



Subject card

Subject name and code	, PG_00058883						
Field of study	Mechanical Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Sławomir Szymański				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	18.0	0.0	0.0	9.0	0.0	27
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	27		0.0		0.0	27
Subject objectives	Acquiring knowledge in the field of designing injection molds for thermoplastics, experimental and computer methods in the design of injection tools						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K7_U01] is able to acquire information from specialist literary sources and other sources regarding the construction and operation of machines and related disciplines in polish and in a foreign language, is able to conduct a self-learning process, is able to synthesize the information, form conclusions and justify opinions		The student can for the product with from synthetic materials design an injection mold The student is able to design the compact The student is able to choose an injection molding machine			[SU1] Assessment of task fulfilment	
	[K7_W06] possesses organized, profound knowledge necessary for designing and optimization of complex technological processes, modelling and calculations using numerical methods, knows modern manufacturing methods and tools for designing manufacturing processes of machines, devices, their elements and components		The student knows about mold design methods z using methods computer			[SW1] Assessment of factual knowledge	
[K7_W11] possesses organized knowledge useful in understanding ex-technical conditioning connected with performing the profession of an engineer and taking it into consideration in engineering practice; possesses well-established knowledge within the range of intellectual property, management and organization of manufacturing processes, including the management and life-cycle of a product		The student has knowledge of the construction, operation and operation of injection molds			[SW1] Assessment of factual knowledge		

Subject contents	Technological basics of designing injection-molded products. Criteria for material selection for injection molded products. Construction of the injection mold (standard parts, molding components). Dies and stamps (manufacturing methods). Injection process simulation		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	60.0%	40.0%
		60.0%	60.0%
Recommended reading	Basic literature	1. D.Frenkler H.Zawistowski; KONSTRUKCJA FORM WTRYSKOWYCH DO TWORZYW TERMOPLASTYCZNYCH, Plastech, Warszawa, 2000 2. H. Zawistowski; ROZWÓJ KONSTRUKCJI FORM WTRYSKOWYCH, Plastech, Warszawa, 2003	
	Supplementary literature	online catalogs of corps and standardized items	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	1. Replace the basic functional modules of the form 2. Characterize the mold cooling systems 3. List the types of gating systems for molds		
Work placement	Not applicable		