

**COURSE SPECIFICATION**

Course code	full-time programme:	M#2-S2-ME-PT-111
	part-time programme:	
Course title in Polish	Kryteria bezpieczeństwa i dostępności w projektowaniu	
Course title in English	Safety and Accessibility Criteria in Design	
Valid from (academic year)	2024/2025	

GENERAL INFORMATION

Programme of study	MECHANICAL ENGINEERING
Level of qualification	second-cycle
Type of education	academic
Mode of study	full-time programme
Specialism	Design and Manufacturing
Department responsible	Department of Mechatronics and Weapons Engineering
Course leader	prof. dr hab. inż. Ryszard Dindorf
Approved by	dr hab. Jakub Takosoglu, prof. PŚk, Dean of the Faculty of Mechatronics and Mechanical Engineering

COURSE OVERVIEW

Course type	specialism-related	
Course status	compulsory	
Language of instruction	English	
Semester of delivery	full-time programme	Semester I
	part-time programme	Semester I
Pre-requisites		
Examination required (YES/NO)	NO	
ECTS value	2	

Mode of instruction		lecture	class	laboratory	project	seminar
No. of hours per semester	full-time programme	15			15	
	part-time programme					

LEARNING OUTCOMES

Category of outcome	Outcome code	Course learning outcomes	Corresponding programme outcome code





Knowledge	W01	It has in-depth knowledge of hazards and protection at the workplace, and the use of technical protective measures, hazards, and protection on automated and robotic production lines.	MiBM2_W04
	W02	It provides detailed and in-depth knowledge of legal regulations regarding accessibility criteria, universal design principles, and barrier-free industrial solutions.	MiBM2_W04
Skills	U01	It can perceive complex connections between engineering decisions and non-technical areas, including environmental, economic, legal, and sustainable design principles, while maintaining safety and accessibility criteria in accordance with applicable requirements. The students were able to manage the projects.	MiBM2_U14
	U02	It has the ability to plan continuous self-education and guide others in this area to solve and implement new, increasingly complex tasks and improve professional competencies and accessibility criteria in accordance with applicable requirements. The students were able to manage the projects.	MiBM2_U16
Competence	K01	It is important to understand the non-technical aspects and effects of engineering activities, including their impact on the safety of other people, the environment, and associated responsibilities.	MiBM2_K02
	K02	It is ready to responsibly perform professional roles related to the field of study, adhere to ethical principles, and work to ensure compliance with these principles, taking into account changing social needs and care about the achievements, ethos, and traditions of the profession. Adheres to the principles of professional ethics and takes action to ensure compliance.	MiBM2_K05

COURSE CONTENT

Mode of instruction	Topics covered
lecture	Legal basis of machine and device safety. Hazards and safeguards at the workplace. Application of technical protective measures. Hazards and safeguards for automated and robotic production lines. Application of the LOTO security system. Legal regulations regarding accessibility. Principles of universal design. Solutions in industry without accessibility barriers.
project	Creating a checklist for identifying hazards in the workplace. Design of selected technical protective measures. Design of the selected device using the selected accessibility criterion. Design of a selected device using a universal design. Principle design of a workstation without accessibility barriers.

ASSESSMENT METHODS

Outcome	Methods of assessment
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code	Oral examination	Written examination	Test	Project	Report	Other
W01			X			
W02			X			
U01				X		
U02				X		
K01						X
K02						X

ASSESSMENT TYPE AND CRITERIA

Mode of instruction	Assessment type	Assessment criteria
lecture	non-examination assessment	Passing the colloquium. Obtaining at least 50% of the points.
project	non-examination assessment	Positive assessment of projects. The final grade is the arithmetic mean.

OVERALL STUDENT WORKLOAD

ECTS weighting													
No.	Activity type	Student workload										Unit	
		full-time programme					part-time programme						
		L	C	Lb	P	S	L	C	Lb	P	S		
1.	Scheduled contact hours	15			15								h
2.	Other contact hours (office hours, examination)	2			2								h
3.	Total number of contact hours	34										h	
4.	Number of ECTS credits for contact hours	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 <i>1 ECTS credit = 25-30 hours of study time</i>						2					ECTS	

READING LIST

1. Dindorf R., Takosoglu J., Woś P.: Safety of hydraulic and pneumatic systems. Monographs, Studies, Dissertations M97. Publishing House of the Kielce University of Technology, Kielce 2018.





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Rzeczpospolita
Polska

Dofinansowane przez
Unię Europejską



2. Guide to the Machinery Directive 2006/42/EC. European Commission Enterprises and Industry, 2010.
3. Machinery safety guide: FESTO, OMRON, ABB.
4. Safety systems: SCHMERSAL.
5. Machinery safety: SCHNEIDER, SICK, SIEMENS.
6. Accessibility standards for cohesion policy 2014-2020.
7. Europe without barriers. European Disability Strategy 2010-2020. Documents published by the Council of Europe.
8. J. Budny, Adaptation of public buildings. Theory, tools, Warsaw 2009.
9. E. Czarnecki, W. Siemiński, Shaping safe public space, Warsaw 2004.
10. E. Kuryłowicz, Universal design. Architectural conditions for shaping a friendly environment for disabled people, Warsaw 2005.
11. E. Kuryłowicz, Universal design, Stockholm - the city of all, Warsaw 2005
12. Universal design. Explanation of the concept. Thematic report of the Government Plenipotentiary for Disabled People, 2013.



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Wydział Mechatroniki
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