenternas uppfattning i kursutvärderingar.

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The course exposes the students to some of the elementary theoretical aspects of Real analysis and several variable calculus.

The work of Lars as a TA is excellent and it is highly appreciated. He dedicates a lot of time and efforts to the students, far beyond the job of a TA.

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## . Kursens nackdelar, beakta studenternas uppfattning i kursutvärderingar.

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There is a very low attendance to to the course in either campus, or distance lay-out.

Distance students response very poorly to organised events (in zoom or in asynchronous situations), or even participation in the bonus problems is low. It is difficult to attend their needs when no feedback is received.

The number of students that opt to hand-in material for the bonus points is also relatively low, with less than 1/3 of those registered in the course, even among those campus students.

At this stage, students are not used to be exposed to different perspectives from the topic, having a strong preference for a single and canonical source. The course-literature, is not consider such source having a strong preference for the video-material, with all its strengths and weaknesses, as a canonical "course literature", with a belief that if it is not in the videos, is nothing to be studied.

I tried to produce a set of slides for the course, alongside some small, in-class, warming-up exercises consisting of providing definitions, giving some proofs (by filling blank space) coming from previous sessions, with the aim of supporting the in-class learning, Students did not respond well to the layout, exhibiting very low readiness for the material, and feeling uncomfortable with it.

Many students follow the strategy of focusing their study in the mechanical aspects of solving problems, and put no effort in trying to understand the theory behind, and try to memorize definitions and proofs by heart extracted directly from the videos, even if there are some "missing steps" in the arguments, just the days before the oral exam. I hope that the coming new layout will change that, but I am afraid that it will make that strategy fail and I would expect lower pass rates.

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## . Slutsatser samt förslag till förbättringar.

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I would strongly suggest having two separated teachers for this course, one taking care of the distance version and another one for the campus version. The student's needs to be met are quite different for the two layouts.

In a distance mode, I would exploit the existence of the videos, to run the course based on small-group discussions in Zoom meetings of weekly exercises. That layout has been working well for this term in analys, del B.

In a campus mode, one may also try to flip the system, and use the videos aiming to gain active participation and assistance to the "lectures" and give some small amount of bonus for active participation.

Some students argue that the videos currently don't fulfil the requirements of the laws on accessibility of public media. This shall be investigated further by the department, and reconsider having such material online.

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