



COURSE DESCRIPTION CARD - SYLLABUS

Course name

THEORY AND PRINCIPLES OF COMPLEX FACILITIES DESIGN

Course

Field of study

Architecture

Area of study (specialization)

-

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

II/1

Profile of study

general academic

Course offered in

English

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

dr inż. arch. Mieczysław Kozaczko

e-mail: mieczyslaw.kozaczko@put.poznan.pl

Wydział Architektury

ul. Jacka Rychlewskiego 2, 61-131 Poznań

tel. 61 665 33 01

Responsible for the course/lecturer:

dr hab. inż. arch. Ewa Pruszewicz-Sipińska, prof. nadzw.,

dr hab. inż. arch. Sławomir Rosolski, prof. nadzw.,

dr hab. inż. arch. Radosław Barek,

dr inż. arch. Agata Gawlak,

dr hab. inż. arch. Maciej Janowski,

dr inż. arch. Tomasz Jastrząb,

dr inż. arch. Mieczysław Kozaczko,

mgr inż. arch. Piotr Bartosik,

mgr inż. arch. Krzysztof Frąckowiak

Prerequisites

- student has an organized and theoretically founded general knowledge covering key issues in the field of architectural design,
- student has a structured basic knowledge of designing service facilities,
- student has basic technical knowledge in the field of architecture,



- student has basic knowledge of ergonomics,
- student has basic knowledge of development trends in architectural design, structured general knowledge about development trends in the design of service architecture,
- student has basic knowledge necessary to understand the social, economic, legal and non-technical determinants of architectural design.
- student is able to obtain information from literature, databases and other, properly selected sources, also in English, can integrate information, interpret it, as well as draw conclusions and formulate and justify opinions,
- student has basic skills allowing the presentation of architectural concepts characteristic of an architectural professional environment,
- student is able to prepare and present presentations of applied solutions including a conceptual design,
- student has the ability to self-study,
- student is able to use the means of artistic expression characteristic of the implementation of tasks typical for shaping an architectural composition,
- student is able to use the techniques of hand drawing in the process of shaping a simple, small-scale architectural form and on their basis to interpret and draw conclusions,
- student is able to make spatial models (mock-ups) that allow to carry out simulations and experiments with the use of various materials, as well as to see non-technical aspects on their basis, including, inter alia, perceptual processes
- understanding the need for lifelong learning, the ability to inspire and organize the learning process of others,
- awareness and understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the related responsibility for decisions made,
- ability to cooperate and work in a group, taking different roles in it,
- ability to correctly assess and define priorities to achieve a specific goal,
- ability to search for optimal solutions: to correctly identify and resolve dilemmas with regard to various spatial situations on an architectural scale

Course objective

- improving methods of recognizing the relationship between the designed object and its surroundings - spatial and social context,



- learning the methodology of developing architectural concepts for service facilities of high and high complexity,
- learning and improving various technical and material measures necessary to present an architectural concept,
- improving methods of shaping the basic relationships between a person and an object,
- improving the skills of shaping the architectural composition and future visions for its shaping,
- getting to know the broadened repertoire of basic issues related to elements of urban composition,
- improving basic tools and materials helpful in presenting the achieved solutions in the field of architectural composition,
- learning the relationship between a flat drawing and three-dimensional interpretation,
- improving the ability to simultaneously shape projections and the body of the building,
- mastering the use of known functional diagrams in various configurations,
- developing the ability to graphically present an architectural concept (projections, sections, elevations),
- training the skills of freehand drawing and other methods of synthetic recording of the qualitative features of an architectural object,
- training the skills of building mock-ups (working and target),
- broadening the knowledge and skills of making concept drawings (projections, sections, elevations) based on construction knowledge,
- practicing group work and finding oneself in different roles

Course-related learning outcomes

Knowledge

- architectural design of various levels of complexity, from simple tasks to objects with complex functions in a complex context, in particular: simple facilities taking into account the basic needs of users, single and multi-family housing, service facilities in residential complexes, public facilities and their complexes, different scale and complexity in open landscapes or in an urban environment;
- urban design in terms of the development of tasks of various scale and complexity, in particular: building complexes, local spatial development plans, taking into account local conditions and connections;
- spatial planning and spatial policy tools;
- records of local spatial development plans to the extent necessary for architectural design;



- 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, in particular for people with disabilities;
- advanced analysis methods, tools, techniques and materials necessary to prepare design concepts in an interdisciplinary environment, with particular emphasis on inter-branch cooperation;
- basic methods and techniques of conservation, modernization and supplementation of historic structures;
- the interdisciplinary nature of architectural and urban design and the need to integrate knowledge from other fields, as well as its application in the design process in cooperation with specialists in these fields.

