

Metal Forming Technology

1	Module Number 7920	Study Programme MBB	Semester 6	Offered in <input checked="" type="checkbox"/> WS <input checked="" type="checkbox"/> SS	Duration 1 Semester	Module Type optional	Workload (h) 120	ECTS Points 4
2	Courses		Teaching and Learning Forms		Contact Time		Self-Study Time	Language
	a) Metal Forming Technology		Lecture		(SWS) 4	(h) 60	(h) 60	English
3	<p>Learning Outcomes and Competences Once the module has been successfully completed, the students can...</p> <p>Knowledge and Understanding</p> <ul style="list-style-type: none"> • Explain the basic processes of metal forming • Describe sheet metal forming processes mostly used in industry and understand the process limits • Describe the functionality of forming presses <p>Use, Application and Generation of Knowledge</p> <p><i>Use and Transfer</i></p> <ul style="list-style-type: none"> • Create reports and presentations in English • Develop possible process chains for new products <p><i>Scientific Innovation</i></p> <ul style="list-style-type: none"> • Optimize existing process chains by further use of simulation tools • Independently develop approaches for new forming concepts and assess their suitability • Develop concepts for the optimization of forming processes • Automatization of high volume production with sheet metals <p>Communication and Cooperation</p> <ul style="list-style-type: none"> • Use the learned knowledge, skills and competences to evaluate the feasibility of forming processes • Present the feasibility to manufacture new components • Working in groups and present new solutions for design tasks <p>Scientific Self-Conception/ Professionalism</p> <ul style="list-style-type: none"> • Justify the feasibility of sheet metal forming process chains and methodically 							
4	<p>Contents</p> <p>a) Basics: Plasticity, parameters, materials; Sheet metal forming: Deep drawing, drawing of complex parts (i.e. car body parts), tribology, multistage forming, bending, cutting, press hardening, hydroforming; press drive systems like modern servo presses; Applications: Components, process chains, weight reduction</p>							
5	<p>Participation Requirements recommended: Basic knowledge in production technology</p>							
6	<p>Examination Forms and Prerequisites for Awarding ECTS Points</p> <p>a) Written examination 120 min., graded</p>							
7	<p>Further Use of Module Automotive Engineering</p>							
8	<p>Module Manager and Full-Time Lecturer Prof. Dr.-Ing. Stefan Wagner</p>							
9	<p>Literature</p> <ul style="list-style-type: none"> • Lecture Materials • Metal Forming Handbook, ISBN 978-3-642-58857-0 • Altan, T.: Sheet Metal Forming, Fundamentals; ISBN 978-1-61503-842-8 • Altan, T.: Sheet Metal Forming, and Applications; ISBN 978-1-61503-844-2 							
10	<p>Last Updated 16.02.2022</p>							