

Subject card

Subject name and code	Collaborative Project I, PG_00167611						
Field of study	Mathematical Modeling and Data Analysis						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2025/2026	
Education level	Master's studies		Subject group			Obligatory subject group in the field of study Optional 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			5.0	
Learning profile	academic		Assessment form			credit	
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		mgr inż. Michał Kałapus				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	60.0	0.0	0.0	0.0	60
	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	60		5.0		60.0	125
Subject objectives	The aim of the course is to familiarize students with methods, tools and methodologies of working in group projects to implement projects also according to students' ideas, as well as to improve competences in teamwork skills. Selected teams will prepare to implement research and development projects prepared and supervised by companies cooperating with the university.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[MMiADMU2_K05] is ready to independently search for information in literature, also in foreign languages	is able to obtain information from literature, the Internet and other sources, integrate it, assess its credibility, interpret it, draw conclusions and formulate opinions	[SK1] oral statement/conversation/discussion
	[MMiADMU2_U07] is able to define his interests and develop them; in particular, is able to establish contact with specialists in their field, e.g. understand their lectures intended for young mathematicians	can apply mathematical knowledge to formulate, analyze and solve simple IT-related tasks is able to obtain information from literature, knowledge bases, the Internet and other reliable sources, integrate it, interpret it, draw conclusions and formulate opinions is able to work in a team of IT specialists, is also able to manage his own time and that of others, as well as make commitments and meet deadlines is able to communicate using various techniques in a professional environment and in other environments, including English and the use of IT tools can write, run and test programs in a selected programming environment designs, analyzes for correctness and computational complexity, and programs algorithms; uses basic algorithmic techniques and data structures uses accepted formats for representing various types of data depending on the situation assesses the usefulness of various paradigms and related programming environments for solving various types of problems is able to assess, at a basic level, the usefulness of IT methods and tools is able - in accordance with the given specification - to design and implement a simple IT system creates, evaluates and implements the test plan is prepared to effectively participate in software inspections has the ability to use at least one of the most popular version management systems uses design patterns	[SU1] oral statement/conversation/discussion
	[MMiADMU2_W06] knows and understands the principles of health and safety at work sufficiently to work independently in the profession of a mathematician	knows the basic methods of designing, analyzing and programming algorithms, knows basic programming structures and data structures has basic knowledge of software engineering, design, tools and software development environments, IT project life cycle, software specifications, validation and verification, software maintenance knows the basic principles of occupational health and safety in the IT profession	[SW1] oral statement/conversation/discussion
	[MMiADMU2_K02] is ready to precisely formulate questions to deepen his own understanding of a given topic or to find missing elements of reasoning	understands the need and appreciates the advantages of teamwork, understands the necessity systematic work on team IT projects, is ready to work actively in a team	[SK5] implementation of a problem task
	[MMiADMU2_K01] is ready to recognize the limitations of his own knowledge and is ready to continue his education	knows the limits of his own knowledge and understands the need for further learning	[SK1] oral statement/conversation/discussion
	[MMiADMU2_U11] can evaluate, at a basic level, the usefulness of mathematical methods and IT tools	has general knowledge of various programming paradigms and languages	[SU8] observation of student's independent or team work

	Course outcome	Subject outcome	Method of verification
	[MMiADMU2_K04] is ready to understand and appreciate the importance of intellectual honesty in the actions of himself and others; is ready to act ethically	is able to work in a team of IT specialists, manage their time and make commitments and meet deadlines, communicate using various techniques, including the use of dedicated tools	[SK8] observation of student's independent or team work
	[MMiADMU2_K03] is ready for teamwork; understands the necessity of systematic work on all projects that are of a long-term nature	has structured, theoretically based general knowledge in the field of algorithms and data structures, formal languages, automata theory and computational complexity	[SK1] oral statement/conversation/discussion
	[MMiADMU2_W09] knows and understands the general principles of creating and developing forms of individual entrepreneurship, using knowledge in the field of mathematics and related sciences	has knowledge of network technologies, including basic communication protocols, security and construction of network applications	[SW5] implementation of a problem task
Subject contents	1.Work on the design and manufacturing processes 2. Popular project management methodologies 3. Tools supporting group work on the project 4. Reporting on work progress 5. Regularly identifying and implementing improvements to the way we work 6. Presentation of the final results		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	51.0%	100.0%
Recommended reading	Basic literature	1. J. Philips: <i>Zarządzanie projektami IT</i> . Gliwice. Helion. 2011. 2. R.K. Wysocki: <i>Effective Project Management: Traditional, Agile, Extreme</i> . Indianapolis. 2009.	
	Supplementary literature	Scientific papers in the scope	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Teamwork on a given topic		
Work placement	Not applicable		

Document generated electronically. Does not require a seal or signature.