Attachment no. 5 to ZW 16/2020

Attachment no. **17** to studies program

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| **FACULTY OF ARCHITECTURE**  **COURSE SYLLABUS**  Course title in Polish: **Projektowanie architektoniczne - Zabudowa usługowo-**  **mieszkaniowa w mieście**  Course title in English: **Architectural Design - Service and Housing Development in the**  **City**  Specialization (if applicable): **Architecture**  Profile (if applicable): **Architecture and Urban Design**  Level and form of studies: **2nd level, full-time**  Semester: **2**  Course type: **optional**  Course code: **AUA117708P**  Group of courses: **NO** |

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|  | **Lecture** | **Tutorial** | **Laboratory** | **Project** | **Seminar** |
| Number of hours of organized classes in University (ZZU) |  |  |  | **105** |  |
| Number of hours of total student workload (CNPS) |  |  |  | **225** |  |
| Form of crediting |  |  |  | **Crediting with grade** |  |
| For group of courses mark (X) final course |  |  |  |  |  |
| Number of ECTS points |  |  |  | **9** |  |
| including number of ECTS points for practical (P) classes |  |  |  | **5** |  |
| including number of ECTS points for direct teacher-student contact classes or other people conducting classes (BU) |  |  |  | **6,75** |  |

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| **PREREQUISITES RELATED TO KNOWLEDGE, COMPETENCES AND SOCIAL SKILLS** |
| **No prerequisites.** |

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| **COURSE OBJECTIVES** |
| **C1** to define the mixed-use service and housing development and to establish the form, social needs and cultural trends and mutual conditions for both functions.  **C2** to define the necessary features and requirements for the integrated service function.  **C3** to define the necessary features and requirements for the integrated housing function.  **C4** to present problems related to the use of a common structural, material and installation infrastructure.  **C5** to present problems of hierarchization of function, horizontal and vertical segregation.  **C6** to define the urban and architectural requirement resulting from the required technical conditions for architectural design.  **C7** to introduce students to development prospects of residential and commercial buildings. |

