COURSE DESCRIPTION CARD - SYLLABUS

Course name
Architectural Design in the Landscape with Elements of Greenery Design [S1Arch1>PAKZIEL]

Course

Field of study
Architecture

Year/Semester
3/5

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
30

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
60

Number of credit points

7,00

Coordinators

Lecturers

Prerequisites

- the student has basic knowledge of development trends in the field of architectural and urban design, - the student has a basic knowledge of architectural and urban composition - the student is able to obtain information from literature, databases and other properly selected sources, is able to integrate information, interpret it, as well as draw conclusions and formulate and justify opinions, - the student is able to identify and formulate a specification of practical tasks in the field of urban design - the student is able to make a critical analysis of the functioning and evaluate the existing solutions, systems and processes - the student is aware and understands the non-technical aspects and effects of engineering activities, including its impact on the environment and the related responsibility for decisions, - correctly identifies and resolves dilemmas in various spatial situations on an architectural and urban scale

Course objective

1. Getting to know the landscape architecture as a field of art. involving the rational shaping of the human environment in a way that allows the satisfaction of not only aesthetic needs, but also environmental (natural), social, mental, cultural, functional and economic requirements. 2. Understanding an integrated approach to environmental design where landscape architecture is a synthesis of relationships between natural and anthropogenic elements and a tool for regenerative design for climate change adaptation and environmental regeneration. 3. Acquisition of theoretical knowledge on human relationships with the landscape, learning the principles and methods of landscape management and understanding the factors that build the quality of the landscape, such as: visual expression, diversity, legibility, accessibility, development potential. 4. Getting to know the principles of functioning of ecosystems and the basic instruments and tools for designing green areas, standards and norms. 5. Acquisition of the ability to design space using buildings, greenery (including the selection of species), terrain, elements of small architecture and lighting. Developing freehand drawing skills as a tool for landscape analysis and recording. 6. Ability to integrate technical and environmental knowledge (e.g. soil, water and climate conditions, vegetation requirements in the region, soil type, noise, erosion control, water retention, biodiversity, value of ecosystem services, etc.) with awareness of the aesthetic and psychological impact of space (e.g. through interior proportions, color, texture, form and seasonal variability). 7. Developing the skills of creative and responsible shaping of space, preparation of a land development plan, taking into account the cultural context and ecosystem connections, and the use of innovative solutions in the design of green areas (using soil, plant and water material, elements of small architecture and lighting) ensuring accessibility for various groups users (including those with disabilities) and the diversity of fauna and flora habitats.

Course-related learning outcomes

Knowledge:
Student knows and understands:
A.W1. architectural design for the implementation of simple tasks, in particular: simple facilities taking into account the basic needs of users, single- and multi-family housing, service facilities in residential complexes, public facilities in an open landscape or in an urban environment;
A.W2. urban design in the scope of implementation of simple tasks, in particular: small building complexes, local spatial development plans, taking into account local conditions and connections, as well as forecasting transformation processes in the settlement structure of towns and villages;
A.W3. records of local spatial development plans to the extent necessary for architectural design;
A.W4. principles of universal design, including the idea of designing spaces and buildings accessible to all users, in particular for people with disabilities, in architecture, urban planning and spatial planning, and ergonomic principles, including ergonomic parameters necessary to ensure full functionality of the designed space and facilities for all users, especially for people with disabilities

Skills:
Student can:
A.U1. design an architectural object by creating and transforming space so as to give it new value - in accordance with a given program that takes into account the requirements and needs of all users;
A.U3. prepare planning studies concerning spatial development and interpret them to the extent necessary for designing in an urban and architectural scale;
A.U4. make a critical analysis of the conditions, including the valorization of the land development and building conditions;
A.U5. think and act creatively, using the workshop skills necessary to maintain and expand the ability to implement artistic concepts in architectural and urban design;
A.U6. integrate information obtained from various sources, formulate their interpretation and critical analysis;
A.U7. communicate using various techniques and tools in a professional environment appropriate for architectural and urban design;
A.U8. prepare architectural and construction documentation in appropriate scales in relation to the conceptual architectural design;
A.U9. implement the principles and guidelines of universal design in architecture, urban planning and spatial planning.

Social competences:
Student is capable of:
A.S1. independent thinking to solve simple design problems;

A.S2. taking responsibility for shaping the natural environment and cultural landscape, including the preservation of the heritage of the region, country and Europe.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

1. Periodic review
2. Final review
3. Final test

Project evaluation criteria include an approach to the following issues:
1. Linking local conditions with the concept of a greenery system in the city in accordance with the principle of spatial continuity and the idea of ecological connectors, taking into account the prospective directions of urbanization,
2. Variant presentation of spatial concepts taking into account: spatial relations of the designed facility and the landscape background, communication and functional layout of the area, connectivity and ecological efficiency of green areas (including the diversity of habitats and water retention)
3. Harmonious combination of landscape aesthetics, social values and the quality of the natural environment,
4. Innovative method of space composition referring to the use of the diversity of building forms, terrain and greenery (taking into account various functions and forms of greenery and ecosystem services) in combination with elements of small architecture and lighting (landscape perception in different seasons and during the day and night).

