

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
On Track - Undergraduate Space Education (3)

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THE BENEFIT OF PROJECT BASED COURSES AS A “FIRST CONTACT” BETWEEN STUDENTS
AND SPACE INDUSTRY

Abstract

Space technology plays an ever larger role in our society, even though most people are unaware of this fact. Luckily, an increasing interest in space technology among students has been observed over the last years. At some universities, space related courses are available as part of a physics degree or an engineering degree with a special focus on e.g. satellite communications or aerospace engineering. In Norway, there exists no specialised aerospace education resulting in a Bachelor or Master’s degree. Introductory courses and project work, both within the curriculum and as volunteer activities, are used as a “first contact” between students, space technology and space industry. At NTNU project classes such as the multi-disciplinary group work course Experts in Teamwork (EiT) and more long term group projects, such as the NUTS project are examples of this.

Many students are very fond of space and space technology and it is often a motivational factor for STEM-studies in general. Unfortunately, only a few students get the chance to directly work with space technology during their studies. Space related project work will therefore further nourish the space interest. Even if the space industry in Norway is quite substantial with a turnover of around 640 M EUR / year, it is fairly unknown both to most students as well as to the general public. As a consequence, space related job opportunities (both nationally and internationally) are not well known. An improved connection between students and the industry will hopefully lead to the most motivated students getting the most relevant industry jobs after graduation.

The industry plays an important role in making relevant jobs both known and available. This year, the Kongsberg Group launched the Starburst summer intern program, in close cooperation with NAROM.

Even without any aerospace program, several space related projects are available at NTNU. One example is NTNU Test Satellite (NUTS) where students are designing and prototyping hardware and software for a CubeSat. EiT offers a wide range of topics. Projects are diverse and spans from creating a “Mars lab” on Earth, working as part of an international project investigating how to better track satellites during the initial launch phase or building new payloads for a student rocket in close cooperation with NAROM.

As space technology is international and multidisciplinary, it is important to allow students to both share and gain experiences by participating at relevant international conferences and workshops.