

Course title: Design and Modelling of Technological Processes	Neptun code: GEMTT533-a
Course coordinator: Dr. Zsolt Lukacs, associate professor, PhD	
type and number of lessons: lecture, 2 hours/ week	
method of accountability: colloquium	
curriculum location of the subject: -	
pre-study conditions: Materials Science (GEMTT500P-a)	
The task and purpose of the subject:	
The task of the subject is to familiarize the students who have chosen the subject with materials technology processes, including the technological and tool design of plastic forming processes. with the logical structure and operation of supporting numerical applications	
Course description:	
Mechanical models and those required for modeling materials technology processes and overview of its material input parameters. Software and logical structure of sheet metal forming modelling. Overview of the AutoForm program system. Principle and implementation of systematic process development (SPI) in the AutoForm program system. Principle of implementation of springback compensation. Construction of a coupled thermo-mechanical model in the DEFORM program system. Operation of Guided Templates in each material technology area (Forming, Multiple Operation, HeatTreatment Wizard). Process modeling issues of innovative forming processes (HPF®, HFQ®)	
Required literature:	
1. Dorel Banabic: Sheet Metal Forming Processes: Constitutive Modelling and Numerical Simulation. ISBN:3540881131	
Recommended literature:	
1. Mielnik, E.: Metal Working Science and Engineering, McGraw Hill Co., New York, 1991. ISBN 0-07-041904-3	