

Subject card

Subject name and code	Climate aligned urabnism, PG_00210476						
Field of study	Spatial Management						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor'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	2		Language of instruction		English		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Hanna Obracht-Prondzyńska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	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		0.0		20.0	50
Subject objectives	The aim of the course is to introduce students to the relationship between urban design and climate change, and to the role of urban space in climate mitigation and adaptation. The course develops students' ability to understand how urban form, functional and spatial structure, mobility, public spaces, and infrastructure influence the climate, as well as to critically assess opportunities for transforming cities towards more sustainable, inclusive, and resilient urban environments. The course also aims to develop design skills through the application of climate-aligned urbanism principles to a small-scale urban site development concept. Students will engage in a process of site analysis, identifying challenges and opportunities, formulating design objectives, developing a concept, and producing visualisations and a final presentation. The course combines theoretical knowledge with design practice, incorporating digital tools and artificial intelligence to support analytical and creative processes.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
		The student understands the relationship between urban form, the functioning of cities, and climate change, and is familiar with the basic principles of urbanism supporting adaptation and mitigation. They can explain the importance of compact cities, active mobility, public spaces, urban infrastructure, and inclusive design in shaping climate-friendly urban environments. They are able to identify the challenges and opportunities of a selected area, analyse its spatial conditions, and formulate design objectives that respond to user needs and climate challenges. The student can develop a small-scale urban design concept, use digital tools and artificial intelligence to support analysis and visualisation, and present and justify the expected climate benefits of the proposed solutions. They collaborate in a design team, consider different user perspectives, and can clearly communicate the developed concept.	[SU5] implementation of a problem task [SK2] presentation/project/paper/report
Subject contents	Theoretical Part 1. Six Ways Urban Design Shapes the Climate. The role of urban form and structure in shaping greenhouse gas emissions and vulnerability to climate change impacts. Relationships between land use, mobility, energy consumption, resources, and urban overheating. 2. From Urban Sprawl to the Compact City. The impact of urban sprawl on the environment and residents' everyday lives. Principles of compact cities, mixed land use, access to services, and the transition from car-oriented cities to walkable urbanism. 3. The Street as a Climate Action Tool. The role of street design in reducing emissions, supporting climate adaptation, and improving quality of life. Cycling as a multi-benefit urban strategy supporting active mobility, health, and reduced car dependence. 4. Designing for All – Inclusivity and Climate Action. The role of equitable and accessible design in reducing emissions and enhancing residents' adaptive capacity. Critical reflection on who cities are designed for and which groups may be overlooked in planning processes. 5. Historic Districts and Climate Adaptation. Conflicts and opportunities associated with combining cultural heritage protection with the need to adapt urban spaces to changing climatic conditions. 6. Public Space and Urban Services as Climate Infrastructure. The importance of public spaces, access to services, and urban infrastructure in mitigating the impacts of climate change and supporting residents' everyday low-carbon behaviours. 7. Designing a Climate-Friendly Neighbourhood. Integrated principles for shaping functional and spatial structures, mobility, public spaces, and infrastructure to support adaptation, mitigation, and quality of life. 8. Degrowth in Urban Design Practice. Alternative approaches to urban development, efficient management of existing resources, and opportunities for shaping urban space in ways that reduce environmental pressures. Workshop Part – Small-Scale Site Development Project 1. Site Visit and Area Assessment. Observation of spatial, functional, and environmental conditions. Identification of the site's challenges and opportunities in relation to climate-aligned urbanism principles. 2. AI-Supported Site Analysis. Use of digital tools and artificial intelligence to support site assessment, organise information, and formulate design conclusions. 3. Site Development Concept – Part I. Defining design objectives, climate goals, and user needs. Generating and selecting spatial solutions. 4. Site Development Concept – Part II. Developing the selected concept, shaping the functional and spatial layout, and integrating adaptation and mitigation measures. 5. AI-Generated Visualisations – Part I. Preparing visual materials illustrating the proposed spatial transformations. 6. AI-Generated Visualisations – Part II. Refining visualisations, preparing a schematic site development plan, and developing a climate diagram explaining the positive climate impacts of the proposed solutions. 7. Final Project Presentation. Preparing a B2 poster (50 × 70 cm) including visualisations, a schematic site development plan, and a climate diagram. Team presentation and justification of the concept in relation to climate-aligned urbanism principles.		

Prerequisites and co-requisites	Basic knowledge of urbanism, spatial planning, or urban design is required, enabling students to analyse the structure and functioning of cities. Familiarity with the basic principles of urban spatial design, the ability to read maps and plans, and basic skills in preparing graphic materials are useful. Advanced knowledge of specialised software or prior experience in using artificial intelligence in design is not required. Students are expected to be open to teamwork, creative problem-solving, field observation, and independently exploring tools that support the design process.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Site development concept based on the principles of climate-aligned urbanism	51.0%	60.0%
	Class participation and teamwork during the workshop component	51.0%	10.0%
	Presentation and justification of the final project	51.0%	10.0%
	B2 poster presenting the concept, including visualisations, a schematic site development plan, and a climate diagram	51.0%	20.0%
Recommended reading	Basic literature	Bujalski, S. (2022). <i>Recepta na lepszy klimat. Zdrowsze miasta dla chorującego świata</i>. Wysoki Zamek. Bruntlett, M., & Bruntlett, C. (2024). <i>Miasto wolne od samochodów</i>. Wysoki Zamek. Moreno, C. (2024). <i>15-minutowe miasto. Jak uratować czas i planetę</i>. Wysoki Zamek. Gehl, J. (2014). <i>Miasta dla ludzi</i>. RAM. Sim, D. (2020). <i>Miasto życzliwe. Jak kształtować miasto z troską o wszystkich</i>. Wysoki Zamek.	
	Supplementary literature	Intergovernmental Panel on Climate Change. (2022). <i>Climate change 2022: Mitigation of climate change</i>. Cambridge University Press. Intergovernmental Panel on Climate Change. (2022). <i>Climate change 2022: Impacts, adaptation and vulnerability</i>. Cambridge University Press. European Environment Agency. (2024). <i>Urban adaptation in Europe: What works? Implementing climate action in European cities</i>. EEA Report 14/2023. Hickel, J. (2020). <i>Less is more: How degrowth will save the world</i>. William Heinemann. Newman, P., & Kenworthy, J. (2015). <i>The end of automobile dependence: How cities are moving beyond car-based planning</i>. Island Press.	
	eResources addresses		

Example issues/ example questions/ tasks being completed	• How do urban form and structure influence greenhouse gas emissions and vulnerability to climate change impacts? • What benefits and limitations are associated with the transition from urban sprawl to compact and walkable city models? • How can street design and cycling infrastructure support climate mitigation and adaptation while improving quality of life? • How can urban spaces be designed to address the needs of different user groups and promote inclusivity? • How can cultural heritage protection be reconciled with the need to adapt historic districts to climate change? • How can public spaces, urban services, and infrastructure function as climate infrastructure? • What principles should be considered when designing a climate-friendly neighbourhood? • How can the concept of degrowth be applied in urban design practice? • Conducting a site visit and identifying the challenges and opportunities of a selected area in the context of climate change. • Using digital tools and artificial intelligence to support site analysis and the formulation of design objectives. • Developing a team-based, small-scale urban site development concept incorporating adaptation and mitigation measures. • Preparing visualisations, a schematic site development plan, and a diagram explaining the positive climate impacts of the proposed solutions. • Preparing a B2 poster (50 × 70 cm), followed by a team presentation and justification of the urban design concept.
Work placement	Not applicable

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