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Experiencing engineering field work in Greenland through summer courses in Arctic Technology

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ABSTRACT

Generic competences, student diversity, project family

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Three different courses within Arctic Technology are offered to engineering students enrolled at DTU. The main teaching activity is a 3 weeks field period in Greenland during the summer, where the students work on a specific engineering or research project, offered within several engineering disciplines in close collaboration with local stakeholders. Two of the courses introduce the students to the Arctic for the first time, whereas the third course is part of the Bachelor in Arctic Engineering education, where the students have lived at least 1 year in Greenland at the time of the course. Thus, there is a high degree of diversity among the students; nationality, educational programme and semester.

The main objective for the courses is to teach the students to do field work in the Arctic. By actually going to the Arctic and applying their skills, the students get valuable first-hand insight into working as an engineer under the challenging conditions and limited infrastructure that exists here.

The courses have been running parallel for several years, with little integration of the curriculum. From 2014, some projects were made in project families similar to Ottosen et al. (2014), aiming to share knowledge and experiences between the students across the courses for increased learning outcome. During the field work, the students are acting as project managers for their projects and experts in relation to local stakeholders. The results of the projects are presented at a civil meeting in Greenland and all reports are available online for stakeholders. The effects of the project families were evaluated by observation of the students working together, the assessment of the different courses, achieved competences by the students, course evaluations and focussed interviews. The students evaluate the courses as highly motivating and for the students working in project families; that they could not have achieved the same results and understanding of the local conditions in their projects if working solely on their own.

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