



Subject card

Subject name and code	Computer-Aided Design in hydrogen technologies, PG_00068802						
Field of study	Hydrogen Technologies and Electromobility						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
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		Polish Polish		
Semester of study	3		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Biomechanics -> Faculty of Electrical and Control Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Wiktor Waszkowiak				
	Teachers		dr inż. Wiktor Waszkowiak				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	0.0	0.0	45
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=7151						
	Moodle ID: 7151 TECHNIKI CAD W TECHNOLOGIACH WODOROWYCH [TWiE][2026/27] https://enauczanie.pg.edu.pl/2025/course/view.php?id=7151						
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	45		5.0		25.0	75
Subject objectives	Acquisition of skills in creating and preparing technical documentation using computer-aided design (CAD) software.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W09] knows the principles of designing electrical installations, controlling electrical devices in hydrogen installations, making technical drawings and documentation, has structured knowledge of measuring electrical and non-electrical quantities, documenting their results and calculating measurement uncertainty		The student prepares technical documentation in accordance with the applicable standards.		[SW1] Assessment of factual knowledge		
	[K6_U04] can apply the learned methods to the analysis and design of electrical elements, devices and systems		The student is able to apply the principles of technical drawing and CAD tools to prepare technical documentation of components and technical systems.		[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		

Subject contents	Course content – lecture Fundamentals of graphical representation of three-dimensional objects on a plane. Orthographic projection. Basic concepts related to technical documentation and the principles of engineering drawing. Types of technical drawings, sheet formats and drawing scales. Principles of representing the geometrical form of components and arranging dimensions. Sections and sectional views. Graphical representation of mechanical connections, including detachable and permanent joints. Detail and assembly drawings. Basic principles of using symbols and designations in technical documentation.		
	Course content – laboratory Preparation of technical documentation using AutoCAD. Organization and preparation of computer-aided drawings. Creating orthographic views, sections and dimensions of components. Use of layers, line types, blocks and other tools supporting the preparation of technical documentation. Computer-aided methods of representing components and technical systems. Use of selected graphical symbols applied in various branches of engineering. .		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test on theoretical content during the lecture	50.0%	50.0%
	Design task during laboratory classes	50.0%	50.0%
Recommended reading	Basic literature	1. Dobrzański T.: Rysunek techniczny maszynowy. Warszawa: WNT, 1998. 2. Mazur J., Kosiński k., Polakowski K. Grafika inżynierska z wykorzystaniem metod CAD. Oficyna Wydawnicza Politechniki Warszawskiej. Warszawa 2004. 3. Pikoń A. AutocAD PL. Helion. Gliwice 2006.	
	Supplementary literature		
	eResources addresses		
Example issues/ example questions/ tasks being completed	Based on the provided axonometric drawing, a correct technical drawing of the object shall be prepared using orthographic projections. Where appropriate, suitable sectional views or additional views shall be included.		
Practical activities within the subject	Not applicable		

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