GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Advanced Engineering Management, PG_00066995		
Field of study	Smart Renewable Energy Engineering		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	Optional subject group Humanistic-social subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English
Semester of study	2	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Informatics In Management -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Sławomir Ostrowski	
	Teachers		

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

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

Familiarization with project management methods and practicing them on the example of an implemented project.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U03] collaborates effectively in multidisciplinary teams, can communicate with team members, and coordinate activities in energy-related projects	Students can collaborate effectively in multidisciplinary teams implementing energy projects. They demonstrate the ability to communicate effectively, coordinate activities, and integrate the knowledge and competencies of various specialists to achieve the intended project outcomes.	[SU1] Assessment of task fulfilment
[K7_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications	has general knowledge in the field of humanities, social sciences, economics or law, including their foundations and applications	[SW1] Assessment of factual knowledge
[K7_K04] understands the principles of sustainable development and can apply them to energy projects, taking into account environmental, economic, and social considerations	The student understands the principles of sustainable development and knows the methods of their practical application in energy projects, with particular emphasis on ecological, economic and social aspects.	[SK1] Assessment of group work skills
[K7_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems	can apply knowledge of the humanities or social sciences or economics or law to solve problems	[SU4] Assessment of ability to use methods and tools

<table>
<tr><td>Subject contents</td><td>Course content – lecture
LECTURE:

• Basic project management concepts.
• Classical, agile, and adaptive project management methodologies. Which are best for engineering projects related to wind energy?
• Principles of project planning.
• Project management areas and processes.
• Project integration management.
• Scope management in engineering projects.
• Division of responsibilities in investment projects.
• Collaboration with the client.
• Principles of investment project preparation and implementation.
• Specifics of project management in wind energy.
• Human resources management in the project.
• Supplier portfolio management in engineering projects.
• Project time management.
• Project cost management.
• Project cost and duration analysis methods.
• Project quality management.
• Project communication management.
• Methods of communication with stakeholders and relationship management (developer/operator).
• Methods of negotiation with subcontractors and assertiveness towards subordinates.
• Risk management in energy projects.
• Managing constraints in energy projects.
• Procurement management in engineering projects.
• Project portfolio management.
• Principles and best practices used in energy projects.
LABORATORY:
• Using MS Project to implement your own project (engineering/investment).
• Designing an activity network in the form of a network diagram.
• Designing an activity network from a task list, including parent and subordinate tasks.
• Assigning resources to tasks using fixed work, fixed time, and fixed resource count methods.
• Balancing resources and eliminating overloads.
• Overtime as an emergency resource. Shared resource pool.
• Managing multiple projects (developer/operator communication).
• Project cost analysis. Project deadline risk analysis.
• Reporting (printouts).
• Examples of MS Project use in investment projects.
• Examples of additional IT tools to complement the Project Manager's work.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Project</td><td>60.0%</td><td>60.0%</td></tr><tr><td>Egzam</td><td>60.0%</td><td>40.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Project Management Institute, Inc.: A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) Redlarski, Krzysztof. Podstawy metodyki zarządzania projektami w ujęciu klasycznym. Wydawnictwo Politechniki Gdańskiej, 2016 Trocki M.: Zarządzanie projektami, PWN Warszawa 2003r Wilczewski S.: MS Project 2010 i MS Project Server 2010. Helion 2011</td></tr><tr><td>Supplementary literature</td><td>Pritchard Carl L., Zarządzanie ryzykiem w projektach, WIG - PRESS Warszawa 2002 Kerzner H.: Project Management a Systems Approach, To Pleanning, Scheduling and Controlling Chatfield C., Johnson T., MicrosoftOffice Project 2010 krok po kroku, RM Warszawa 2011</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>• What are the challenges of managing wind energy projects?
• What does managing communication with project stakeholders involve?</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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