



Subject card

Subject name and code	Shaping resilient coastal zones, PG_00064958						
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			Polish	
Semester of study	2		ECTS credits			5.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department of Urban Design and Regional Planning -> Faculty of Architecture -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. arch. Karolina Krośnicka				
	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	The aim of this course is to introduce students to a range of analytical methods and design solutions used in pro-ecological spatial transformations of cities and regions through a problem-based approach that integrates design, systemic, and strategic approaches, as well as anticipatory competencies, scenario building, and interpersonal skills. These methods include assessing the vulnerability of analyzed structures to climate change and strategies for increasing their resilience through appropriate spatial planning solutions.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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.	[SU5] Assessment of ability to present the results of task [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
	[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	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
	[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.	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
	[K7_W04] has in-depth knowledge of issues and technical systems related to the planning, design and implementation of infrastructure projects and urban planning, as well as the life cycle of facilities and systems related to the operation of settlement units	The student understands the nature and complexity of processes related to technical issues and systems related to the planning, design, and implementation of infrastructure projects and urban developments, as well as the life cycle of facilities and systems related to the functioning of settlement units - with particular emphasis on the effects of climate change.	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation
	[K7_U06] is able to formulate a design specification for a complex planning task, including legal and other non-technical aspects, including such things as social impact and economic efficiency	The student knows the essence and design complexity of the intended planning task, understands and identifies the legal aspects and other non-technical aspects that must be taken into account in the design process, including social impact and economic efficiency.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject
	[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.	[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task
Subject contents	Course content – project Identification and assessment of the ecological problems of the region affecting the cities and other settlement structures of the coastal zone. Identification and assessment of ecological problems of cities and other settlement structures of the coastal zone. General principles of sustainable design of cities and other settlement structures in the coastal zone. Links between pro-ecological activities on a regional scale with the coastal zone. Identification of pro-ecological activities on a regional scale, affecting cities and settlements in the coastal zone. Ecological space and strategies of urban development. Ecological design as an instrument of environmental protection. Assessment of sensitivity and adaptation potentials of various types of spatial structures of the coastal zone.		
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	Riddell R., Sustainable urban planning. Blackwell Publishing, 2007. 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. 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. 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.
	Supplementary literature	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. Selman P., Environmental Planning: The conservation and development of biophysical resources, 2nd edition, SAGE, London, Thousand Oaks, New Delhi 2000.
	eResources addresses	
Example issues/ example questions/ tasks being completed	1. Environmental conditions affecting climate change: the relationship between the environment, city, and infrastructure. 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 related to water retention in cities: problems and solutions. 6. Ecological connections: regional significance: examples of solutions in planning policy and implemented projects. 7. Ecological connections: regional and local significance: examples of solutions in planning policy and implemented projects.	
Practical activities within the subject	Not applicable	

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