

THE CARD OF DESCRIPTION THE EDUCATION MODULE			
Name of course/module THEORY AND PRINCIPLES OF DESIGNING SERVICE FACILITIES 2 DESIGN OF SERVICE FACILITIES 2			Code AU_K_2.2_003
Main field of study ARCHITECTURE AND URBAN PLANNING		Education profile (general academic, practical) general academic	Year / Semester I/2
Specialization -		Language of course: Polish	Course (core, elective) core
Hours Lectures: 30 Classes: - Laboratory classes: - Projects / seminars: 45			Number of points 5
Level of qualification: II	Form of studies (full-time studies/part-time studies) Full-time studies	Education area(s) Technical Sciences	ECTS division (number and %) 1 pkt 20 % 4 pkt 80 %
Course status in the study program (basic, directional, other) directional		(general academic, from other field of study) -	
Responsible for course: dr inż. arch. Mieczysław Kozaczko e-mail: kozaczko@poczta.fm dr inż. arch. Michał Ankersztajn e-mail: michal.ankiersztajn@wp.pl tel. 061 665 33 05 Faculty of Architecture ul. Nieszawska 21 c, 60-965 Poznań			
Prerequisites of knowledge, skills, social competences:			
1	Knowledge:	<ul style="list-style-type: none"> • student has explicit, theoretically based knowledge including the key issues of architectural designing, fundamental knowledge of designing the services facilities, • student has basic technical knowledge in the field of architecture, student has basic information of ergonomics, • student has knowledge of development trends in architectural designing, explicit, general knowledge of development trends in designing of service architecture, • student basic knowledge required for the understanding of social, economic, legal and other determinants outside the engineering field of the architectural designing, 	
2	Skills:	<ul style="list-style-type: none"> • student can acquire information from field specific literature, data bases and other properly selected sources in Polish and English, can integrate the acquired information, interpret the said information, as well as draw conclusions and come up with opinions supported with satisfactory reasons, • student has basic skills allowing for presentation of architectural concepts typical for architectural professional environment, • student can prepare and present presentation of applied solutions covering the conceptual project in Polish, • student has self-education skills, 	

		<ul style="list-style-type: none"> • student can use means of artistic expression, typical for the execution of tasks of designing an architectural composition, • student can use the techniques of manual drawing in the process of designing a simple architectural form on a small scale, and on the basis of the said drawings can come up with interpretations and draw conclusions, • 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,
3	Social competences:	<ul style="list-style-type: none"> • student understands the need for lifelong learning, the ability to inspire and organize the process of learning the other people, • student 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, • the ability to cooperate and work in group, assuming various roles, correct assessment and determination of priorities for implementation of specific aim, • correct identification and resolving dilemmas in the scope of various spatial situations in the architectural scale.

Objective of the course – LECTURES:

- improving knowledge of methods of obtaining information in designing the complex functional and spatial structures,
- knowledge of techniques of qualitative and quantitative analysis in assessment of land value, obtaining 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 service facility: the issues connected to location accessibility and attractiveness, existing functional problems and socio-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 for jointing function, form and construction, sedimentation of composition in building technology,
- improving skills of 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,
- skills development of preparing technical assessments, critical analyses and scientific elaborations,
- skills development of 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 the designed facility and the environment – the spatial context,
- knowledge of methodology during development architectural conception with high degree of complexity including service facilities,
- learning and improvement of various technical and material means necessary to presentation of architectural conception,
- knowledge of complex relations between human and facility,
- knowledge of advanced issues related to designing the architectural composition and future vision related to its designing,
- knowledge of advanced issues related to elements of urban planning composition,
- learning and 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,
- practice the work in a group, assuming a number of different roles therein,
- knowledge of human and monumental scale,
- knowledge of issues related to formation of colouring and helioplasty,
- learning and practicing the presentation methods of design solutions.

