

Computer-Aided Design

Course Workload		Assessment form (examination/ graded test/ ungraded test)
ECTS	Hours	
3	108	Graded test

The course is devoted to the study of the theoretical and practical foundations of working in computer-aided design programs using the example of Solidworks. The course examines various methods of designing 3D parts, depending on the production methods chosen for them. To study the rules for creating assembly units, there is an individual project with a technical task in the course. To obtain the skills of calculating structures by the finite element method, the course provides for the calculated work of the designed parts. The issues of drawing design and additional CAD capabilities are also considered.

Course structure:

1. Design of different types of parts

- 1.1. Construction of the rotation part, shaft
- 1.2. Construction the part for manufacturing by milling or 3-D printing
- 1.3. Construction of a sheet-metal bent part
- 1.4. Construction of a weldment part

2. Modeling of assembly unit

- 2.1. Modeling of assembly unit

3. Engineering analysis

- 3.1. Engineering analysis in SW Simulation

4. Drawings design

- 4.1. Bill of materials table design
- 4.2. Part drawing design
- 4.3. Drawing of accembly unit design