

Dofinansowane przez Unię Europejską



COURSE SPECIFICATION

Course code	full-time programme:	M#2-S1-ME-210				
	part-time programme:					
Course title in Polish	Rysunek Techniczny Ma	Rysunek Techniczny Maszynowy				
Course title in English	Engineering Drawing					
Valid from (academic year)	2024/2025					

GENERAL INFORMATION

Programme of study	MECHANICAL ENGINEERING
Level of qualification	first-cycle
Type of education	academic
Mode of study	full-time programme
Specialism	all
Department responsible	Department of Machine Design and Machining
Course leader	dr inż. Robert Molasy
Approved by	dr hab. Jakub Takosoglu, prof. PŚk, Dean of the Faculty of Mechatronics and Mechanical Engineering

COURSE OVERVIEW

Course type		programme-specific
Course status		compulsory
Language of instruct	tion	English
Semester of	full-time programme	Semester II
delivery	part-time programme	
Pre-requisites		
Examination required (YES/NO)		NO
ECTS value		3

Mode of instrue	ction	lecture	class	laborator y	project	seminar
No. of hours	full-time programme	15			30	
per semester	part-time programme					

LEARNING OUTCOMES







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Category of outcome	Outcome code	Course learning outcomes	Corresponding programme outcome code
	W01	Has advanced, structured knowledge of concepts and procedures in the field of national, European and international standardization	MiBM1_W05 MiBM1_W06 MiBM1_W07
Knowledge	W02	Knows, at an advanced level, the principles, methods, methods and purposes of creating and analyzing technical documentation of mechanical structures.	MiBM1_W05 MiBM1_W09 MiBM1_W15
	designing machine pa W03 used in mechanics an	Has structured knowledge of the principles of designing machine parts and mechanical structures used in mechanics and machines, and also knows the principles of their selection and assessment of durability.	MiBM1_W05 MiBM1_W09 MiBM1_W15
Skills	U01	Is able to use knowledge from the area of basic sciences to formulate and solve engineering tasks in various areas of mechanics and machine, at the stage of design, construction and selection of materials	MiBM1_U01
	U02	Is able to obtain information from literature, databases and other sources in various languages regarding mechanics and machine when designing machine structures	MiBM1_U01 MiBM1_U03
	K01	Is aware of the need to independently supplement and expand knowledge in the field of mechanics and machine	MiBM1_K02
Competence	K02	Independently supplements and expands knowledge in the field of mechanics and machine construction, critically approaches the acquired knowledge during the implementation of a mechanical project.	MiBM1_K02 MiBM1_K03

COURSE CONTENT

Type of instruction lecture	Topics covered
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lecture	Technical product documentation - general instructions. Stages of making an executive drawing. Limit the number of views (and cuts and sections), choice of views depending on the level of complexity, number of views, including dimensioning. Selection of standardized machine parts and dimensions for sample machine parts (e.g. gear wheel, machine shaft, keyways, bearings, snap rings). Geometrical product specifications in the technical product documentation. Geometrical tolerancing. Tolerances of form, orientation, location and run-out. Datums and datum systems. Presentation of dimensions and tolerances. Assembly drawing - general notes, dimensioning, part numbering, assembly drawing table. Creating technical product documentation from an assembly drawing. Drawing permanent and detachable connections used in engineering practice.
project	Before starting to creating technical product documentation, the student first draws a sketch, which consists of a limit the number of views (and cuts and sections) to show all the details of the product. Next, the dimensions selected from the standards for a given part of the machine are added to the sketch. Makes a technical product documentation, selecting the main view and auxiliary projections. Adds dimensions in accordance with the principles of technical drawing. For a given element, it selects geometrical tolerancing for cooperating surfaces, as well as selects and applies roughness and fits to appropriate surfaces. The student also prepares an assembly drawing, placing it in the working position on the sheet, adding overall dimensions and, if necessary, also characteristic dimensions (e.g. hole spacing). Next, he numbers the component parts and fills in the table for the assembly drawing, taking into account the type of material for each element. Finally, he creates a technical product documentation for one element from the assembly drawing. The student also makes drawings of permanent and detachable connections. The student learns how to create drawings from parts. Learns general information on views and determines limit the number of views (and cuts and sections) for a specific detail. It uses section/cut in one plane, section/cut in two parallel planes, section/cut in two intersecting planes. In accordance with the principle and types of dimensioning, it calculates the necessary dimensions (taking into account the simplifications used in dimensioning). Depending on the complexity of the parts, drawing simplifications are used.

ASSESSMENT METHODS

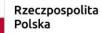
Outcome	Methods of assessment (Mark with an X where applicable)								
code	Oral examination	Written examination	Test	Project	Report	Other			
W01			х	х					
W02			х	х					
W03			х	х					
U01			х	х					
U02				х					







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K01		х	
K02		х	

ASSESSMENT TYPE AND CRITERIA

Mode of instruction	Assessment type	Assessment criteria
lecture	non-examination assessment	The pass mark is a minimum of 50% for all the in-class the final examination.
project	non-examination assessment	The pass mark is a minimum of 50% for all the in-class the developed project.

OVERALL STUDENT WORKLOAD

	ECTS weighting											
			Student workload									Unit
No.	Activity type	full-time programme				part-time programme						
			C	Lb	P	S	L	C Pro	gran Lb	P	S	
1.	Scheduled contact hours	L	C	LD	-	3	L	C	LD	Р	3	h
		15			30							
2.	Other contact hours (office hours, examination)	2	2 2								h	
3.	Total number of contact hours	49								h		
4.	Number of ECTS credits for contact hours	2,0								ECTS		
5.	Number of independent study hours		26								h	
6.	Number of ECTS credits for independent study hours	1,0							ECTS			
7.	Number of practical hours			50								h
8.	Number of ECTS credits for practical hours	2,0								ECTS		
9.	Total study time	75							h			
10.	ECTS credits for the course 1 ECTS credit = 25-30 hours of study time					;	3					ECTS

READING LIST

- 1. PN-EN, PN-ISO, PN.
- 2. Molasy R. Grafika Inżynierska zasady rzutowania i wymiarowania, PŚk, Kielce
- 3. Molasy R Rysunek Techniczny: chropowatość i falistość powierzchni, tolerancje geometryczne i tolerowanie wymiarów", PŚk Kielce 2016.
- 4. Dobrzański T Rysunek techniczny maszynowy wyd. 06.2021
- 5. Figurski J, Popis S. Rysunek techniczny w branży mechaniczne i samochodowej. Wyd. 06.2016
- 6. www.pkm.edu.pl