Learning outcomes**Knowledge:**

number (symbol)	Having completed the course, student can:	Reference to the outcomes of the learning process in the area of technical sciences
W01	Student has explicit, theoretically based knowledge including the key issues of designing of a pretty simple service facilities	UA2_W02 UA2_W03 UA2_W04
W02	Student has detailed knowledge of architectural designing in the interdisciplinary meaning, with the account for cultural context, and for private, semi-private and public space.	UA2_W05
W03	Student has knowledge of forming the complex form of facilities of service architecture, development trends and spatial concepts.	UA2_W03
W04	Student has basic knowledge required for the understanding of social, economic, legal and other determinants outside the engineering field related to designing of a pretty simple service facilities	UA2_W08
W05	Student has theoretically based knowledge and detailed knowledge of selected issues of designing of a pretty simple service facilities	UA2_W04
W06	Student knows basic techniques, methods and tools applied in the process of forming the architectural concept of complex functionally facility.	UA2_W07

Skills:

number (symbol)	Having completed the course, student can:	Reference to the outcomes of the learning process in the area of technical sciences
U01	Student can acquire information from field specific literature, data bases and other properly selected sources in Polish and English, can integrate the acquired information, interpret the said information, as	UA2_U01

	well as draw conclusions and come up with opinions supported with satisfactory reasons in the scope of architecture of small service facilities.	
U02	Student can integrate the architectural structure of building with technical equipment, can embed the building in the urban context using rules of composition, economics and selected rights of environmental psychology.	UA2_U017 UA2_U018 UA2_U019
U03	Student can prepare and present in both Polish and foreign language the presentation of implemented solutions including conceptual project of a pretty simple service facility.	UA2_U04
U04	Student has self-education skills.	UA2_U05
U05	Student can assess the existing spatial, functional and compositional connections, can interpret the tendencies and development processes at the area of design activity, can make critical analysis of location variants.	UA2_U10
U06	Student can use the techniques of manual drawing and basic skills in computer work 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.	UA2_U07
U07	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.	UA2_U09
U08	Student can identify a design problem and on the basis thereof, can draw up specifications which would constitute the basis for the design of a simple service facility.	UA2_U13

Social competences:

number (symbol)	Having completed the course, student can:	Reference to the outcomes of the learning process in the area of technical sciences
K01	Student understands the need for lifelong learning and the need of inspiration to learning other people with whom student will professionally cooperate assuming various roles in professional design team	UA2_K01
K02	Student correctly identifies and resolves social problems related to applied solutions in architectural design, is aware of the importance of his/her own activities and their non-technical effects and liability for affecting decisions	UA2_K02
K03	Student can work and cooperate in a group, assuming a number of different roles therein.	UA2_K03
K04	Student can identify and resolve dilemmas of designing the simple functional layouts and has the skills helpful in selection of optimal solution.	UA2_K05
K05	Student can think and act in an entrepreneurial, creative and innovative manner, which on the stage of preparation the architectural conception is revealed among others the creativity in searching for means of expression during preparation of architectural concept and obtaining materials helpful for their uncomplicated functional layouts and has skills of implementation	UA2_K04 UA2_K06

Methods of check the learning outcomes

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. 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 (sketch), 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. The basis to exam approach is get credit for classes in the education module.

Forming evaluation:

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

Summary score:

- 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 and advanced 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 as well as correlation of spatial solution with functional layout,
- 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.), axonometry, sketches and perspectives,
- projection of spatial composition in the form of mock-ups,
- the use of basic and advanced tools and materials helpful in the presentation of achieved solutions of architectural composition,
- presentation of design solutions in the form of composed/designed 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 adopted design solution,
- the degree of connection the designing building with the environment,
- relation between private, semi-private and public space,
- realization the psychophysical and social needs of users,

- innovation of formal and functional solutions,
- correct solving the technical issues related to the service facility,
- aesthetics and readability of graphic and descriptive part and mock-up.

Forming evaluation:

- 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.

Summary score:

- final review, including the last design task, which is a summary of knowledge and skills acquired in the previous projects, presentation in the forum of group or on collective review in front of other lectures,
- the comprehensive review, including previous implemented 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.

Course contents

LECTURES:

The continuation of lectures series AU_K_1.4_002 - Theory and principles of designing service facilities 1:

Advanced theory and design principles of service oriented architecture; complex, compositional, functional and technical issues. Relations between man, facility, context of spatial, cultural and natural. Multidirectional interdependence between architecture of service facilities and other fields of space formation. Roles of services designers as an organizer of socially attractive space, taking into account the broad spatial and social context.

