

Författare: Alessandro Bertoni

Medförfattare:

Typ av session: Presentation, 30 min

## **“I know I will never study mechanical engineering”: a method to engage students in Orientation in Engineering courses.**

Every year a consistent number of students is enrolled in engineering orientation courses with the intent to acquire the necessary credits to apply to university studies. The broad scope of the courses causes often students to passively attend lectures and to provide the minimum necessary effort to complete assignments, especially in those subjects that fall outside the students' primary interest. The presentation summarized a five-years experience of teaching in the course “Orientation in Engineering” at Blekinge Institute of Technology in the module related to mechanical engineering. A role-play and a design competition are used to raise the students' engagement in the course so to motivate them to actively take part in the learning activities. Those consist in an initial frontal lecture followed by a presentation of an engineering challenge (e.g. construction of a bridge or of a cup holder) to be solved only by using the material provided by the teacher. The students assume different roles in design teams and have one week to work on a solution with the freedom to access any available information. A scoring system is set to calculate the final design merit and make the students reflect on designs decisions trade-off. A second lecture is run with students presenting their concepts before undergoing a mechanical load test. Based on the obtained scores each team is positioned in the yearly updated “Best concept-hall of fame”. Individual reflection reports are used as an assessment method. Based on those and on the feedback obtained from the course questionnaires, the teaching method has proved to be effective in engaging students in the learning activities, also leading some teams to voluntary deliver extra work to better present their concept in the final presentation.