

**Subject card**

<b>Subject name and code</b>	Generative AI, PG_00073459						
<b>Field of study</b>	Generatywna AI						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2024/2025		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	1	<b>Language of instruction</b>			Polish None		
<b>Semester of study</b>	1	<b>ECTS credits</b>			2.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>	Division of Combinatorial Optimisation -> Institute of Informatics -> Faculty of Mathematics, Physics and Informatics -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		mgr Mateusz Miotk				
	<b>Teachers</b>		mgr Mateusz Miotk				
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	0.0	0.0	0.0	30.0	0.0	30
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	30		2.0		30.0	62
<b>Subject objectives</b>	Aims to provide tools in artificial intelligence that enable the creation of new content, such as texts, images, or music. It covers the theoretical foundations of generative AI models and teaches the use of the latest technologies and platforms.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[PGHL3_K05] Is ready to perform professional roles responsibly and observe the professional ethics of a historian, as well as to demonstrate an understanding of the world of values and attitudes of people in different historical periods and contexts	Is prepared to responsibly fulfill professional roles in the field of artificial intelligence, adhering to professional ethics. Understands the importance of ethical and social aspects of using generative AI and can follow ethical principles in working with AI technologies. Is aware of the impact of generative AI on society and the economy and can show understanding for different values and attitudes of people in the context of technology. Can critically evaluate the applications of generative AI, considering various perspectives and social contexts. Is ready to engage in dialogue about the ethical implications of generative AI and collaborate with others to promote the responsible use of technology.	[SK2] prezentacja/projekt/referat/raport [SK5] realizacja zadania problemowego [SK8] obserwacja samodzielnej lub zespołowej pracy studenta
	[PGHL3_U02] Can select and apply methods and tools (including advanced information and communication techniques) in a manner appropriate to the problem being solved	Is able to select appropriate generative AI tools and techniques to solve specific problems related to content creation, such as texts, images, or music. Can use advanced information and communication technologies to implement projects based on generative AI. Is capable of analyzing a problem and selecting the most effective generative AI methods to solve it. Can integrate various AI tools within a single project to achieve optimal results. Is able to evaluate the effectiveness of the applied generative AI methods and tools and make necessary adjustments to improve outcomes.	[SU2] prezentacja/projekt/referat/raport [SU4] test/egzamin - ustny lub pisemny [SU5] realizacja zadania problemowego
[PGHL3_W09] Knows and understands the fundamental dilemmas of modern civilization and recognizes the relationships and dependencies between the past and current events also in terms of the dissemination of historical knowledge, including historical games	Possesses knowledge of the latest tools and techniques in generative artificial intelligence and understands the principles of their operation. Can analyze and assess the impact of generative AI on technological development and its applications in various fields, such as digital content creation, automation of creative processes, and innovations in media. Also understands the ethical and social challenges associated with the use of generative AI and is capable of critically evaluating its impact on society and the economy.	[SW4] test/egzamin - ustny lub pisemny [SW2] prezentacja/projekt/referat/raport [SW5] realizacja zadania problemowego	
Subject contents	<ol style="list-style-type: none"> <li>1. Introduction to Generative AI and Prompt Engineering</li> <li>2. Fundamentals of Generative AI Models</li> <li>3. Prompt Engineering for Language Models</li> <li>4. Prompt Engineering for Image Generation</li> <li>5. Prompt Engineering for Music Generation</li> <li>6. Advanced Techniques in Prompt Engineering</li> <li>7. Integration of Generative Tools in Projects</li> <li>8. Ethical and Social Aspects of Generative AI</li> </ol>		
Prerequisites and co-requisites	None		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	50.0%	40.0%
	Quizzes	50.0%	60.0%

Recommended reading	Basic literature	<ul style="list-style-type: none"> <li>• N. Dhamani, M. Engler, Introduction to Generative AI, Manning Publications, 2024.</li> <li>• G. Mizrahi, Unlocking the Secrets of Prompt Engineering, Packt publishing, 2023.</li> <li>• J. Phoenix, M. Tay, Prompt Engineering for Generative AI, O'Reilly, 2024.</li> </ul>
	Supplementary literature	<ul style="list-style-type: none"> <li>• F. Esposito, Programming Large Language Models with Azure Open AI: Conversational programming and prompt engineering with LLMs, Pearson Education, 2024.</li> <li>• E. Sarrion, Exploring the Power of ChatGPT: Applications, Techniques, and Implications, Apress, 2023.</li> </ul>
	eResources addresses	
Example issues/ example questions/ tasks being completed	None	
Work placement	Not applicable	

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