GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Manufacturing Techniques 2, PG_00049765		
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2021/2022
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	English
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 hab. inż. Stefan Dzionk	
	Teachers	dr hab. inż. Stefan Dzionk dr inż. Piotr Sender	

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

Adresy na platformie eNauczanie:

Manufacturing Techniques 2 - W, Energy tech., I st., sem 3, zimowy 2021/22, (PG_00049765) - Moodle ID: 18592
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18592

Manufacturing Techniques 2 - W, Energy tech., I st., sem 3, zimowy 2021/22, (PG_00049765) - Moodle ID: 18592
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18592

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	4.0	41.0	75

Subject objectives

Knowledge of plastic technology, additive processing method, electric discharge manufacturing, and others advance machining processes. Principles of manufacturing process and quality control

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W06	The student knows unconventional technologies for manufacture of elements using in the energy infrastructure. The student is able to determine the basic funcjonal characteristics the elements produced for the needs of the energy sector and describe them using appropriate parameters used in production.	[SW1] Assessment of factual knowledge
K6_U01	The student knows the basic methods of programming and controlling selected production devices. The student chooses the method of measuring selected features of the structural elements. The student knows the basics of organizing the production process.	[SU3] Assessment of ability to use knowledge gained from the subject

Subject contents	LECTURE: Basic of plastic technology, additive method of manufacturing, Surface technology and inspection in 2D and 3D parameters, manufacturing systems, measurement and inspection,Production planing and control, LABORATORY EXERCISE: Additive method in manufacturing, geometric structure of surface - roughness measurement, plastic techniques, influence of the basis on manufacturing accuracy, (EDM) electro discharge manufacturing, planing manufacture of a definite part spectrum, coordinate measurement technics
Prerequisites and co-requisites	
Assessment methods and criteria	

Subject passing criteria	Passing threshold	Percentage of the final grade
Final test	60.0%	60.0%
Reports	0.0%	40.0%

Recommended reading	Basic literature	1. M. P. Groover: *Fundamentals of modern Manufacturing*, JOHN WILEY&SONS, INC. 2. S. Kalpakjian, S. R. Schmid: *Manufacturing Engineering and Technology*, Pearson Prentience Hall. 3. A. Brent Strong: Plastic materials and processing, Pearson Prentience Hall.2000.
	Supplementary literature	1. Myer Kutz: Mechanical Engineers' handbook Manufacturing and Management, John Wiley & sons, INC, 2006
	eResources addresses	Manufacturing Techniques 2 - W, Energy tech., I st., sem 3, zimowy 2021/22, (PG_00049765) - Moodle ID: 18592 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18592 Manufacturing Techniques 2 - W, Energy tech., I st., sem 3, zimowy 2021/22, (PG_00049765) - Moodle ID: 18592 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18592
Example issues/ example questions/ tasks being completed	1. Parameters characterize the geometric structure of the surface, 2. Measurement length and evaluation length, 3. Characterize machining allowances, 4. Bases in the manufacturing process, 5. The relationship between class of the accuracy of the components and the structure of the surface 6. What is the technological base?, 7. Operation in the manufacturing process, 8. Characterize the machining process, 9. Characterize the incremental method, 10. The method of manufacture of plastics components, 11. Characterise EDM process.	
Work placement	Not applicable	