

COURSE DESCRIPTION CARD			
The name of the course/module THEORY AND PRINCIPLES OF DESIGNING SERVICE FACILITIES 1 DESIGN OF SERVICE FACILITIES 1			Code A_K_1.4_002
Main field of study ARCHITECTURE		Educational profile (general academic, practical) general academic	Year / term II/4
Specjalization -		Language of course: Polish	Course (core, elective) core
Hours Lectures: 30 Classes: - Laboratory classes: - Projects / seminars: 45			Number of points 2+5=7
Level of qualification: I	Form of studies (full-time studies/part-time studies) Full-time studies and part-time studies	Educational area(s) Technical Sciences	ECTS distribution (number and %) 7 pkt 100 %
Course status in the studies' program (basic, directional, other) directional		(general academic, from a different major) -	
Lecturer responsible for course: dr inż. arch. Mieczysław Kozaczko e-mail: mieczyslaw.kozaczko@put.poznan.pl Faculty of Architecture ul. Nieszawska 13A, 61-021 Poznań tel. 61 665 33 05		Lecturer: dr inż. arch. Mieczysław Kozaczko e-mail: mieczyslaw.kozaczko@put.poznan.pl Faculty of Architecture ul. Nieszawska 13A, 61-021 Poznań tel. 61 665 33 05	
Prerequisites defined in terms of knowledge, skills, social competences:			
1	Knowledge:	<ul style="list-style-type: none"> – student has detailed knowledge of technical building drawing necessary to presentation of architectural conceptions, – student has knowledge of development trends in the scope of architectural designing, – student has basic knowledge required for the understanding of social, economic, legal and other determinants outside the engineering field of the architectural designing, – student has knowledge of art, mathematics useful to formulation of simple tasks in the scope of designing architectural composition, – student knows the basic methods, techniques, tools and materials used at solving simple tasks of designing the architectural composition, 	
2	Skills:	<ul style="list-style-type: none"> – student can acquire information from field specific literature, data bases and other properly selected Polish and English sources, can integrate the acquired information, interpret and critically assess the said information, as well as draw conclusions and come up with opinions supported with satisfactory reasons, – has self-education skills, – assessment of simple architectural solutions on small scale, – identification and formulation of practical tasks in the scope of architectural designing the simple facilities, – designing simple architectural facilities on small scale, – student can make spatial models (mock-ups) allowing for carrying out simulation and experiments with the use of a variety of materials, in this can perceive on their basis, non-technical aspects such as perception processes among others, – student can use the techniques of manual drawing in the process of designing a simple, small architectural form, and on the basis of the said drawings can come up with interpretations and draw conclusions, 	
3	Social competences:	<ul style="list-style-type: none"> – student understands the need for lifelong learning; can inspire and organize 	

		<p>process of learning other people,</p> <ul style="list-style-type: none"> – is aware of the importance of non-technical aspects and effects of engineering activities, in this impact upon the environment and liability for environment affecting decisions, – can work and cooperate in a group, assuming a number of different roles therein, – is aware of the importance of non-technical aspects and effects of engineering activities, including on this stage designing the architectural forms on a small scale e.g. detached house, in this impact upon the environment and liability for environment affecting decisions, – student can identify and resolve dilemmas of designing the simple functional layouts and has the skills helpful in selection of optimal solution, – student can think and act in an entrepreneurial, creative and innovative manner, which on the stage of preparation the architectural conception is revealed include the creativity in searching for means of expression and obtaining materials useful for their implementation.
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Objective of the course – LECTURES:

- improving knowledge of methods of obtaining information in designing complex functional and spatial structures,
- knowledge of techniques of qualitative and quantitative analyses in assessment of land value, improving skills of obtaining data to designing the architectural facility in a specific location, improving knowledge of tools and techniques of strategic analysis (analysis elements of SWOT),
- increasing knowledge of location conditions of commercial facility: the issues connected to location accessibility and attractiveness, existing functional problems and social and economic aspects,
- knowledge of the multidirectional connections of design issues of service oriented architecture with other disciplines: environmental psychology, proxemics, ergonomics of large groups,
- developing knowledge of parametric design methods,
- obtaining in-depth knowledge of compositional principles of service facility location in the urban tissue; the issues connected to formation of positive and negative composition, compositional context, human scale
- knowledge of issues connected to luminaire of service space: archetype, the elements of semiotics, the specifics of architectural detail,
- improving knowledge of principles of forming the complex composition and mass tectonics, using this principles to jointing function, form and construction, sedimentation of composition in building technology,
- improving the ability to creative look at form, function and building construction in the spatial and cultural context,
- increasing knowledge of basic technical specifications, which should be fulfilled premises in service facilities, increasing knowledge of contemporary elements of technical equipment,
- increasing knowledge of contemporary tendencies and trends in architectural designing of public buildings and their complexes,
- improving the ability to preparing technical evaluation, critical analyses and scientific elaborations,
- improving the ability to preparing the presentation on selected, detailed issues related to designing the service buildings,
- improving methods of communication using different techniques in the professional environment, coordination of design activities and organisation of realization processes,

Objective of the course – DESIGN CLASSES:

- knowledge of relations between the designed facility and the environment – the spatial context,
- knowledge of methodology during development of pretty simple architectural conception including service facilities,
- knowledge and improving various technical and material means necessary to presentation of architectural conception,
- knowledge of basic relations between human and facility,
- knowledge of basic issues related to designing the architectural composition and future vision related to its designing,
- knowledge of basic issues related to elements of urban planning composition,
- improving the basic tools and materials helpful in presentation of achieved solutions in scope of architectural composition,
- knowledge of relations between flat drawing and three-dimensional interpretation,
- improving the ability to simultaneous designing the views and mass of the building,
- mastering the application of known functional schemas in different configurations,
- improving the ability to graphic presentation of architectural conception (views, sections, facades),
- improving the ability to manual drawing facilitating solutions differentiation,

- improving the ability to building models (working and target models),
- increasing knowledge and the ability to implementation the conceptual drawings (views, sections and facades) based on building knowledge,
- practice teamwork, assuming a number of different roles therein.

Learning outcomes

Knowledge:

W01	Student has explicit, theoretically based knowledge including the key issues and has detailed knowledge of selected issues of the theory of architectural designing	UA1_W01
W02	Student has knowledge in the theory of architectural designing	UA1_W12
W03	Student knows the issues of designing service oriented architecture	UA1_W16

Skills:

U01	Student can acquire information from publications, data bases and other Polish and English sources, can interpret the said information and draw conclusions as well as voice and justify opinions	UA1_U01
U02	Student can use means of artistic expression, typical for the execution of tasks of designing an architectural composition.	UA1_U07
U03	Student can identify a design problem and on the basis thereof, can draw up specification which would constitute the basis for the design of a pretty simple commercial facility	UA1_U09

Social competences:

K01	Student understands the need of continuous self-education (1st and 2nd degree studies, post-graduate studies) - improvement of professional, personal and social competences	UA1_K03
K02	Student can respectively determine priorities for the execution of goals set by himself/herself or by others; is fully aware of the importance of professional conduct; is aware of the liability for tasks performed jointly with others within the team work	UA1_K06

The evaluation methods:

LECTURES:

Prerequisites for passing and method of evaluation. An important criterion for the project evaluation is an approach to the following issues:

Student gets the credit of series of lectures with grade. The basis to exam approach is get credit for classes in the education module. Learning outcomes are monitored up to date.

For the course credit consists of partial assessments given for individual preliminary elaboration, given by students before the lecture. Elaborations are prepared at home. Students learn on their own with field discussed at lecture. It's preparation to active participation in lecture.

Elaboration topic, related to content of current lecture session is given two or three weeks in advance.

Elaborations after deadline are accepted with gradually reduced number of points, are in fact related to the topic discussed in a specific term.

The condition to get a credit is giving back all individual elaborations, archived on CD (Microsoft Word format);

The elaboration has been realized if consists of minimum 1 page of drawing (sketches), and comment to this drawing (minimum 100 words), briefly or sentence words.

At the end of elaboration student has to formulate his/her own expectations to contents of specific lecture (1 sentence). Elaboration technique – optional. Archived file in Microsoft Word format.