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| **COURSE LEARNING OUTCOMES** |
| **Relating to knowledge:**  1.1.1) The graduate knows and understands structural, constructional and engineering problems associated with designing buildings.  1.1.2) The graduate knows and understands detailed issues in the field of architecture and urban planning related to solving complex design problem.  1.1.3) The graduate knows and understands advanced issues related to architecture and urban planning useful for designing structures in the context of social, natural, economic, legal and other non-technical conditions of engineering activities.  1.1.4) The graduate knows and understands issues related to the physics, technology and functions of buildings to the extent that ensures the comfort of their utilization and protection against atmospheric agents.  1.1.5) The graduate knows and understands relations between man and architecture and between architecture and the surrounding environment, and the necessity to adapt architecture to human needs and scale.  1.1.6) The graduate knows and understands regulations and procedures that are necessary to implement building projects and integrate buildings with the overall urban planning project.  1.1.7) The graduate knows and understands methods and measures for the implementation of ecologically responsible and sustainable design and the protection and conservation of the surrounding environment.  1.1.9) The graduate knows and understands principles, solutions, structures and building materials used in complex engineering tasks related to architectural design.  1.1.10) The graduate knows and understands issues related to architecture and urban planning in the context of the interdisciplinary nature of architectural and urban design as well as the need to cooperate with other specialists.  1.1.11) The graduate knows and understands principles of collecting information and interpreting it when developing a design concept.  1.1.12) The graduate knows and understands principles of professional presentation of architectural concepts.  1.1.13) The graduate knows and understands the nature of the architectural profession and its role in society.  A.W1. The graduate knows and understands architectural design in a complex context, public use buildings in an urban environment.  A.W4. The graduate knows and understands provisions of local land-use plans to the extent that is necessary for architectural design.  A.W5. The graduate knows and understands the principles of universal design, including the concept of designing spaces and buildings accessible to all users, and the principles of ergonomics, necessary to provide full functionality of the space and structures under design.  A.W6. The graduate knows and understands advanced methods of analysis, tools, techniques and materials necessary to develop design concepts in an interdisciplinary environment, with particular emphasis on cross-industry collaboration.  A.W8. The graduate knows and understands the interdisciplinary nature of architectural and urban design and the need to integrate knowledge from other disciplines and to apply it in the designing process in cooperation with specialists in these disciplines.  **Relating to competences:**  1.2.1) The graduate is able to use the experience acquired during studies to critically analyze the conditions and formulate conclusions for designing in a complex, interdisciplinary context.  1.2.2) The graduate is able to use interdisciplinary knowledge and skills acquired during studies to design a sophisticated architectural structure or urban complex that meets the aesthetic and technical requirements, creating and transforming space and giving it new values.  1.2.3) The graduate is able to prepare an advanced graphic, written and oral presentation of his or her original design concepts in the field of architecture.  1.2.4) The graduate is able to apply analytical methods in formulating and solving design tasks, present the theoretical background and the justification for the presented solutions in the form of a scientific study.  1.2.5) The graduate is able to organize the work including all phases of design concept development.  A.U1. The graduate is able to design a complex architectural structure, creating and transforming space so as to give it new values – in accordance with the assigned or adopted program which takes into account the requirements and needs of all users, the spatial context, and the technical and non-technical aspects.  A.U4. The graduate is able to perform a critical analysis of conditions, including the assessment of land use and development, forecast the processes of transformation of cities and predict the effects of these transformations.  A.U5. The graduate is able to evaluate the usefulness of advanced methods and tools for solving simple and complex engineering tasks that are typical in architecture, urban planning and spatial planning, and choose and apply appropriate methods and tools in designing.  A.U7. The graduate is able to perform a critical analysis and assessment of a project and its implementation with respect to the modernization and reconstruction of architectural and urban structures that have cultural values.  A.U8. The graduate is able to think and act creatively, with an understanding that designing is a complex and multi-faceted endeavor, and express his or her own artistic concepts in architectural and urban design.  A.U9. The graduate is able to integrate information obtained from various sources, interpret and critically analyze it in detail and use it to draw conclusions, as well as formulate and justify opinions and demonstrate their relationship with the designing process on the basis of available scientific achievements in the discipline.  A.U10. The graduate is able to communicate by means of various techniques and tools in a professional and interdisciplinary environment to the extent that is appropriate for architectural and urban design.  A.U11. The graduate is able to work individually and in a team, including collaborating with specialists from other industries.  A.U12. The graduate is able to estimate the time needed to complete a complex design task.  A.U13. The graduate is able to formulate new ideas and hypotheses, analyze and test novelties related to engineering and research problems in the field of architectural and urban design.  A.U14. The graduate is able to prepare architectural and construction documentation using appropriate scales and in relation to the conceptual architectural design.  A.U15. The graduate is able to implement the principles and guidelines of universal design in architecture.  **Relating to social skills:**  1.3.2) The graduate is ready to respect the diversity of views and cultures and demonstrate sensitivity to the social aspects of the profession.  1.3.3) The graduate is ready to take responsibility for social, architectural and urban planning values in the protection of the environment.  A.S1. The graduate is ready to effectively use imagination, intuition, creative attitude and independent thinking to solve complicated design problems.  A.S2. The graduate is ready to speak and make presentations in public.  A.S3. The graduate is ready to follow teamwork principles and take responsibility for joint tasks and projects.  A.S4. The graduate is ready to take responsibility for shaping the natural environment. |

