

| <b>THE CARD OF DESCRIPTION THE EDUCATION MODULE</b>  |  |  |   |
|--|--|--|---|
| Name of course/module<br><b>THEORY AND PRINCIPLES OF DESIGNING SERVICE FACILITIES 1<br/>DESIGN OF SERVICE FACILITIES 1</b>   |  | Code<br><b>AU_K_1.4_002</b>  |   |
| Main field of study<br><b>ARCHITECTURE AND URBAN PLANNING</b>  |  | Education profile<br>(general academic, practical)<br><b>general academic</b>  | Year / Semester<br><b>II/4</b>                            |
| Specjalization<br><b>-</b>   |  | Language of course:<br><b>Polish</b>   | Course (core, elective)<br><b>core</b>                    |
| Hours<br>Lectures: <b>30</b> Classes: <b>-</b> Laboratory classes: <b>-</b> Projects / seminars: <b>45</b>   |  |  | Number of points<br><b>2+5</b>                            |
| Level of qualification:<br><br><b>I</b>  | Form of studies<br>(full-time studies/part-time studies)<br><br><b>Full-time studies and part-time studies</b> | Education area(s)<br><br><b>Technical Sciences</b>   | ECTS division (number and %)<br><br><b>7 pkt    100 %</b> |
| Course status in the study program (basic, directional, other)<br><b>directional</b>   |  | (general academic, from other field of study)<br><b>-</b>  |   |
| <b>Responsible for course:</b><br>dr inż. arch. Mieczysław Kozaczko<br>e-mail: kozaczko@poczta.fm<br>dr inż. arch. Michał Ankiersztajn<br>e-mail: michal.ankiersztajn@wp.pl<br>tel. 061 665 33 05<br>Faculty of Architecture<br>ul. Nieszawska 21 c, 60-965 Poznań |  | <b>Lecturer:</b><br>dr inż. arch. Mieczysław Kozaczko<br>e-mail: kozaczko@poczta.fm<br>tel. 061 665 33 05<br>Faculty of Architecture<br>ul. Nieszawska 21 c, 60-965 Poznań<br>tel.: 061 665 33 05  |   |
| <b>Prerequisites of knowledge, skills, social competences:</b>   |  |  |   |
| 1  | <b>Knowledge:</b>  | <ul style="list-style-type: none"> <li>– student has detailed knowledge of technical building drawing necessary to presentation of architectural conceptions,</li> <li>– student has knowledge of development trends in the scope of architectural designing,</li> <li>– student has basic knowledge required for the understanding of social, economic, legal and other determinants outside the engineering field of the architectural designing,</li> <li>– student has knowledge of art, mathematics useful to formulation of simple tasks in the scope of designing architectural composition,</li> <li>– student knows the basic methods, techniques, tools and materials used at solving simple tasks of designing the architectural composition,</li> </ul>  |   |
| 2  | <b>Skills:</b>   | <ul style="list-style-type: none"> <li>– 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 and critically assess the said information, as well as draw conclusions and come up with opinions supported with satisfactory reasons,</li> <li>– has self-education skills,</li> <li>– assessment of simple architectural solutions on small scale,</li> <li>– identification and formulation of practical tasks in the scope of architectural designing the simple facilities,</li> <li>– designing simple architectural facilities on small scale,</li> <li>– 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</li> </ul> |   |

|   |                            |  |
|---|----------------------------|--|
|   |                            | <p>processes among others,</p> <ul style="list-style-type: none"> <li>– 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,</li> </ul>   |
| 3 | <b>Social competences:</b> | <ul style="list-style-type: none"> <li>– student understands the need for lifelong learning; can inspire and organize process of learning other people,</li> <li>– 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,</li> <li>– can work and cooperate in a group, assuming a number of different roles therein,</li> <li>– 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. single family house, in this impact upon the environment and liability for environment affecting decisions,</li> <li>– student can identify and resolve dilemmas of designing the simple functional layouts and has the skills helpful in selection of optimal solution,</li> <li>– 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.</li> </ul> |

**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 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 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 of pretty simple architectural conception including service facilities,
- knowledge and improvement of 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,
- acquisition the skills of simultaneous designing the views and mass of the building,
- mastering the application of known functional schemas in different configurations,
- skills development of graphic presentation of architectural conception (views, sections, facades),
- skills development of manual drawing facilitating solutions differentiation,
- skills development of building the mock-ups (working and target mock-ups)
- increasing knowledge and skills of implementation the conceptual drawings (views, sections and facades) based on building knowledge,
- practice the work in a group, assuming a number of different roles therein.

**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   | <b>UA1_W02</b>  |
| W02             | Student has knowledge of development trends in ergonomics and designing architectural form  | <b>UA1_W05</b>  |
| W03             | Student knows the basic methods, techniques, tools and materials used at searching for design solutions and their final presentation  | <b>UA1_W07</b>  |
| W04             | Student has 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 | <b>UA1_W08</b>  |
| W05             | Student has theoretically based knowledge and detailed knowledge of selected issues of designing of a pretty simple service facilities  | <b>UA1_W03</b><br><b>UA1_W04</b>  |

**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 and critically assess the said information, as well as draw conclusions and come up with opinions supported with satisfactory reasons in the scope of architecture of small service facilities. | UA1_U01                       |
| U02 | Student has basic skills allowing to presentation of architectural conceptions characteristic for architectural professional environment.   | UA1_U02                       |
| 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.   | UA1_U03<br>UA1_U04            |
| U04 | Student has self-education skills.  | UA1_U05                       |
| U06 | Student can use means of artistic expression, typical for the execution of tasks of designing an architectural composition.   | UA1_U07                       |
| U07 | 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.   | UA1_U07<br>UA1_U08            |
| U08 | 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.   | UA1_U08                       |
| U09 | 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.  | UA1_U13<br>UA1_U14<br>UA1_U15 |

**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; can inspire and organize process of learning other people.   | UA1_K01   |
| K02             | Student is aware of the importance of non-technical aspects and effects of engineering activities, including on this stage designing the commercial facilities on a small scale, in this impact upon the environment and liability for environment affecting decisions.          | UA1_K02   |
| K03             | Student can work and cooperate in a group, assuming a number of different roles therein.   | UA1_K03   |
| K04             | Student can identify and resolve dilemmas of designing the simple functional layouts and has the skills helpful in selection of optimal solution.  | UA1_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 include the creativity in searching for means of expression and obtaining materials useful for their implementation. | UA1_K04<br>UA1_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 assessment. 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.

**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 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 mock-ups,
- 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/ 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 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,
- correctly solving the technical issues related to the service facility,
- aesthetic 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 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.

**Course contents**

**LECTURES:**

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

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,
- comfort of use elements 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, analysis 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 mock-up 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 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 mock-up (with surrounding on the scale 1:500), architectural mock-up (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.)

**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 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 workload of student**

| <b>Form of activity</b>                                     | <b>Hours</b> | <b>ECTS</b> |
|---|--------------|-------------|
| Total workload  | 190          | 7           |
| Activities that require individual contact with the teacher | 84           | 3           |
| Activities of practical                                     | 106          | 4           |

**Balance the workload of the average student**

| <b>Form of activity</b>  | <b>Number of hours</b> |
|--|------------------------|
| 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                    |

Total workload 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**