



Subject card

Subject name and code	CDIO Project I, PG_00050284						
Field of study	CDIO Project I						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Optional subject group		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Division of Manufacturing and Production Engineering -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Norbert Piotrowski				
	Teachers		dr inż. Norbert Piotrowski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	0.0	30
	E-learning hours included: 0.0						
	eNauczanie source addresses: Moodle ID: 2523 CDIO Project I, P, MiBM, I st., sem. 5, zima 2025/26 (PG_00050284) https://enauczanie.pg.edu.pl/2025/course/view.php?id=2523						
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	30		5.0		65.0	100
Subject objectives	Learning the skills that are necessary in the design, implementation and operation of real systems and products. Gaining technical knowledge, communication skills, teamwork and problem solving.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U03] is able to identify, formulate and develop the documentation of a simple design or technological task, including the description of the results of this task in Polish or in a foreign language and to present the results using computer software or other aiding tools	The student is able to discuss the subsequent phases and tasks of the project life cycle. He can create technical documentation for individual project tasks. The student knows what computer programs can be used to support the creation of individual elements of documentation.	[SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu
	[K6_U02] is able to work in a team and individually, also in multi-disciplinary teams, is able to draw a plan of completing a construction or technological design, shows self-learning abilities	The student is able to create a project team, organize the work of the team and manage it efficiently. In particular: define roles in the project, set competences, tasks and set goals and division of work. The student has the skills to create a plan of any construction or technological project.	[SU4] Ocena umiejętności korzystania z metod i narzędzi
	[K6_K01] is aware of the need for complementing the knowledge throughout the whole life, is able to select proper methods of teaching and learning, critically assesses the possessed knowledge; is aware of the importance of professional conduct and following the rules of professional ethics; is able to show resourcefulness and innovation in the realisation of professional projects	The student is aware of the need for lifelong learning, improving professional, personal and social competences resulting from the changing reality and the variety of projects. The student is ready to start work related to design.	[SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce
	K6_U09	The student is able to develop the technological process of typical mechanical parts.	[SU1] Ocena realizacji zadania
	K6_U01	The student is able to find information from various sources necessary to solve the problems presented in the project.	[SU2] Ocena umiejętności analizy informacji
Subject contents	Course content – project <i>Introduction and explanation of the meaning of the CDIO initiative. Team building session. Building team members' engagement in stationary and remote work. Tools for creating space for online teamwork. Ways to build active communication, conduct discussions and presentations online. Design stages: adopting a team project plan, developing a Gantt schedule, determining the necessary resources and how to obtain them. Designing in accordance with the principles of the design thinking method: empathy, problem definition, generating ideas, building prototypes and testing. Assessment of projects and presentations.</i>		
Prerequisites and co-requisites	<i>Knowledge of basics in the field of product modeling in CAD systems, machine manufacturing processes, including the technologies of mechanical processing of their components and information techniques.</i>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	60.0%	100.0%
Recommended reading	Basic literature	<i>Edward Crawley, Johan Malmqvist, Sören Östlund, Doris Brodeur: Rethinking Engineering Education, The CDIO Approach, 2007.</i> <i>Verganti Roberto: Design Driven Innovation: Changing the Rules of Competition by Radically Innovating What Things Mean, 2009.</i> <i>Tim Brown: Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation, 2009.</i>	
	Supplementary literature	<i>Chrościcki Zbigniew: Zarządzanie projektem zespołami zadaniowymi, Wyd. C.H. Beck, Warszawa 2001.</i> <i>Trocki Michał: Metodyki zarządzania projektami, Bizarre, Warszawa 2011.</i>	
	eResources addresses		

Example issues/ example questions/ tasks being completed	<i>The use of new technologies in the design of products and processes.</i> <i>Additive manufacturing methods.</i> <i>The use of virtual and augmented reality technologies.</i> <i>Application of artificial intelligence algorithms to solve technical problems.</i> <i>Development of the technological process using CAD / CAM systems.</i> <i>Robotics in advance manufacturing systems.</i>
Practical activities within the subject	Not applicable

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