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| **PROGRAMME CONTENT** | | |
| **Form of classes - project** | | **Number of hours** |
| Proj 1 | Introduction: definition and characteristics of mixed-use service and housing development, social conditions, advisability of segregation of functional zones within the building, main functional and spatial requirements, old and modern examples. The form and scope of the project, conditions of credit, literature.  Discussion of proposed design topics and project locations.  Handing out of the project topics and locations and designation of project groups.  Field trip: analysis of the plot and its surroundings, preparation of the photography survey. Establishing project groups for the development of an urban task. Source and bibliographical analyses.  Consultation: conditions and urban assumptions of the project. | 7 |
| Proj 2 | **Design Task no 1** - analysis of the project context - historical and urban conditions, analysis of functions - determining the basic size of the building, feasibility study, initial concept of the selected topic, prospective sketches.  Discussion of the results of the Design Task no 1. Discussion concerning the urban concept assumptions and urban traffic scheme. Evaluation of the Design Task no 1.  Design task:  Urban concept arrangements, definition of common functional and spatial conditions. Determination of the permissible size and intensity of development, zoning lines and connections with neighbouring buildings, definition of the pedestrian and traffic flow system, analysis of access possibilities (for car parks and supplies), access, location of the main entrance. Determination of the nature of the development, its size and role in the spatial layout of the street or square. Construction of a working model on a scale of 1:500. Site plan – draft version (1:500 scale). Urban balance sheets.  Group work.  Knowledge:  The role of historical analyses and urban studies in the design of a residential and commercial building located in the city centre. The methodology of developing a site plan for such a building. Discussing issues based on examples. | 7 |
| Proj 3 | **Design workshop** - development of an initial architectural concept based on the urban arrangements and the functional program. Continuation of work on the urban model (scale 1:500). Analyses of problems and external conditions for various topics related to the common neighbourhood. Determination of the scale of development, places of possible accents and dominance of access, communication services, and the way of solving car parks.  Project reviews within the groups. Presentation of models, discussion and final agreement on an urban concept. Acceptance of the site plan design.  Design task:  Architectural analysis of the feasibility of the functional program. Proposals for distribution of functions within the spatial structure of the building. Working on the idea of spatial solution and architectural composition of the building in connection with the arrangements for the entire urban complex.  Presentation and analysis of reference examples and architectural inspirations prepared by students.  Individual consultations.  Knowledge:  The city block as a basic spatial unit: street function vs. block interior function, horizontal segregation, hierarchy of street courses and related conditions, development intensity, degree of the plot filling, samples of city blocks. | 7 |
| Proj 4 | Design task:  Development of architectural and functional-spatial concept on a model and hand drawings of elevations, projections and cross-sections (1:200 scale). Spatial definition of the main function, auxiliary functions and construction and communication system. Working on a mock-up model (1:200 scale).  Individual consultation.  Presentation and analysis of case studies and architectural inspirations prepared by students.  Field trip No. 1 to a mixed-use service and housing building located in the city centre.  Design task:  Working further on the project, possible design solutions for the site plan, layout of the functions within the building, consultations.  Knowledge:  Interpretation of the requirements of the Land Development Plan. Scope and method of developing the site plan for sample mixed-use service and housing buildings located in downtown areas. Discussing issues based on the presented examples. | 7 |
| Proj 5 | Design task:  Working on the architectural and functional-spatial concept on a model and hand-drawn elevation drawings, floor plans and sections drawings (1:200 scale). Spatial definition of the main function, auxiliary functions and construction and communication system. Work on a mock-up model (1:200 scale).  Individual consultation.  Presentation and analysis of case studies and architectural inspirations prepared by students.  **Design workshop**: coordination of the architectural concept on the mock-up architectural model (1:200 scale) in connection with the neighbouring buildings, based on the urban arrangements defined in the groups, which were presented within the site plan.  Acceptance of the chosen presented design solutions and determination of the scope of project development at the Review no 1. Individual reviews.  Knowledge:  Relationships between the service and housing function within the building: vertical segregation, mutual conditions, types of service and housing structure depending on bio-urban conditions, rank and disadvantages of traffic routes, required housing structure and size of services. Discussion of issues based on the presented examples. | 7 |
| Proj 6 | **Review no 1.**  Project presentations.  Scope of the study:   * historical and urban analyses, * site plan and urban model (developed in group - 1:500 scale), * original architectural concept of the building: * sketches, hand drawings (1:200 scale), * architectural model (1:200 scale).   Discussion and revisions of arrangements concerning the adopted urban solution and architectural concept. Substantive assessment of the project.  Field trip No. 2. to a hotel building (lobby, catering, multifunctional rooms, recreational and residential part), with the participation of the architect (expert). Analyses of the building problems, architecture, construction, technical infrastructure.  Knowledge:  Characteristics of the service function: types, degree of possible conflicts, applicable law restrictions, spatial requirements, availability and layout of premises, deliveries. Case studies. | 7 |
