GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Tooling of manufacturing systems, PG_00057443		
Field of study	Mechanical Engineering		
Date of commencement of studies	February 2022	Academic year of realisation of subject	2022/2023
Education level	second-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
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		
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	0.0	10.0	0.0	20

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	20	6.0	49.0	75

Subject objectives

Rules of universal workholders. Designs special workholders.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W09] possesses profound knowledge on the directions of development of construction of machines, devices, calculating methods and systems aiding the design, materials and their properties, manufacturing methods and diagnostics, control-measurement equipment		[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects
[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		[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects
[K7_U06] when solving engineering problems on design, technology and operation of machines is able to assess and classify typical methods and tools, define systemic and ex-technical aspects using modern calculating methods and design tools or modifying the current ones		[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools

Subject contents

LECTURE: Significance of instrumentation in a machine components manufacturing process. Errors influcencing on accuracy of workholger development. Setting an object in the workholder. Fastening an object in the workholder. Setting and fixing workholder in the machining tool. Principles of workholder design. Lathe chucks. Drill chucks. Milling fixtures. Modular fixtures. Toolholders. Assembly instrumentation. Instrumentation of transportation, manipulators and robots. Rules of computer aided and management of workplace aids. Pronciples of universal fixtures usage. Costs of instrumentation. PROJECT: Skills of setting and fastening objects in fixtures and implementation of machining fixture for a given operation.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Knowledge from recording design and manufacturing engineering.</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Written paper</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>Project</td><td>60.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Feld M.: Uchwyty obróbkowe. WNT, Warszawa, 2002.

Dobrzański T.: Uchwyty obróbkowe. Poradnik konstruktora, WNT, Warszawa 1987.

Normy przedmiotowe.

Materiały informacyjne producentów oprzyrządowania.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Poradnik inżyniera. Obróbka skrawaniem. T. I-III, WNT, Warszawa, 1993.</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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