



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

ARCHITECTURAL DESIGN OF COMPLEX FACILITIES

### Course

Field of study

ARCHITECTURE

Area of study (specialization)

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Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

II/2

Profile of study

general academic

Course offered in

polish/english

Requirements

elective

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

45

### Number of credit points

6

### Lecturers

Responsible for the course/lecturer:

mgr inż. arch, Magda Matuszewska,

dr inż. arch. Mieczysław Kozaczko

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, prof.nadzw.,

dr inż. arch, Agata Gawlak,

dr inż. arch. Mieczysław Kozaczko,



mgr inż. arch. Piotr Bartosik,

dr inż. arch Tomasz Jastrząb,

dr hab. inż. arch. Maciej Janowski,

mgr inż. arch. Krzysztof Frąckowiak

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### Prerequisites

- the student has ordered and theoretically founded general knowledge covering key issues in the field of architectural design,
- the student has a structured basic knowledge of designing service facilities,
- the student has basic technical knowledge in the field of architecture,
- the student has basic knowledge of ergonomics,
- the student has basic knowledge of development trends in architectural design, structured general knowledge about development trends

in designing service architecture,

- the student has basic knowledge necessary to understand the social, economic, legal and non-technical determinants of architectural design.
- the student is able to obtain information from literature, databases and other, properly selected sources, also in English, is able to integrate information, interpret it, as well as draw conclusions and formulate and justify opinions,
- the student has basic skills allowing for the presentation of architectural concepts characteristic of an architectural professional environment,
- the student is able to prepare and present in Polish language presentations of the applied solutions including the conceptual design,
- the student has the ability to self-studying,
- the student is able to use the characteristic means of artistic expression

for the implementation of tasks typical for shaping an architectural composition,

- the 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,
- the student is able to make spatial models (mock-ups) that allow to conduct simulations and experiments with the use of various materials, and to see non-technical aspects on their basis, including, among others, 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,
- the ability to cooperate and work in a group, taking different roles in it,
- the ability to correctly assess and define priorities to achieve a specific goal,
- the 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 the methods of recognizing the relationship between the designed object and its surroundings - the spatial and social context,
- learning the methodology for developing architectural concepts of service facilities of high and high complexity,
- learning and perfecting a variety of 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 regarding its shaping,
- learning about an extended 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 skills of simultaneously shaping 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;
- 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;

### Skills

- design a simple and complex architectural object, creating and transforming the space so as to give it new value - in accordance with the set or adopted program, taking into account the requirements and needs of all users, spatial and cultural context, technical and non-technical aspects;
- formulate a critical analysis of the conditions, including the valorization of the land development and building conditions formulate conclusions for design and spatial planning, forecast the processes of transformations in the settlement structure of towns and villages, and predict social effects of these transformations;
- evaluate the usefulness of advanced methods and tools for solving simple and complex engineering tasks, typical for architecture, urban planning and spatial planning, and select and apply appropriate methods and tools in design;
- 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;
- communicate with the use of various techniques and tools in a professional and interdisciplinary environment in the scope appropriate for architectural and urban design and spatial planning;
- work individually and in a team, including with specialists from other industries, and take a leading role in such teams;
- estimate the time needed to complete a complex project task;
- formulate new ideas and hypotheses, analyze and test novelties related to engineering and research problems in the field of architectural and urban design and spatial planning;
- prepare architectural and construction documentation in appropriate scales in relation to the conceptual architectural design;



-implement the principles and guidelines of universal design in architecture, urban planning and spatial planning.

Social competences

The acquired competences are used to:

- effectively use imagination, intuition, creative attitude and independent thinking in order to solve complex design problems;

- speak and presentat publicly;

-take the role of a coordinator of activities in the project process, manage work in a team and use interpersonal skills (resolving conflicts, negotiating skills, delegating tasks), comply with the rules of working in a team and take responsibility for joint tasks and projects;

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Assessment method:

The student receives a credit for the series of lectures with a grade.

Completion of the course is subject to independent problem studies on selected topics related to the content of the lecture. The condition for obtaining a credit is to submit own studies (in the amount of 1-3), in electronic form (archived on a CD (Microsoft Word format) or sent by e-mail;

A single study is considered completed if it consists of min. 3 drawings (sketches) and comments to the drawings (min. 300 words) formulated synthetically: slogans or sentence equivalents.

At the end of the study, you can include your own conclusions and expectations as to the content of a specific lecture (in one-sentence form).

Technique of drawing and text development - any. Archiving in Microsoft Word format.

### Programme content

-Rules of architectural design of specialized facilities; complex compositional, functional and technical issues;

-Elements of the architectural design of a specialized facility (complex service structure, healthcare facilities, cultural, scientific and other facilities);

-Complex interdependencies between the design of functionally complex objects with other areas of design and shaping of space.



- Tasks and the role of a designer of buildings with a complex function, form and structure;
- Technical equipment of public buildings, basic principles; The form of the service facility
- Specificity of shaping the facility in a functionally and formally complex environment with a high cultural context;
- Complex issues and concepts in the field of iconosphere; highly informative space;
- Issues concerning the shape and form in a multidimensional approach: compositional, psychological and social;
- Assessment of the spatial attractiveness of various locations;
- Issues concerning the serviced and servicing space, The theory of the coherent structure

### Teaching methods

The lecture is problematic, with an open structure, consisting of the following fixed parts:

Introduction to the subject, articulating student expectations as to the current content, discussion of definitions and conceptual scopes, then a multimedia presentation and short instructional films illustrating the issues discussed, the lecture is usually concluded with a short, 10-minute discussion block.

Studies carried out as part of passing the course are a pretext for active participation in the lecture and a synthetic presentation of your own view on the issues discussed during the lectures.

2. e-Learning Moodle, eKursy (system supporting the teaching process and distance learning) ..

### 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.
5. Le Corbusier, W stronę architektury, Fundacja Centrum Architektury, Warszawa 2012.
6. Nowa Karta Ateńska. Wizja miast XXI wieku. 2003.



7. Sipińska E., Architektura mieszkaniowa i usługowa w programach nauczania. Tom 1., Wydawnictwo Politechniki Poznańskiej, Poznań, 2011.
  8. Sipińska E., Architektura mieszkaniowa i usługowa w programach nauczania. Tom 2., Wydawnictwo Politechniki Poznańskiej, Poznań, 2012.
- Zumthor P., Myślenie architekturą, Karakter, Kraków 2010.
10. E-skrypt z przedmiotu „Teoria i zasady projektowania zabudowy usługowej 2 i Projektowanie obiektów usługowych 2”.

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	84	6,0
Classes requiring direct contact with the teacher		
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>		

<sup>1</sup> delete or add other activities as appropriate