

# Teaching and learning in Ph.D. courses

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Important aspects of mathematics teaching and learning

Changes in the last decade

Present status

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Structural aspects of a Ph.D. programme in mathematics

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- ▶ Students must display competence in at least two out of six broad areas by passing exams in these areas by the end of the first year of the programme. Failure to pass these exams leads to an exit from the programme.
- ▶ Students typically do not choose an area or an advisor until their second year, and usually after they pass their qualifying exams.

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- ▶ A greater focus on assignments than exams.
- ▶ I allow students to consult books/the web/one another etc. provided 1. they fully disclose the extent to which they have done so on their assignment and 2. they do not copy down anything that they do not understand. I reserve the right to question them on anything that they have written down and deduct marks if it has not been properly understood.

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- ▶ There have been no real changes in the last decade. In our department the qualifying exams were introduced about five years ago - I believe we were the first to do so in the Institute.
- ▶ But other than such structural changes in the programme, the business of teaching and learning at the Ph.D. level has not changed. The number of students in the programme has doubled but classes remain small (less than twenty students) - we continue to teach on the blackboard.

# Present Status

I have already described the present status. Nothing has changed in the actual teaching methods. And that is, I believe, as it should be.