

New Master's program in Solid Earth Geophysics at the University of Helsinki: Lessons from one year of operation

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In fall 2014, the Department of Physics and the Department of Geosciences and Geography at the University of Helsinki opened a new, joint Master's program in Solid Earth Geophysics. The program is designed for students with a BSc degree in Physics, Theoretical Physics, or Geology; those entering the program with a Geology BSc degree must have a minor in Physics, and those with BSc degree in Physics or Theoretical Physics must have a minor in Geology. The teaching language of the program is English. Within the MSc program, the students have an option of focusing their studies either in Global Solid Earth Geophysics or Applied Geophysics. Hands-on exercises in the class, laboratory and in the field are a central part of our courses, in order to present the theory and practice hand-in-hand. The aim is to provide the students with relevant skills for working life both in academia and industry. An overview of the Solid Earth Geophysics specialization line can be found at our website at <https://wiki.helsinki.fi/display/SEGeophys/>.

In this presentation, we will give a review of experiences gained during the first year of operation, and identify targets for future development. For example, bringing together a mixture of students with BSc degrees in Physics and Geology requires careful consideration with regards to their assumed background knowledge. The exercises need to be balanced in their physics and geology content in such a way that all the students are challenged yet able to solve the problems at their varying skill levels. In order to ensure successful cumulative learning throughout the program, the contents of consecutive courses need to be coordinated jointly. In the coming years, increasing emphasis will be given to the development of teaching methods. So far, we have experimented for example with the flipped classroom model that enables the teacher to pay more attention to the individual needs of the students.