Skills

- make a critical analysis and evaluation of the project and the method of its implementation in the scope of modernization and supplementation of architectural and urban structures with cultural values;
- integrate information obtained from various sources, formulate their interpretation and critical, detailed analysis and draw conclusions from them, as well as formulate and justify opinions and demonstrate their relationship with the design process, based on the available scientific achievements in the discipline;

Social competences

- take 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:

Formative assessment:

- partial reviews, including individual project tasks, checking the progress of the student's work, presented in the forum of the group, joint discussion,
- partial reviews, including individual project tasks, checking the advancement of the student's work, presented to other teachers - brainstorming, joint discussion,
- approved grading scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0.

Summative assessment:

- final review, including the last project task, which is a summary of the knowledge and skills acquired during the implementation of previous projects, presentation on the forum of a group or at a collective review in the presence of other leaders,



- a comprehensive review of previously performed topics to verify the student's development in the context of the last project task,

The condition for passing the course is obtaining positive marks from all reviews, approved grading scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0

Programme content

- knowledge of functional assumptions necessary to develop the concept of a service facility with an appropriate degree of complexity (depending on the level of mastery of design art in different semesters);
- critically perceiving and analysis of the surroundings of the designed facility and to draw conclusions that constitute the basis and one of the guidelines for shaping the architectural form,
- method of shaping the architectural composition based on the principles resulting from theoretical studies,
- quality of the correlation of the spatial solution with the functional layout,
- quality of shaping the architectural composition that evokes specific planned emotions, reactions, associations and moods,
- quality of the technical mapping of the spatial composition in the form of flat sections (projections, sections, views, etc.), axonometry, sketches and perspectives,
- quality of the technical representation of the spatial composition in the form of mockups,
- the way of using basic tools and materials helpful in presenting the achieved solutions in the field of architectural composition,
- quality of presentation of design solutions in the form of composed / designed charts,
- aesthetics and legibility of presentation of design solutions.

Teaching methods

Course contents are discussed exemplified by implemented facilities of service oriented architecture, and critical analysis carried out at lectures is conducted with use of multimedia presentations fragmentary showing the thematic specifics.

Bibliography

Basic

1. Bańka A., Architektura psychologicznej przestrzeni życia. Behawioralne podstawy projektowania architektonicznego, Gemini S.C., Poznań 1999.
2. Fikus M., Przestrzeń w zapisach architekta, Agencja Wydawnicza Zebra, Kraków 1999.



3. Gropius W., Pełnia architektury, wyd. Karakter, Kraków 2014.
4. Korzeniewski W., Warunki techniczne dla budynków i ich usytuowanie-poradnik z komentarzem, (wydanie 8 i późniejsze) Polcen, Warszawa 2009.
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6. Nowa Karta Ateńska. Wizja miast XXI wieku. 2003.
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Additional

1. Giedion S., Przestrzeń, czas, architektura. Narodziny nowej tradycji, PWN, Warszawa 1968.
2. Jencks Ch., Architektura postmodernistyczna, Arkady, Warszawa 1987.
3. Jencks C., Architektura późnego modernizmu i inne eseje, Arkady, 1989.
4. Lewicka M., Psychologia miejsca, Scholar, Warszawa 2012.
5. Rewers E. (red.), Przestrzeń, filozofia, architektura, Humaniora, 1995
6. Porębski M., Ikonosfera, PIW, 1987.
7. Wejchert K., Elementy kompozycji urbanistycznej, Arkady, Warszawa 1974.
8. Żórawski J., O budowie formy architektonicznej, Arkady, Warszawa 1962.

Breakdown of average student's workload

	Hours	ECTS
Total workload		
Classes requiring direct contact with the teacher	80	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹		

¹ delete or add other activities as appropriate