

Kursrapport MM5022 Mathematics III - Complex Analysis HT24

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

. Beskrivning av kursupplägget.

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Analytic functions of a single complex variable; integration and Cauchy's theorem; expansions of analytic functions in power series and Laurent series; residues; conformal mappings; harmonic functions; physical applications; a brief look at analytic functions of several complex variables

. Kursens fördelar, beakta studenternas uppfattning i kursutvärderingar.

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90% to 95% of the students reported satisfaction with the course, relevance of the content, and good conditions to achieve the learning outcomes. The benefits of the course are to further develop students' skill with proofs, and to prepare them for further studies in mathematics or applications of the methods of complex analysis.

. Kursens nackdelar, beakta studenternas uppfattning i kursutvärderingar.

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The course only lasts for one period, which ends up being somewhat rushed. One student wrote "my only real complaint is that we got quite a lot behind schedule with the content". This student (and probably others) felt we could have gone faster at the start of the course, in order to gain more time for the topics later on.

The exam scheduling was a con for some students, although of course this cannot always work out perfectly. The MM5022 exam in October conflicted with the exam for another course that they were also taking. They had to wait for the December exam. Many students also would have preferred to have the exam on a weekday instead of Saturday.

. Slutsatser samt förslag till förbättringar.

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A helpful suggestion from one student was that there is not enough time to solve problems from scratch during the exercise sessions. It could help to post sets of exercises online, ahead of time, and then discuss in groups after having already thought about them. "In the future it might be good to post these problems ahead of time and discuss/solve it in class to save some time."

Another student wrote "It gave a very good general understanding on with complex analysis. But I missed Fourier and Laplace transforms." I agree that these integral transforms are an important topic we could spend more time on during the exercise sessions. Similarly, students mentioned several other topics that could have been explored further: elliptic functions, Gamma function, conformal mappings, introduction to Riemann surfaces, background on topology and other prerequisites. It might be possible to cover more of these if, as one student suggested, the homework assignments were twice as frequent but half as long.

It might be an improvement to tweak the grading scheme. This term, bonus points from homework could count for up to 20% of the grade. I think this is a good incentive for students to submit homework, compared to the usual 10%. However, perhaps it leads to too many students getting a grade of A. The December exam has not yet taken place, so I do not know the final grade distribution. Next time, maybe a good compromise would be 15% bonus (for instance, a maximum of 4 points out of 30).