Formative assessment:

- partial assessments obtained during short written tests. Tests are carried out as the occasion, as necessary and in adapting to the complexity of the issues,
- assessment of student activity,
- assessment of studies implemented as homework,
- grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

Summative assessment:

- final grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

DESIGN CLASSES:

Prerequisites for passing and method of evaluation. An important criterion for the project evaluation is an approach to the following issues:

- knowledge of basic functional assumptions necessary to develop the conception of pretty simple service facility,

- the ability to critical perceiving and analyzing the environment of designed facility and drawing conclusions being a basis and one of guidelines during forming the architectural form,
- forming an architectural composition based on principles derived from theoretical studies and also correlation of spatial solution with functional system,
- forming an architectural composition causing specific, scheduled reactions, emotions, associations and moods,
- projection of spatial composition in the form of flat projections onto plains (projections, sections, views, etc.,
- projection of spatial composition in the form of models,
- the use of basic tools and materials useful in the presentation of achieved solutions of architectural composition,
- presentation of design solutions in the form of composed/created boards,
- presentation of design solutions bearing the handmade text,
- presentation of design solutions made aesthetically and legibly.

There are evaluated following elements:

- completeness of work in analytic, design and descriptive part, the graphic quality of project,
- the quality of design solution,
- the degree of connection the designing building with the environment,
- relation between private, semi-private and public space,
- realization of psychophysical and social needs of users,
- innovation of formal and functional solutions,
- correctly solving the technical issues related to the service facility,
- aesthetic and readability of graphic and descriptive part and model.

Formative assessment:

- partial reviews, including individual design tasks, checking the progress of student's work, presented in front of the group, joint discussion,
- partial reviews, including individual design tasks, checking the progress of student's work, presented in front of other teacher - brainstorm, joint discussion,
- grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

Summative assessment:

- final review, including the last design task, which is a summary of knowledge and skills acquired in the previous projects, presentation in front of the group or on collective review in front of other lectures,
- the comprehensive review, including previous made topics, in order to verify student's development in the context of last design task,
- the condition for passing is obtain positive grades from all reviews,
- final grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

Positive grade for module depends on achieved by student all learning outcomes specified in the syllabus.

Course contents

LECTURES:

The principles of architectural designing of service facilities; elementary compositional, functional and technical issues.

Relations between facility and environment, elements of architectural project.

The elementary interdependence between the design of service facilities and other fields of space formation. The basic tasks and the role of service buildings designer.

Technical equipment of public buildings, basic principles;

Formal issues

- service facility in space of environment (facility and its context),
- human scale, basic elements of perception psychophysiology, the issues of cognitive map,
- basic concepts of iconosphere: context, archetype,
- elements of semiotics, the specifics of architectural detail,
- basic issues related to designing form and detail in service oriented architecture: readability, communicativeness, adequacy of form and function.

Functional issues

- service facility in city space, basic parameters influencing on localization decisions,
- attractive space, the principle of functional continuity,
- communication service of service facilities,
- basic concepts and rules for construction of bipolar structure of service space, space and place,
- ergonomics and space zones used by man, distances of proxemics,
- technologies of service facilities: basic concepts related to programming of services.

Technical issues

- elements of design economics, basic concepts of parametric design,
- basic technical conditions, which should be fulfilled premises in service facilities,
- elements of use comfort in service facilities,
- basic technical equipment of public buildings.

Tendencies in designing of service oriented architecture

- new trends in programming and designing of service facilities.

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.

DESIGN CLASSES:

Semester exercise includes implementation of service facility project located in compact or isolated settlement in full adaptation to environment.

Analytical part:

- analysis of situational and altitude maps and other cartographic data (orthophotos, aerial and satellite photos),
- qualitative analyses: observation studies, analyses of compositional connections, studies of architectural environment and *genius loci*, documentation of landscape values,
- quantitative analyses: studies of land absorptiveness, identification of localization, functional connections with environment, pedestrian and roads pathways, identification of service infrastructure,
- obtain current local legislation, short analysis of terms of construction and land development, SWOT analysis and determination of the profile of facility which is the subject of design,
- determination of social structure of destination users.

