

1. . **Fundamentals of Shearing and Metal-forming Process:** Mechanism in the material;  
Selected process principles of metal forming: Rolling, Extrusion, Drawing, Forging; Sheet metal forming: Shearing operation, bending, Deep drawing, Spinning, Stretch forming; Force and work; Material consumption; Die design.
2. **Principles of Selected Joining and Assembly Process in welding:** Electrical arc welding; Gas welding; Resistance welding; Braze welding; soldering; Other welding processes; Welding design