



Subject card

Subject name and code	Shaping resilient coastal zones, PG_00064977						
Field of study	Spatial Development						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group		Optional subject group Specialty subject group Subject group related to scientific research in the field of study		
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		5.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Spatial Planning -> Faculty of Architecture -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Miłosz Marciniak				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	60.0	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		10.0		55.0	125
Subject objectives	<p>The aim of the course is to introduce students to a range of analytical methods and design solutions used in pro-ecological spatial transformations of cities and their regions through problem-solving approaches that integrate systems thinking, anticipatory strategic competences, real life scenarios and insights, and interpersonal skills.</p> <p>These methods include assessments of climate sensitivity of the analyzed structures and strategies to enhance their resilience through appropriate spatial planning solutions.</p>						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U08] knows how to cooperate in a group, take on different roles in it, including leading the work of a team; has experience in work implemented in different formulas, and in his actions is characterized by creativity and enterprise	Student is able to agree with the group the correct division of tasks, support each other substantively and inspire in finding the best pro-ecological solutions at various scales. By conducting a seminar, he can involve the group in a discussion.	[SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment
	[K7_U05] according to a given specification, taking into account also non-technical aspects, is able to design a complex spatial system of different scales (district, city, region), using appropriate methods, techniques and tools, including the ability to draw up an urban planning concept for the transformation of midtown development with the development of public spaces	Student is able to interpret the system of connections on a regional and local scale - primarily natural and functional relations.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task
	[K7_W06] knows and understands the concepts and principles of copyright protection and the need to manage intellectual property resources	Student knows and understands the concepts and principles of copyright protection and the need to manage intellectual property resources - in particular in the field of photographic resources, expert studies, databases and spatial information systems.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation
[K7_W01] has in-depth and expanded knowledge of spatial development, urban planning and spatial planning, including activities used in the process of revitalization of degraded areas and ecological design	Student knows the essence and complexity of the processes related to the ecological design of cities and regions of the coastal zone, with particular emphasis on the effects of climate change	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation	
Subject contents	Course content – project Identification and assessment of regional ecological problems affecting cities and other settlement structures, with particular emphasis on location factors in the coastal zone. Identification and assessment of ecological problems in cities and other settlement structures. General principles of sustainable design for cities and other settlement structures. Interrelationships between pro-ecological actions on a regional and local scale, including the link with the coastal zone as a specific condition for their location. Defining pro-ecological actions on a regional scale that impact cities and settlements in the era of climate change. Ecological space and urban development strategies across scales. Ecological design as an environmental protection tool. Assessment of the vulnerability and adaptive potential of various urban spatial structures and settlement networks.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Presentation of the thematic presentation	100.0%	100.0%

Recommended reading	Basic literature	<p>Riddell R., Sustainable urban planning. Blackwell Publishing, 2007.</p> <p>Beatley T., Planning for sustainability in European cities: A review of practices in leading cities, [w:] The Sustainable Urban Development Reader, red. T. Beatley, S.M. Wheeler, Topical Urban Readers, The Routledge Urban Reader Series, series editor: LeGates R. T., Stout F., Routledge, Taylor & Francis Group, London-New York 2004.</p> <p>Carmona M., Sustainable urban design - a possible agenda, [w:] Planning for a Sustainable Future, red. A. Layard, S. Davoudi, S. Batty, Spon Press, Taylor & Francis Group, London 2001.</p> <p>Jenks M., The acceptability of urban intensification, [w:] Achieving Sustainable Urban Form, red. E. Burton, M. Jenks, K. Williams, E & FN Spon, Taylor & Francis Group, London-New York 2001. Kenworthy J., Newman P., Sustainable urban form: The big picture, [w:] Achieving Sustainable Urban Form, red. E. Burton, M. Jenks, K. Williams, E&FN Spon, Taylor & Francis Group, London-New York 2001.</p>
	Supplementary literature	<p>Williams K., Does intensifying cities make them more sustainable? [w:] Achieving Sustainable Urban Form, red. E. Burton, M. Jenks, K. Williams, E&FN Spon, Taylor & Francis Group, London-New York 2001.</p> <p>Selman P., Environmental Planning: The conservation and development of biophysical resources, 2nd edition, SAGE, London, Thousand Oaks, New Delhi 2000.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>1. Environmental conditions affecting climate change, city-environment relationships 2. Urban heat island 3. Urban adaptation plans to climate change 4. Ecological considerations in the design of cities and regions - key issues 5. Contemporary challenges regarding water retention in cities - problems and solutions 6. Air quality - problems and solutions 7. Forms and functions of greenery in cities - the structure and spatial features of basic forms of urban greenery 8. Shaping high greenery on urban communication routes and its spatial dimension 9. Ecological connections: regional significance - examples of solutions in planning policy and implemented projects 10. Ecological connections: metropolitan significance - examples of solutions in planning policy and implemented projects 11. Methods for determining the recreational capacity of naturally valuable areas 12. Sustainable methods of development and recreational use of naturally valuable areas 13. Modern mobility in cities and regions - minimizing the burden on ecosystems</p>	
Practical activities within the subject	Not applicable	

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