

Title :	Tools for metal forming
Lecturer:	Prof. Dr.-Ing. Eberhard Christ
Qualification aim:	The students should get general knowledge about design of tools for metal-forming and stamp technologies, as bending, deep-drawing, cold metal extrusion, upsetting, hydroforming
Content:	<p>Composition of complex tools (different kinds) for metal forming</p> <p>Design of punches and dies</p> <p>Calculation of measures, tolerances, forces, stresses, parts, etc.</p> <p>Materials for tools and workpieces, heat- and surface treatment</p> <p>Machines for metal forming</p> <p>Design of a complex tool for a sheetmetal workpiece (exercise)</p>
Teaching Methods:	lectures 2 x 90 min per week, exercises included
Necessary Knowl:	basics in construction, technical drawing, metal forming Technologies
Usability:	Mechanical engineering (B. Eng.)
Preconditions for the	
Granting of credits:	written examination: 120 min
Credits:	5 ECTS – Credits
Frequency:	annually in the winter semester
Workload:	150 hours (present time 60 h + self study 90 h)
Duration of one unit:	90 min
	Supporting documents scriptum