GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00064961						
Field of study	Spatial Development						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2025/2026			
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery	at the university			
Year of study	2		Language of instruction	Polish			
Semester of study	4		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 inż. arch. Gabriela Rembarz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	30.0	0.0	45
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=12050						
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	0.0	0.0	45		
Subject objectives	The aim of the course is to enable the practical interconnection of knowledge in the field of urban design with the key understanding of planning and functionin assumptions of the communal technical infrastructure networks such as: water and sewage - , streets and transportation - electricity and district heat systems.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K02] comprehending technical and non-technical aspects and effects of its activity, initiates various activities for the public interest, including co-organizing social projects, workshops and public debates on issues related to spatial management, within which it can reliably present a problem on a non-professional forum and explain the methods and solutions used	understanding of the relationship between urban design layouts and the assumptions for the operation of the communal, student technical infrastructure networks. awareness of the limitations and requirements related to the integration of the basic planning layers: urban design, water-sewage networks, street-parking systems and energy-district heat networks	[SK2] Assessment of progress of work [SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK3] Assessment of ability to organize work
[K6_U08] performs an urban project with a basic degree of complexity, in accordance with the set specification, applicable rules, legal provisions and taking into account economic factors, and prepares an outline of its implementation strategy; prepares elements of planning documentation, cooperating with industry specialists	the student is able to take into account the basic technical and normative conditions both for urban design layouts and urban technical infrastructure planning.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
[K6_W01] has knowledge related to theoretical and practical issues in the field of spatial management, the basics of planning and urban design and principles of local, regional and national development, and has basic knowledge about contemporary trends of development and revitalization of settlement structures and the life cycle of facilities and systems related to the functioning of settlement units	the student has basic knowledge of communal technical infrastructure planning problem area and to refer it to the urban design principles in the context of local development, taking into account the current trends in the development and revitalization of settlement structures.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge

Subject contents

Course content – exercises
The team project task is to elaborate an integrated concept of a housing estate (for the given number of inhabitants) in one of four selected locations.as part of the seminar class: a program of the urban design concept is developed (the typology of buildings and spaces is adapted to the given number of inhabitants and the social characteristics of the estate due to the students' preferences)as part of the design part: the principle of the urban composition is determined, adapted to the selected location, for which an initial road-parking and water-sewage concept is developed, taking into account small rainwater retention.

Prerequisites and co-requisites

knowledge and skills obtained in the course of "urban planning I" and "Urban Planning II" and "Housing Issues"

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
average note of the 3 design enclosure	60.0%	30.0%
final presentation	60.0%	15.0%
average note of the 3 design layers	60.0%	55.0%

Recommended reading

Basic literature

1. Carmona M. Heath T. Oc T., Tiesdell S. Public Places Urban Spaces

2. Dreiseitl, H., Geiger W.: Nowe sposoby odprowadzania wód deszczowych. Poradnik, Proj-przem-EKO, 1999

3. George Rainer Understanding infrastructure: a guide for architects and planners, Wiley-Interscience, 1990

4. Jacobs A. B., MacDonald E., Rofe Y. The Boulevard Book: History, Evolution, Design of Multiway Boulevards,

5. Moughtin C.: Urban Design: Street and Square

6. Shannon K., Smets M. The Landscape of Contemporary Infrastructure, nai010 publishers, 2010

7. Song J.: Streets and Squares

	Supplementary literature	1. Burton E., Mitchell L. Inclusive Urban Design: Streets for Life Architectural Press, 2006 2. Girling C., Kellett R.: Skinny Streets and Green Neighborhoods: Design for Environment and Community, 3. Jacobs A. B. Great Streets 4. Kulash W. M.: Residential Streets, 5. Project for Public Spaces, Inc.: Jak przetworzyć miejsce, 6. Speck J.: Walkable City: How Downtown Can Save America, One Step at a Time, North Point Press 2010
	eResources addresses	
Example issues/ example questions/ tasks being completed	SEMINAR:defining the typology of residential buildings, flats, the character of the urban landscape of open spaces, in relation to the number of inhabitants and lifestyle of the main groups of inhabitantsDESIGN (Team Work):Urban Design:Determining the functional and spatial program of a residential development complex with a given number of inhabitants in a selected location (4 options):1. conclusions from the analysis of the location conditions and planning documents,2.selection of reference projects: analysis of the urban composition in the context of the surroundings,3.determination of the urban composition of the layout in the selected location (scale 1: 1000)Communication system:1. Analysis of the conditions of the street network and public transport in the vicinity of the design area (district)2. Analysis of the urban layout with an indication of variants of the wheeled access system, taking into account the needs of cyclists, pedestrians (including the disabled), access street, pedestrian and driving route (woonerf, residential street)3. Determining the parking needs and indicating how to implement them in various (parking, underground garage)4. Routing the street layout and parking lots in plan and sections,Water and sewage system:1. Setting the rules for the management of rainwater:1.1. The principle of work with a map for information, design and specialist documentation (hypsometry, geology and hydrogeology of the area)1.2. Indication of potential rainwater drainage points: underground and surface watercourses, rainwater collectors and channels1.3. Determination of the main design parameters: catchment area and divisions, determination of the amount of rainwater to be managed,1.4. Designation of design solutions: routing the stormwater drainage network on the land development plan, network dimensioning (hydraulic calculator)2. Defining the concept of design solutions for the sanitary sewage system and water supply network:2.1. Determination of the main design parameters: direction of sanitary sewage flow, delimitation and internal divisions of the catchment area, places of sewage disposal, the amount of sewage to be managed,2.2. Routing and dimensioning of the sanitary sewage network on the plan3. Defining the concept of design solutions for the water supply system:3.1. Analysis of terrain altitude parameters in order to determine high and low pressure zones, locations of main and distribution water networks and connections to buildings (work on a plan),3.2. Determining the demand for water for household and fire-fighting purposes3.3 Routing and dimensioning of the water supply network, taking into account ownership issues - variant bill of quantities and cost estimate,	
Practical activites within the subject	Not applicable	

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