



Subject card

Subject name and code	, PG_00062712						
Field of study	Geodesy and Cartography						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. arch. Dominika Wróblewska					
	Teachers	dr inż. arch. Dominika Wróblewska dr Magdalena Popowska dr hab. Julita Wasilczuk					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	20.0	0.0	35
	E-learning hours included: 0.0						
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	35	0.0		0.0	35	
Subject objectives	The aim of the course is to prepare for work and then gain access to solving the problem and the project work method.						
Learning outcomes	Course outcome	Subject outcome		Method of verification			
	[K6_K02] is ready to solve problems related to the profession of geodesy and cartography engineer and to assess risks and effects of the performed activity	is ready to generate solutions to problems using the tools and soft skills learned		[SK5] Assessment of ability to solve problems that arise in practice [SK3] Assessment of ability to organize work			
	[K6_K01] can think and act in a creative and enterprising way; is ready to define priorities for the implementation of an individual or group task; understands the need for continuous education and professional responsibility for his own and his team activities, and being ready to assess their own limitations, knows when to ask experts	can think in a creative and entrepreneurial way; is ready to determine priorities for implementing an individual or group task,		[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK4] Assessment of communication skills, including language correctness			
	[K6_W12] knows and understands legal norms in the field of protection of intellectual property and patent management law, including conducting business in geodesy and cartography	knows and understands legal standards in the field of intellectual property protection and patent law as well as management, including running a business		[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation			
Subject contents	Introduction to the subject, Creativity, innovation and entrepreneurship Generating innovative ideas using available methods (brainstorming and mindmapping) design thinking moodboards Group work Business Model Canvas or Lean Canvas as an engineering team process of creating value for customers (buyer persona) DT - introduction, Empathy Creating a Minimum Viable Product (landing page, prototype, story) DT - diagnosis and generation Channels to reach the customer: communication strategies, branding, social media marketing DT - Prototyping and testing Channels to reach the customer: communication strategies, branding, social media marketing CSR - an essential element in a modern enterprise. Financing of new business ventures. Basic forms of intellectual property protection. Application of artificial intelligence in the enterprise.						

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	60.0%	60.0%
	Knowledge	60.0%	20.0%
	Tasks	100.0%	0.0%
	Presentation	60.0%	20.0%
Recommended reading	Basic literature	<p>Creative thinking, or something from nothing. Michał Jasiński. ISBN: 978-83-8294-290-3</p> <p>Designing an innovation strategy/ Mariusz Sołtysik, Sołtysik, Mariusz (organizacja i zarządzanie) Autor Polskie Wydawnictwo Ekonomiczne Wydawca copyright 2021 Warszawa : Polskie Wydawnictwo Ekonomiczne</p> <p>Teamwork and leaders / Andrzej Pacana, Pacana, Andrzej Autor Oficyna Wydawnicza Politechniki Rzeszowskiej Wydawca2017 Rzeszów : Oficyna Wydawnicza Politechniki Rzeszowskiej</p> <p>Change through design: how design thinking changes organizations and stimulates innovation / Tim Brown ; współpr. Barry Katz ; przeł. Marta Höffner. Brown, Tim (1954-) Höffner, Marta Tłumaczenie Katz, Barry Instytut Dziennikarstwa i Komunikacji Społecznej (Uniwersytet Wrocławski) Wydawnictwo Libron2013 Wrocław : Instytut Dziennikarstwa i Komunikacji Społecznej. Uniwersytet Wrocławski ; Kraków : Wydawnictwo Libron - Filip Lohner</p>	
	Supplementary literature	<p>Design thinking : new product development essentials from the PDMA / edited by Michael G. Luchs, K. Scott Swan, Abbie Griffin. Luchs, Michael, 1968- editor. Swan, Scott, 1962- editor. Griffin, Abbie, editor. Product Development & Management Association.2016 Hoboken, New Jersey : Wiley</p> <p>Design thinking guide - How to use design thinking in business / Beata Michalska-Dominiak, Piotr Grocholiński. Michalska-Dominiak, Beata Autor Grocholiński, Piotr Autor Helion Wydawca copyright 2019 Gliwice : Helion</p>	
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Myślenie projektowe 2025 - Moodle ID: 44720 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=44720</p>	
Example issues/ example questions/ tasks being completed	Diagnosis of personal potential in the context of group work.		
Work placement	Not applicable		

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