



Subject card

Subject name and code	Integrated Manufacturing Systems - selected issues, M:31225W0						
Field of study	Mechanical Engineering						
Date of commencement of studies	February 2016		Academic year of realisation of subject		2016/2017		
Education level	second-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Manufacturing and Production Engineering -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Michał Dobrzyński				
	Teachers		mgr inż. Karolina Chodnicka-Wszelak dr inż. Michał Dobrzyński Jacek Eremus dr inż. Piotr Waszczur				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	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	30		10.0		35.0	75
Subject objectives	The aim of the course is to provide with advanced techniques related to integrated manufacturing systems. Possibilities of shaping different part types in such a environment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K_U16		Student classifies and distinguishes processing techniques in the area of integrated manufacturing system.		[SU1] Assessment of task fulfilment		
	K_W15		Student defines the capabilities concerning methods and means for manufacturing various types of parts in industrial integrated systems.		[SW1] Assessment of factual knowledge		
	K_U12		Select relevant processing methods for manufacturing process realization. Designs, optimise and validates.		[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		
Subject contents	LECTURE Integration of activities in the area of technical process planing and computer-aided design of manufacturing proces (CAPP). Integration at the single and multi machine level of manufacturing systems. Manufacturing of internal and external surfaces: machining of cylindrical, conical, thread shapes. Milling processes. Methods and means of finishing using plastic and abrasive machining. Some advanced methods of manufacturing: high-performance machining, machining of hard materials. Manufacture of prototypes and parts using Rapid Prototyping / Rapid Tooling techniques. Measuring methods in the manufacture of parts.						
Prerequisites and co-requisites	No requirements						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Colloquium		60.0%		100.0%		
Recommended reading	Basic literature		Olszak W.: Obróbka skrawaniem. WNT, Warszawa, 2008. Feld M.: Podstawy projektowania procesów technologicznych typowych części maszyn. WNT, Warszawa, 2003. Technologia obróbki skrawaniem. Poradnik obróbki skrawaniem. Sandvik 2010.				

	Supplementary literature	Grzesik W.: Podstawy skrawania materiałów metalowych. WNT, Warszawa, 1998. Poradnik inżyniera. Obróbka skrawaniem. T. I-III, WNT, Warszawa 1993. P. Cichosz Narzędzia skrawające WNT.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>Characterize main functions of computer integrated manufacturing systems..</p> <p>Why are Rapid prototyping processes technologically important?</p> <p>Present a sequence of processes in manufacturing process plan for integrated manufacturing.</p>	
Work placement	Not applicable	

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