

MatRIC Centre for Research,
Innovation and Coordination
of Mathematics Teaching

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Coordinator of MatRIC's

- Video network
- Digital assessment network



Centre of
Excellence in
Education



Digital assessment

The goal of this network is to connect university level mathematics teachers who are using, or thinking about using, computer aided assessment to support their students' learning.

Video

This network aims to connect university level mathematics teachers who are working on the production of video resources for teaching and learning mathematics (for streaming, tutorial support, flipped classroom approaches, blended learning and MOOCs).

NEW PRE-COURSES IN MATHEMATICS FOR ECONOMY AND ENGINEERING USING E-ASSESSMENT SUPPORTED BY MATRIC

Teaching Mathematics to economy and engineering students in Norway is a challenge. Lecturers experience

- high failure rate
- teaching large student-groups
- short semesters
- large curriculum

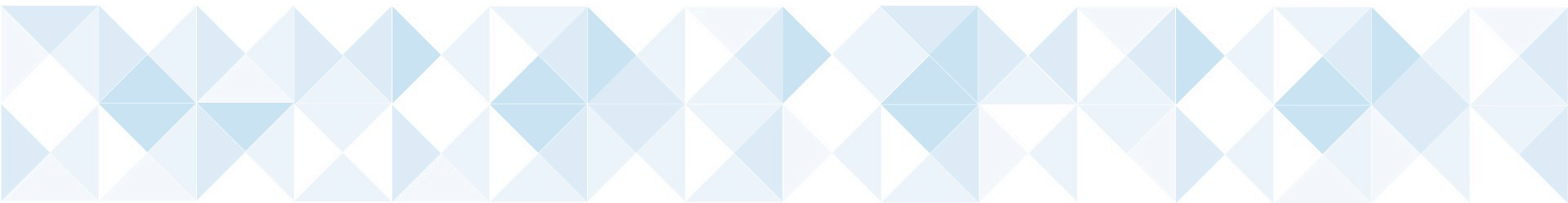
We have tried several different approaches to improve students' performance and reduce drop out and failure rate.

One thing that we cannot change, is the mathematical prerequisites to our students. 40% of our students starting on the engineering bachelor programme at University of Agder do not have the required mathematics when entering.

NEW PRE-COURSES IN MATHEMATICS FOR ECONOMY AND ENGINEERING USING E-ASSESSMENT SUPPORTED BY MATRIC

This is how it has been done:

- For economy, students choose between a “soft“ or “hard“ version of the mathematics course in the first semester. They have the same final exam but weaker students get more hours and help in the “soft” version.
- For engineering, students must pass a 6-week pre-course in maths before starting at the first semester calculus course in engineering.
(But we still have up to 50% drop out and failure rate for these “weaker” students)



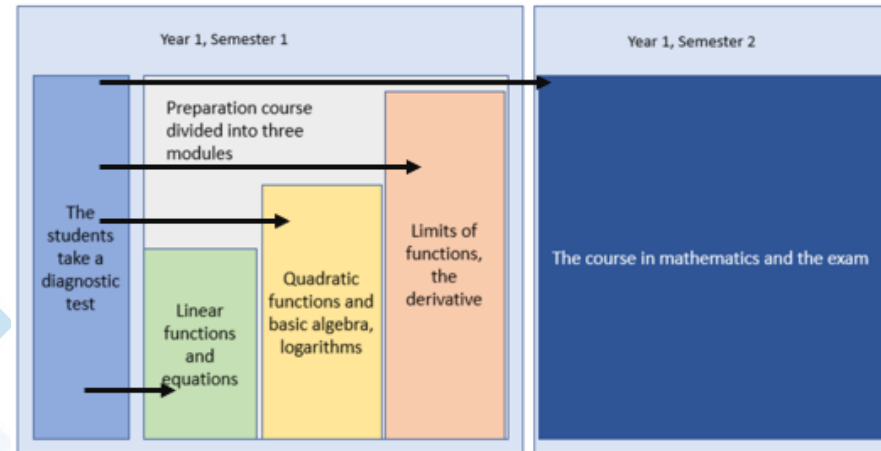
Numbas for Economy students (Forkurs)

- All new economy-students do a “mapping”-test in Numbas in order to be aware of their own prerequisites and then take part of a ‘Forkurs’, if their knowledge is weak.
- This ‘Forkurs’ has 3 modules.
- The modules are designed as a ‘learning-ladder’, with use of Numbas.
- Students get a short introduction or a video and then exercises.
- Students need to reflect whether they can answer or not, if they can, they can move on. If not they click on “show steps” where they get a tip on the procedure. If this is not enough they can click a link to a video.
- The ide is to let students “stop and paus” to learn more about topics and then master it.
- At the end students will se a complete solution to each task.



Ida Landgärds

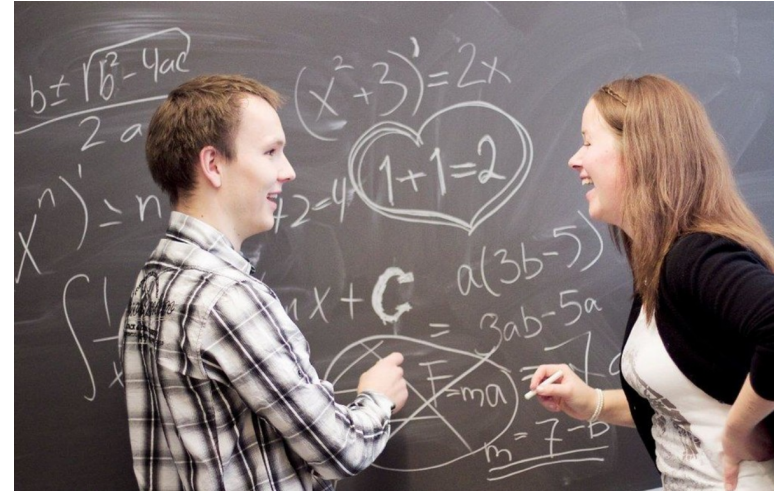
PhD Research Fellow



Started 15th of August 2018

New 9-week pre-summer-course

- The pre-course in maths is extended from 6 to 9 weeks.
- At the end of the course they will have a final paper exam. (same as the [One-year preliminary course for engineers - national exam](#))
- If they fail on this exam they have only one option: Start on the One-year preliminary course for engineers.
- In this project we will produce exercises and problems using STACK, with a special focus on providing “weak” students good feedback when working on problems.



Starts 1st of June 2019

