



Subject card

Subject name and code		Sustainability of Engineering, PG_00066997						
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 Entrepreneurship -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)		Subject supervisor		dr Barbara Geniusz-Stepnowska				
		Teachers						
Lesson types		Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
		Number of study hours	15.0	15.0	0.0	0.0	0.0	30
		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	30	4.0		41.0	75	
Subject objectives		The course aims to develop knowledge and practical understanding of the energy transition within the framework of sustainable development, with a focus on the offshore wind sector. It highlights the importance of innovation, new business models, and a redefined approach to leadership as key enablers of competitive advantage in an environment shaped by complexity, accelerated change, and environmental transformation.						
Learning outcomes		Course outcome	Subject outcome		Method of verification			
		[K7_U05] can produce concise, clear technical reports, documenting analytical findings and presenting them in report format	Is able to develop a clear and concise presentation summarising the analysis of a complex problem related to the energy transition Offshore providing recommendations on sustainable models, cross-sector collaboration, and innovation.		[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools			
		[K7_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications	Demonstrates general knowledge in social and economic sciences in the context of the energy transition, including the foundations of sustainable development, new economic models, and stakeholder cooperation mechanisms.		[SW2] Assessment of knowledge contained in presentation			
		[K7_K71] is able to explain the need to apply knowledge from humanistic, social, economic or legal sciences in order to function in a social environment	Is able to apply knowledge to the analysis of problems related to sustainable development, taking into account social, economic and legal aspects		[SK5] Assessment of ability to solve problems that arise in practice			
		[K7_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems	Can explain and justify the need to implement sustainable development in enterprises, with particular emphasis on responsible and ethical impact on society.		[SU2] Assessment of ability to analyse information			

Subject contents	<p>Course content – lecture  <b>Course Scope and Content</b>  The energy transition is one of the most significant challenges and opportunities of the 21st century. This course explores how sustainable development translates into concrete actions from strategy to implementation with a particular focus on the rapidly growing offshore wind sector. As a key pillar of the green economy, offshore wind is already generating new jobs and shaping the future of sustainable industries. Participants will gain the knowledge, skills, and tools to design responsible and innovative solutions for sustainable development in both business and society.</p> <ol style="list-style-type: none"> <li><b>Global challenges and organizational transformation</b> The course begins with an analysis of megatrends, the climate crisis, and the urgent need to accelerate the energy transition. It examines the development of renewable energy especially offshore wind in the context of geopolitical and economic shifts, the implementation of the UN Sustainable Development Goals (SDGs), and their impact on business strategies and the broader economic environment.</li> <li><b>New business models</b> A critical overview and analysis of linear, circular, and regenerative economic systems. The course introduces new approaches to business and management that respond to the challenges of climate change and the energy transition. Participants will understand how companies can operate responsibly by creating long-term value that is not only financial but also environmental and social.</li> <li><b>Organizations as living systems</b> A systems-thinking approach to how organizations function in the era of energy transition. The course addresses the building of diverse, inclusive, and cross-cultural teams as an essential component of large-scale infrastructure projects, especially in the offshore and renewable energy sectors.</li> <li><b>New leadership</b> A redefinition of the leader's role in the context of complexity, change, and green transformation. Topics include collaboration with diverse stakeholder groups and building trust and engagement across cross-sectoral environments.</li> <li><b>Designing strategies for sustainable innovation</b> Application of tools such as Design Thinking, Business Model Canvas, and Jobs to Be Done to create practical solutions to real-world challenges in sustainability and energy transition.</li> </ol> <p>The course is delivered in a modular format, combining thematic content blocks with hands-on assignments. Working in teams, participants will tackle a real-world business or societal problem related to sustainability and develop a project-based solution. At the end of the course, each participant will create a personal roadmap and action strategy for engagement in the energy transition and sustainable development, while each team will present its project during a final pitching session.</p>											
Prerequisites and co-requisites												
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="456 1050 794 1077">Subject passing criteria</th> <th data-bbox="801 1050 1139 1077">Passing threshold</th> <th data-bbox="1145 1050 1482 1077">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="456 1086 794 1113">Presentation and pitching</td> <td data-bbox="801 1086 1139 1113">60.0%</td> <td data-bbox="1145 1086 1482 1113">50.0%</td> </tr> <tr> <td data-bbox="456 1117 794 1144">Presentation and pitching</td> <td data-bbox="801 1117 1139 1144">60.0%</td> <td data-bbox="1145 1117 1482 1144">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Presentation and pitching	60.0%	50.0%	Presentation and pitching	60.0%	50.0%
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Recommended reading	Basic literature	<i>Transforming our world: the 2030 Agenda for Sustainable Development</i>  <a href="https://sdgs.un.org/2030agenda">https://sdgs.un.org/2030agenda</a>										
	Supplementary literature	<i>Principles of Green Economy and Regenerative Development</i>  <a href="https://www.greengrowthknowledge.org/">https://www.greengrowthknowledge.org/</a>  Giles Hutchins, Laura Storm, Regenerative Leadership, 2019  Meinar, di, Mr Cesare Building an Offshore Wind Farm: Operational Guide 2024  Offshore Wind Market Report: 2024 Edition										
	eResources addresses											
Example issues/ example questions/ tasks being completed	<i>How are global geopolitical trends impacting sustainability?</i>  <i>Create a circular or regenerative business model proposal using the Business Model Canvas.</i>											
Practical activities within the subject	Not applicable											