

0402425 Mechanical design (1)

(3 Credit hours, Prerequisite 0402226 Strength of Materials + 0402260 Engineering Materials Science)

The course aim to introduce the student to the basic principles of mechanical design. This includes the following topics: scope and aim of design, use of standards, tolerances and surface roughness, stress and deformation analysis, design of mechanical fixing joints, bolts, screws, self-locking threads, nuts, washers and fixing pins, stresses and factor of safety, stress concentration, failure theories, and design of clamping connecting, riveting and welded joints, thin and thick cylinders, design of flexible springs and rubber joints, design of shafts and flywheels, design calculation for selected machine parts and examples of design problems.