

Contribution of Project Oriented Learning in Global Engineering Teams

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Modern engineering education requires not only the transfer of technical information, but must facilitate holistic teaching and learning. Development of personal, social and methodological competences must be stimulated. Awareness for sustainable acting on a global scale must be included as an integral part of all engineering education. Intercultural competence is needed for the majority of jobs in engineering. The development of engineering personalities who are willing to make time efficient decisions and take long term responsibility for them has to be stimulated.

Blended learning as a combination of multiple approaches in learning has the reputation to have a high impact on education of future engineers. Here the time efficiency of teaching is often higher than with ex-cathedra teaching. In contrast, intensive supervised project oriented learning is known for its ability to stimulate creativity, students interest and their ability for independent solving of complex problems, while training them in social competences in parallel. From this resulted the idea to combine both forms of learning in a single course for improved educational impact, called Global Engineering Teams (GET).

The goal of GET is to develop technical competences as well as teamwork and digital cooperation skills in students with different technical and cultural backgrounds by engaging them in challenging industry sponsored projects. Such skills are often not taught in university courses, but are essential for engineers that are expected to operate and manage teams when they work for large multinational companies. GET offers students a way of acquiring these skills in an educational environment, but while they are solving current problems from the industry.

GET teams of up to six students will work 25 weeks on the projects from the industry. The course starts with a Kick-Off meeting in April at one of the partner universities and ends with a one week final meeting at one of the partner universities in October. In-between the team works via the internet. Every student participating in the course must participate on the meetings. The travel costs are funded by the involved industrial partners.

The value proposition of GET is to generate an exciting contribution to global engineering education and offering a testing ground for research on engineering education. In addition a solution for a problem of an industrial partner is created and excellent students are identified as possible candidates for future employment by that industrial partner.