| Proj 7 | Design task:  Corrections of the architectural and functional-spatial concept resulting from the analyses made during the presentation. Development of a working model (1:200 scale). Consultation of the design solution assumptions with an expert on fire safety of buildings. Defining the fire category of a building and its structural fire resistance, defining fire zones and evacuation scheme.  Consultation with specialists.  **Design Task** **-** analysis of the conformity of the adopted architectural solution with the building requirements of regulations and technical conditions to be met by buildings and their location. Preliminary development of the architectural detail: stairs and structure of proposed building partitions (1:50 scale).  Knowledge:  Characteristics of the housing function: development types and their characteristics, applied housing solutions, development structure, binding legal regulations, spatial requirements, selection of structure depending on external conditions. Case studies. | 7 |
| Proj 8 | Discussion of the results of the Design Task  Design task:  Refining and checking the architectural solutions, the compatibility of projections with cross-sections, elevations and situations. Verification of the designed programme with the original programme.  Design workshop: working on mock-up models (1:200 scale). Definitive solution based on models and drawings of problems and external conditions related to the common neighbourhood. Searching for alternative solutions for facades and building forms. Identifying necessary changes in the architectural model and a beginning of work on the final model (1:200 scale). Correction and precision of functional and spatial solutions in connection with structural and material solutions. Assent on the details of the facade structure. Working on technical and material solutions.  Knowledge:  Technical issues in designing service and housing buildings - interpretation of key regulations contained in the technical conditions to be met by buildings and their location - part 1. Analysis of daylight access and the impact of the designed buildings on the shading of existing buildings on the adjacent plots. | 7 |
| Proj 9 | Design task:  Refining and checking architectural solutions (scale 1:200), compatibility of projections with cross-sections, elevations and situation. Checking the designed programme with the original programme. Working on a model (scale 1:100). Refinement of accepted structural and material solutions for facade structure. Work on technical and material solutions and graphic presentation of the project.  Individual consultation.  Field trip No. 3. to a mixed-use building with a dominant office function with the participation of the architect (expert). Analysis of building problems, architecture, structures, technical infrastructure.  Knowledge:  Technical issues in designing service and residential buildings - interpretation of key regulations contained in the technical conditions to be met by buildings and their location - part 2. Fire safety. | 7 |
| Proj 10 | Design task:  Refining and checking the architectural solutions, the compatibility of projections with cross-sections, elevations and situation drawings. Checking the designed programme with the original programme.  Individual consultation.  **Review no 2.**  Project presentations.  Scope of the study:   * historical and urban analyses, * site plan and urban model (developed in group - 1:500 scale), * original architectural concept of the building: * sketches, visualisations, * architectural model (1:200 scale).   Discussion and revision of arrangements concerning the adopted urban solution and architectural concept. | 7 |
| Proj 11 | Design task:  Refining and checking architectural solutions (cross-sections - scale 1:200; details - scale 1:20). Checking the conformity of projections with cross-sections, elevations and land development plan. Revision and detailing of accepted technical solutions: structure and infrastructure.  Individual consultation. | 7 |
| Proj 12 | Design task:  Continuation of the task defined during last meeting (Proj 11).  Individual consultations.  **Design Workshop** - searching for variant solutions for facade details (projection and cross-section – drawings in 1:20 scale).  Presentation and analysis of reference examples and architectural inspirations prepared by students in terms of technical solutions and selection of facade materials. | 7 |
| Proj 13 | Design task:  Continuation of the task defined in previous meeting (Proj 11).  Checking the programme implemented in the project with the original programme. Working on technical and material solutions and a graphic presentation of the project. Correction and detailing of accepted technical solutions: construction and infrastructure.  Individual consultation. | 7 |
| Proj 14 | Design task:  Refining and checking the architectural solutions, the compatibility of projections with cross-sections, elevations and situation drawings. Finishing a work on the model (1:200 scale). Working on technical and material solutions and graphic presentation of the project.  Individual consultations.  A discussion summarising the design and didactic process. Partial presentation of projects as a preparation for their final review. | 7 |
| Proj 15 | **Review no 3.**  (first submission deadline, so called „0”).  Project presentations.  Scope of the study:   * historical and urban analyses, * photo survey, * site plan and urban model (developed in group - 1:500 scale), * case studies, * architectural drawings: floor plans, section and elevation drawings (1:100 and 1:200 scale), * architectural detail (1:50 scale), * sketches, visualisations, * technical description, * architectural model (1:100 scale).   Discussion held by the project leader on the implementation of the objectives and identification of necessary corrections and additions.  Substantive assessment of the project.  Setting the deadline for the final submission of projects. | 7 |
|  | **Total hours** | **105** |

