

Individual semester project (topics)

1. Blade for combustion turbine
2. Shaft for steam turbine
3. Piston for combustion engine
4. Mountain bike frame
5. Camshaft
6. Combustion engine valve
7. Drill for grey cast iron
8. Mudguard
9. Pipes for petrochemical industry
10. Leaf spring
11. Milling cutter
12. Ball bearing
13. Dozer blade
14. Tooth wheel in vehicle gearbox
15. Aircraft wing
16. Guide ways for turning machine
17. Steam pipe-line
18. Nose cap of space shuttle
19. Heat exchanger (power plant)
20. Chemical storage tank

The main points of the report:

- Function and description of the part (scheme of the part).
- Constructional, technological and economical requirements.
 - *Type of loading, working temperature, wear, fatigue, working environment, quantity, suitable technology etc.*

Determination of main parameters for material selection:

- *Hardness, wear resistance, toughness, weldability, formability, machineability, etc.*
- Overview of possible materials of the given part (2 or 3 variants).
- Discussion of the reasons for selecting one suitable material.
- Summary of design procedure.
- Literature.