The basis to exam approach is get credit for classes in the education module.

Formal issues

- service facility in space of environment (facility and its context): positive and negative designing
- perception of architectural space (human and facility): human scale, basic elements of perception psychophysiology (composition elements of real time), rule of spatiotemporal sequence, the cognitive map,
- iconosphere: intentional architecture and canonical architecture, context, archetype, issues of uniform, elements of semiotics, appropriateness of form and function, the specifics of architectural detail,
- formation of form and detail in service oriented architecture, readability, communicativeness, adequacy of form and function.

Functional issues

- service facility in city space, typical parameters influencing on localization decisions: attendance and communication isochrones, postulate of quiet area,
- attractive space, functional and spatial synergy, the principle of functional continuity,
- communication service of service facilities, the traffic generator principle,
- environmental psychology, proxemic standards of service space
- bipolar structure of service space, (space of socially attracting and space of socially emergency escape) dichotomy of space – place,
- ergonomics of mass events: designing the halls of large volume space and spaces for exhibition and performances (arena of synchronous and successive events), designing the communication spaces,
- technologies of service facilities: technological chains and auxiliary functions,

Technical issues

- principle of design economics, parametric designing, principle of balance of individual and social aims in designing the service oriented architecture,
- basic technical conditions, which should be fulfilled premises in service facilities,
- issue of comfort of use in service facilities,
- technical equipment of public buildings, fundamental rules.

Tendencies in designing of service oriented architecture

- the evolution of social concepts and ways of using space, lifestyle changes and character as well as service space form,
- contemporary problems and new trends in designing of service facilities: sprawl, neolaissez-faire, post-parametric designing, neocontextualism.

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, analysis of compositional connections, studies of architectural environment and *genius loci*, documentation of landscape values,
- quantitative analyses: studies of land absorptiveness, identification of localization potential, 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, partition of facility and lot area into functional zones,
- assignment of appropriate formal usable models (partial functional solutions) to functional zones,
- converting selected in previous step the usable models into 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 function of complex in integral architectural composition by selection of relevant techniques of facility implementation (of 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 etc.),
- technical record of facility in the form of architectural design (including project of territory management),
- presentation of architectural design using selected graphical methods and means of communications, under standardized (boards format, the mock-up of designed facility at the lot)
- 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 the used materials and coloring, perspectives: internal and external, descriptive part: the superficial and capacity indicators, surfaces list, urban mock-up (with surrounding on the 1:500 scale), architectural mock-up (with lot 1:100/1:200).

Basic bibliography:

1. Alexander Ch., Język wzorców, GWP, 2008
2. Bańka A., Behawioralne podstawy projektowania architektonicznego, Gemini S.C., 1999
3. Hall E. T., Bezgłośny język, PIW, 1987
4. Hall E. T., Ukryty wymiar, Muza, 2009
5. Jodidio P., Architecture Now!, Taschen, 2011
6. -Neufert E., Podręcznik projektowania architektonicznego, Arkady, 1995

7. Porębski M., Ikonosfera, PIW, 1987
8. Rewers E. (red.), Przestrzeń, filozofia, architektura, Humaniora, 1995
9. Witruwiusz, Dziesięć ksiąg o architekturze, PWN, 1956
10. Yi - Fu Tuan, Przestrzeń i miejsce, PIW, 1987
11. Żórawski J., O budowie formy architektonicznej, 1962
12. Warunki techniczne, jakim powinny odpowiadać budynki i ich usytuowanie (Dz.U.)

Complementary 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 i 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 workload of student

Form of activity	Hours	ECTS
Total workload	152	5
Activities that require individual contact with the teacher	80	2
Activities of practical	72	-

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 3 h = 39 h
preparation to colloquium/final review	3 x 3 h = 9 h
participation in consultation related to realization of learning process	3 x 1 h = 3 h
preparation to the exam	24 h
attendance at exam	2 h

Total workload of student:

5 ECTS credits

152 h

As part of this specified student workload:

- activities that require direct participation of teachers:

$$30 \text{ h} + 45 \text{ h} + 3 \text{ h} + 2 \text{ h} = \mathbf{80 \text{ h}}$$

2,11 ≈ 2 ECTS credits