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| **TEACHING TOOLS** |
| **N1** – Multimedia presentation.  **N2** – Project presentation.  **N3** – Consultation.  **N4** – Discussion.  **N5** – Role playing.  **N6** – Flipped classroom.  **N7** – Design workshop.  **N8** – Mock-up and 3D modelling.  **N9** – Wiki module on-line, quiz on-line, mini-test on-line. |

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| **ASSESSMENT OF ACHIEVEMENT OF LEARNING OUTCOMES** | | |
| **Evaluation** (F – forming (during semester), C – concluding (at semester end) | Number of learning outcome | Method of assessing the achievement of learning outcome |
| F1 | 1.1.1)  1.1.2)  1.1.3)  1.1.4)  1.1.5)  1.1.6)  1.1.7)  1.1.9)  1.1.10)  1.1.11)  1.1.12)  1.1.13)  A.W1.  A.W4.  A.W5.  A.W6.  A.W8.  1.2.1)  1.2.2)  1.2.3)  1.2.4)  1.2.5)  A.U1.  A.U4.  A.U5.  A.U7.  A.U8.  A.U9.  A.U10.  A.U11.  A.U12.  A.U13.  A.U14.  A.U15.  1.3.2)  1.3.3)  A.S1.  A.S2  A.S3.  A.S4. | assessment of the content and technical aspects of the project |
| F2 | class participation assessment (min. 50% critiques, credit for all reviews) |
| F3 | assessment of oral presentation, group work and class participation |
| **C = 70%F1 + 15%F2 + 15%F3** | | |

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| **BASIC AND ADDITIONAL LITERATURE** |
| **basic LITERATURE:**   1. *Hybrid Urban Structures*, Gyurkovich, M. (red.), Kraków 2016. 2. Koziński, T., *Projektowanie obiektów handlowych*, Warszawa 1980. 3. *Leksykon architektury Wrocławia*, Eysymontt, R., Ilkosz, J., Tomaszewicz, A., Urbanik, J. (red.), Wrocław 2011. 4. Meuser, N., *Construction and Design Manual. Drawing for Architects*, Berlin 2015. 5. Neufert, E., *Podręcznik projektowania architektoniczno-budowlanego*, Warszawa 2007. 6. Oswald, A., *Construction and Design Manual. Offices. Construction and Design Manual*, Berlin 2014. 7. Pålsson, K., *Construction and Design Manual. Public Spaces and Urbanity. How to Design Humane Cities*, Berlin 2017. 8. Per, A. F., Mozas, J., Arpa, J., *This is hybrid: an analysis of mixed-use buildings by a+t*, Vitoria-Gasteiz 2011. 9. Per A. F., Mozas J., *HYBRIDS III. Residential Mixed-Use Buildings*, Vitoria-Gasteiz 2009. 10. Zeidler, E. H., *Multi-Use Architecture in the Urban Context*, New York 1985. 11. *Rozporządzenie Ministra Infrastruktury z dnia 12 kwietnia 2002 r. w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie* (Dz. U. nr 75, poz. 690; z późniejszymi zmianami).   **additional LITERATURE:**   1. Cerver, F. A., *The World of Contemporary Architecture*, Barcelona 2003. 2. Christopher, A. i in., *A Pattern Language*, Oxford, New York, 1977. 3. Fitch, R., Knobel, L., *Retail Design*, New York, London 1990. 4. Gehl, J., *Life between buidlings*, Kraków 2009. 5. Moss, M., Tuton, A., *A Legend of Retailing House of Fraser*, London 1989. 6. Mount, C. M., *The New Restaurant, Dining Design 2*, New York 1995. 7. Pevsner, N., *A history of building types*, Nowy Jork 1976. |

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| **COURSE SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)** |
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