Fun	dusze Europejskie Rozwoju Społecznego		Rzeczpospolita Polska	Dofir	nansowane przez Unie Europeiska	****		
Course co	a aada		me programme:	M#2-S1-ME-KWW-610				
Course code		part-t	ime programme:					
Course title in Polish		Przyrządy i uchwyty obróbkowe						
Course title in English		Workholding Devices for Machine Tools						
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	Computer-Aided Manufacturing					
Department responsible	Department of Machine Design and Machining					
Course leader	dr inż. Łukasz Nowakowski					
Approved by	dr hab. Jakub Takosoglu, prof. PŚk, Dean of the Faculty of Mechatronics and Mechanical Engineering					
OGÓLNA CHARAKTERYSTYKA PRZEDMIOTU						
Course ture	anagialism related					

Course type			specialism-related							
Course status				compulsory						
Language of instruction			English							
Semester of		full-time prog	gramme	Semester V						
delivery		part-time programme								
Pre-requisites			Engineering Drawing, Fundamentals of Machining, CNC Programming I							
Examination required (YES/NO)			NO							
ECTS value				2						
Mode of instruction lecture			class	laboratory	project	seminar				
No. of hours	full-ti prog	me ramme	15			15				
per semester	part- prog	time ramme								

LEARNING OUTCOMES

Category of outcome	Outcome code	Course learning outcomes	Corresponding programme outcome code		
Knowledge	W01	The student has a structured knowledge of engineering graphics and modern information technologies to support the design of machining jigs and fixtures	MiBM1_W03 MiBM1_W06		



Projekt "Dostosowanie kształcenia w Politechnice Świętokrzyskiej do potrzeb współczesnej gospodarki" nr FERS.01.05-IP.08-0234/23

Fundusze dla Rozw	Europejskie oiu Społeczne	Rzeczpospolita Dofinansowane p po Polska Unie Europe	irzez
	W02	The student knows the methods to design machining tools. Has detailed knowledge related to selected issues in design, manufacturing technology tools and machining fixtures.	MiBM1_W11 MiBM1_W07
	U01	The student is able to consciously use computer software in the field of mechanics and mechanical engineering in the areas of design, construction, manufacturing techniques, presentation of work results.	MiBM1_U02 MiBM1_U04
Skills	U02 U03	The student is able to design a simple technological process in the field of mechanics and mechanical engineering and select appropriate machinery and equipment for this purpose.	MiBM1_U08 MiBM1_U09
		The student is able to carry out the design and process for machining tools using CAD/CAM software, starting with a sketch and ending with a prototype.	MiBM1_U04 MiBM1_U19
Competence	K01	The student is ready to critically evaluate his knowledge and the need to improve his professional qualifications (through second and third degree studies, postgraduate studies, professional courses).	MiBM1_K01 MiBM1_K03

COURSE CONTENT

Type of instruction lecture	Topics covered
lecture	The following content will be imparted as part of the lecture classes conducted, including: classification of machining jigs and fixtures, principle of operation of machining jigs and fixtures, construction of machining jigs and fixtures, materials used in the construction of machining jigs and fixtures, design solutions used in the construction of machining jigs and fixtures.
project	As part of the project activities, students will develop designs for selected machining jigs and fixtures designed to clamp workpieces on numerically controlled machines

ASSESSMENT METHODS

Outcome	Methods of assessment (Mark with an X where applicable)									
code	Oral examination	Written examination	Test	Project	Report	Other				
W01			х							
W02			х							
U01				x						
U02				x						
U03				x						
K01				x						

ASSESSMENT TYPE AND CRITERIA

instruction Assessment type



Projekt "Dostosowanie kształcenia w Politechnice Świętokrzyskiej do potrzeb współczesnej gospodarki" nr FERS.01.05-IP.08-0234/23

Fundus dla Roz	ze Europejskie woju Społecznego	Rzeczpospolita Dofinansowane przez Polska Unie Europejska	****					
lecture	non-examination	Successful completion of the final colloquium. Obtaining at least 50% of the points.						
project	non-examination assessment	Positive completion of class reports. The final grade arithmetic average.	is the					

OVERALL STUDENT WORKLOAD

ECTS weighting												
			Student workload									
No.	Activity type	full-time					part-time					
			pro	yran 		0						
1	Scheduled contact hours	L	C	Lb	Р	S	L	C	Lb	Р	S	h
••		15			15							
2.	Other contact hours (office hours,	2			2							h
	examination)											
3.	Total number of contact hours		34									h
4.	Number of ECTS credits for contact		1,4							ECTS		
5.	Number of independent study hours		16							h		
6.	Number of ECTS credits for independent study hours	0,6						ECTS				
7.	Number of practical hours		25								h	
8.	Number of ECTS credits for practical hours	1,0						ECTS				
9.	Total study time	50					h					
10.	ECTS credits for the course 1 ECTS credit = 25-30 hours of study time					2	2					ECTS

READING LIST

- 1. Feld M.: Uchwyty obróbkowe, WNT, Warszawa 2002.
- 2. Kapiński S., Skawiński P., Sobieszczański J., Sobolewski J.: Projektowanie technologii maszyn. Wydawnictwo Politechniki Warszawskiej. 2007.
- 3. Dobrzański T.: Uchwyty obróbkowe. Poradnik konstruktora. WNT. Warszawa 1966.
- 4. Literatura uzupełniająca: Fachowe pisma techniczne i katalogi firm produkujących uchwyty.

