In 2008 all Bachelor of engineering study programs at the Technical University of Denmark (DTU) have been adopted to the “Conceive – Design – Implement – Operate” approach. As part of the necessary changes it was decided that all seven study programs should have a cross disciplinary project or a design build project on each of the first four semesters. In this paper the four projects in the civil engineering study program are described along with a brief description of the entire study program. The aim is to provide additional information and documentation to accompany an exposition where students present their projects. Learning outcomes, training and assessment of personal, professional and social engineering skills are described from a project point of view. Progression of engineering skills is discussed from a study program perspective. The interrelation between the various elements to the final learning outcome is discussed with respect to the concept of the study program as it is today. Barriers for reaching the ultimate goal, that all students become “engineers who can engineer” at a high technical level, are identified and discussed. It is concluded that the study program has all the potential to prepare students to cope with the challenges in engineering practice, but it also shows that the degree of success depends on the amount of barriers along the way.