Synthetic (design) part:

Defining the architectural form in multi-variant iterative process, comprising the following steps:

- creation of functional program the designed complex, division of facility and parcel territory on functional zones,
- assignment of appropriate formal usable models (partial functional solutions) to functional zones,
- converting selected in previous step usable models on facility tectonics (including the environment) and its compositional structure (converting the usable syntax to formal syntax)
- finding the architectural language appropriate to adopted formal decisions,
- technological merger of form and complex function in integral architectural composition by selection of relevant techniques of facility realization (the appropriate construction and technical equipment of building, adequate elements of land management – floors, greenery, lighting and facilities such as e.g. playground for children, rubbish heap),
- technical record of facility in the form of architectural design (including project of territory development),
- presentation of architectural design using selected graphical methods and means of communications, under standardized (boards format, the model of designed facility on the parcel)
- analysis of projects implemented in student group, discussion of colleagues presentations,

Required elements of the project: drawing and photographic inventory, analytic part, the project of lot management, views of all storeys, sections (minimum 2), facades with emphasis used materials and coloring, perspectives: internal and external, descriptive part: the superficial and capacity indicators, surfaces juxtaposition, urban planning model (with surrounding on the scale 1:500), architectural model (with parcel 1:100).

Basic bibliography:

1. Alexander Ch., Język wzorców, GWP, 2008
2. Krier, L., Architektura wybór czy przeznaczenie, Warszawa 2001
3. Neufert E., Podręcznik projektowania architektonicznego, Arkady, 1995
4. Norberg-Schulz, Ch., Znaczenie w architekturze zachodu, Warszawa 1999
5. Porębski M., Ikonosfera, PIW, 1987
6. Witruwiusz, Dziesięć ksiąg o architekturze, PWN, 1956
7. Yi - Fu Tuan, Przestrzeń i miejsce, PIW, 1987
8. Żórawski J., O budowie formy architektonicznej, 1962
9. Warunki techniczne, jakim powinny odpowiadać budynki i ich usytuowanie (Dz.U.)

Supplementary bibliography:

1. Bonenberg W., Przestrzeń publiczna w osiedlach mieszkaniowych, Metoda analizy społeczno-przestrzennej, WA Politechnika Poznańska, 2007
2. Bielecki Cz., Gra w miasto, Warszawa 1996
3. Contemporary British Architectural Drawing, Londyn 1993
4. Czarnecki W. Planowanie miast o osiedli. PWN. Warszawa. 1965
5. Eibl – Eibesfeldt I., Miłość i nienawiść, Logos, 1987
6. Hall E. T., Poza kulturą, PWN, 2001
7. Ingarden R., Książeczka o człowieku, PWN, 1987
8. Jencks C., Architektura późnego modernizmu i inne eseje, Arkady, 1989
9. Jodidio P., Architecture Now!, Taschen, 2011
10. Koch, W., Style w architekturze, Warszawa, 1996
11. Lorenz K., Regres człowieczeństwa, PIW, 1986
12. Nowa Karta Ateńska. Wizja miast XXI wieku. 2003
13. Ustawa Prawo Budowlane (Dz.U.)
14. Ustawa o planowaniu i zagospodarowaniu przestrzennym (Dz.U.)
15. Wejchert, K., Elementy kompozycji urbanistycznej, Warszawa 1974

16. Monografie współczesnych architektów		
17. Renomowane pisma architektoniczne (krajowe i zagraniczne)		
The student workload		
Form of activity	Hours	ECTS
Overall expenditure	190	7
Classes requiring an individual contact with teacher	84	3
Practical classes	106	4

Balance the workload of the average student

Form of activity	Number of hours
participation in lectures	30 h
participation in classes/ laboratory classes (projects)	45 h
preparation for classes/ laboratory classes	13 x 5 h = 65 h
preparation to colloquium/final review	3 x 7 h = 21 h
participation in consultation related to realization of learning process	7 x 1 h = 7 h
preparation to the exam	20 h
attendance at exam	2 h

Overall expenditure of student: **7 ECTS credits** **190 h**

As part of this specified student workload:

- activities that require direct participation of teachers:

30 h + 45 h + 7 h + 2 h = **84 h**

3 ECTS credits