Lectures and exercises end with an independent credit. Students receive a course program with a list of applicable issues and required project studies. For each type of classes, there are two deadlines for passing the course, with the second term being the resit term.
1. Formative assessment
Evaluation of active participation in classes, group discussions and involvement in project work,
Evaluation of the timeliness and quality of task performance during periodic reviews (2 reviews per semester) and the final review,
Evaluation of the group consisting in the selection of the three best final papers.
Accepted grading scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0
2. Summative assessment:
Lectures: an exam in the form of a multiple-choice test checking knowledge of the topics covered in lectures on the theory of landscape architecture and greenery
Classes: final grade for the development of projects in the field of landscape architecture and greenery
Accepted grading scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0
Obtaining a positive grade from the module depends on the student's achievement of all learning outcomes listed in the syllabus.

Programme content

The lectures cover content related to the theory of landscape architecture and green area design, including: the composition of landscape interiors, methods of inventory, analysis and valorization of the landscape and shaping greenery at various scales, with awareness of its role in the urban structure, landscape perception and adaptation to climate change.

The program of classes iincludes a landscape interior design project using architecture, terrain, water and greenery.

Course topics

Lectures: Theory of landscape architecture
1. Typology and classification of landscape forms.
2. Forming architectural objects in the landscape. Landscape interior composition.
3. Methods of landscape analysis and valorization
4. Social determinants of landscape shaping.
5. The role of the landscape in shaping the living environment, climate and water resources.
6. Landscape management - protection, management, planning for sustainable development
7. Landscape architecture as a tool for adaptation to climate change

Lectures: Designing greenery with elements of dendrology

1. Methods of graphic recording of greenery
2. Plant identification studies
3. Problems and methods of designing greenery on a plot scale
4. Basics of green design in open spaces
5. Greenery as an element of urban structure (1). Standards, role, basics of green design in city planning.
6. Greenery as an element of urban structure (2). Contemporary trends in the design of green areas, designers and their concepts. Modern gardens and parks.
7. A short history of gardens in Italy, France, England and Poland from the Middle Ages to the 20th century
Classes:
Design Exercises
The program covers a landscape design project using architecture and greenery in three stages:
1. Stage I (sessions 1-4) involves gathering comprehensive information on the location conditions, conducting an inventory of the designated area with a detailed surface area (table) using information from available digital databases (SIP, e-map, BDOT10k Topographic Object Database, SCALGO Live, Google Maps, Street Viewer, etc.), creating key cross-sections of the area, and analyzing the composition and assessing the landscape in views and on maps. It is also important to identify the needs of users and natural habitats. After collecting the data, a synthesis of the location conditions should be developed, containing the most important conclusions from the analyses and guidelines for development and land use, as well as identifying areas requiring transformation and the scope of the transformation (suggestions for the program and design assumptions). This stage concludes with a PARTIAL REVIEW after the 4th or 5th session. During the semester, training (for students and instructors) will be provided in QGIS and the SCALGO Live platform.

2. Phase II (sessions 5-10) involves using the acquired information and skills to design a comprehensive landscape design for a small interior, taking into account variants of the interior walls (buildings, greenery, landforms), small architectural features or small new structures, and utilizing blue-green infrastructure (BZI). The interior should be designed with respect for the natural and cultural values of the environment, paying attention to the characteristics of the landscape background and newly designed structures to achieve a harmonious landscape. This stage concludes with a PARTIAL REVIEW after 9-10 sessions.
3. Stage III (sessions 11-14) aims to develop a selected interior design detail (e.g., eco-parking, solar shelter/rain catcher, artifact, ecosystem education trail with habitats for fauna and flora, rain garden or rain path, etc.) with the selection of color schemes, materials, lighting, visual information elements, and plant species. The solutions should be presented in the form of floor plans, sections, and views, along with appropriate calculations and comparisons.
The project is presented in its entirety during the final review in the 15th or 16th session.
In landscape design, particular attention should be paid to:
• preserving existing greenery (inventory) and incorporating carefully selected BZI elements into the interior design and increasing the potential of ecosystem services (e.g., stormwater retention, recreational and educational values, quality of public space, etc.);
• considering the terrain both in the design and in the concept of cascading stormwater runoff management within the plot;
• concentrating design efforts on areas requiring modernization, aesthetic, functional, and environmental transformations (assessed in the landscape assessment as degraded and/or planned for development). Other interventions may involve modernizing existing buildings and/or introducing new color and material solutions for buildings, including green facades and roofs, or arranging public spaces. • the degree of contrast between planned architectural structures and the landscape background, which results from their functional importance and significance in the landscape composition,
• multifunctional landscaping (aesthetic, recreational, retention, biocenotic, isolating, educational, etc. functions),
• selection of plants (native species) taking into account compositional values and habitat preferences, excluding IAS,
• conscious use of interior composition tools (flooring, walls, and "furnishings") using terrain forms, architectural shapes, infrastructure, greenery, and water to achieve a harmonious, multifunctional, and sustainable interior design.

Teaching methods

1. Lecture with multimedia presentation
2. Exercises on site (inventory of greenery, site analysis)
3. Design exercises. A project carried out individually or in a team (student group) requiring joint decisions,

division of tasks, team analysis of cases.
4. eLearning Moodle (a system supporting the teaching process and distance learning)

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Breakdown of average student's workload

	Hours	ECTS
Total workload	175	7,00
Classes requiring direct contact with the teacher	90	3,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	85	3,50