Production tehnology 2 (ECTS credits: 6)

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**Course description:**

Throughout the course the students will learn different methods of shaping by plastic deformation, such as forging, pressing, deep drawing, and methods for production of sheet metal parts (punching, cutout, bending, etc). They also will learn the ways to determine the deformation forces and the stresses in the material. Different kind of casting processes will also be studied, as well as the the main characteristics of the form (die) and the core. The theoretical basics of different kinds of welding will also be processed, and students will do some welding exercises.

1. The theoretical basics of plastic deformation
2. Pressing
3. Forging
4. Bending
5. Deep drawing
6. Extruding
7. Punching and cutout
8. Technological background of the casting
9. Different methods of sand casting
10. Die castings
11. Castings under pressure
12. Classification of the welding processes, theoretical basics of the welding
13. Gas welding
14. Electric arc welding methods
15. Press welding methods

**Aims:**

#### Students should learn the basics of the production technologies like different plastic shaping methods, casting and welding procedures.

**Learning outcomes:**

The students should get basic knowledge about the usage and the methodology of those production technologies, where there is no material removal. Students should be able to solve some simple tasks belonging in this field, like determination of the shaping force, or determining the best technology for producing the bulk and calculating the size of the bulk.