Attachment no. 5 to ZW 16/2020

Attachment no. **16** to studies program

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| **FACULTY OF ARCHITECTURE**  **COURSE SYLLABUS**  Course title in Polish: **Projektowanie architektoniczne - szpitale i inne obiekty ochrony zdrowia**  Course title in English: **Architectural design - hospitals and other health care facilities**  Specialization (if applicable): **Architecture**  Profile (if applicable): **Architecture and Urban Planning**  Level and form of studies: **2nd level, full-time**  Semester: **2**  Course type: **optional**  Course code: **AUA117709P**  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 familiarize with the development of hospital architecture and the influence of medical technologies on its development.  **C2** to familiarize with the principles of shaping space for the health protection function.  **C3** getting to know the impact of the requirements of technological processes on the spatial organization of a hospital or outpatient clinic.  **C4** to familiarize with the latest trends in the design of the architecture of health care facilities.  **C5** teaching the design of healthcare facilities in relation to medical technology, the needs of patients and staff.  **C6** developing the ability to develop and present architectural designs of high complexity. |

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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:** discussion of the purpose and scope of project tasks, literature on the subject and conditions for passing, schedule of classes and requirements for individual stages of work.  **Research workshops:** analysis of planning documents in terms of the principles of the distribution of health care functions in an urbanized environment. Presentation of research results, indication of areas of the city in which it would be possible to locate health care buildings.  Work in groups. | 7 |
| Proj. 2 | **Design task:**  Project program analysis: main hospital functions, their interrelationships, patients' needs, hospital staff requirements.  **Research workshops:** relations between the space of the hospital building and the plot area, analysis of location conditions, location of the project on a city scale, functional connections, historical conditions and current hospital-city relations, main location requirements for healthcare facilities.  Presentation of research results by student groups. | 7 |
| Proj. 3 | **Knowledge:**  Shaping urban space - improving the health of citizens. Overview of types of health care institutions and their tasks in the health care system. Presentation of the principles of the functioning of the medical care system in Poland, including the current state of health care, directions of changes, current needs.  **Discussion** on the directions of changes in health care and the impact of these changes on the design of health care facilities and the impact of new technologies. | 7 |
| Proj. 4 | **Overview 1.**  Presentation of the initial urban concept, indication of the proposed locations of detailed planned health care buildings.  **Workshops:** research and design work - an attempt to define the deficits and potentials of selected areas; determination of the permissible size and intensity of development, building lines, functions, communication system, greenery and recreational areas for the purposes of the project; making a spatial model of the entire area (scale 1: 2000 or 1: 1000).  Work in groups. | 7 |
| Proj. 5 | **Workshops:** analysis of the main functions of the planned hospital, designing functional "paths" in the hospital and their interrelationships.  **Knowledge:**  History of the development of health care design, taking into account the impact of science and new medical technologies, the development of medical diagnostics | 7 |
| Proj. 6 | **Design task:**  Programming the course of functions in conjunction with the functional program, initial concept of the layout of the basic functions of the planned hospital, outline of land development, working spatial model  Individual work.  **Consultations.** | 7 |
| Proj. 7 | **Overview 2.**  Presentation of the results of research (analyses) and project activities.  Range:  • spatial layout of the selected area for the location of the hospital, communication, external and internal, land development (scale 1: 2000 or 1: 1000),  • local land development plan,  • urban sections,  • sketches,  • perspective views,  • functional diagrams showing the adopted hospital solutions.  Discussion.  **Knowledge:**  The role of diagnostics in the treatment process, main functional sequences, formal requirements - patient, medical staff, technology - basic connections and dependencies. | 7 |
| Proj. 8 | **Educational trip**: visiting a selected healthcare object with a discussion of the medical technologies used, led by a local expert.  **Knowledge:**  Conditions for designing space for medical technologies (operating theatres, medical diagnostics, sterilization, laboratories, intensive medical care). | 7 |
| Proj. 9 | **Design task:**  Developing functional connections, the path of the patient, the path of medical personnel, the path of medical waste, organization of patient nutrition, functional solutions for operating theatres, sterilization departments, laboratories, and accompanying spaces.  Individual work.  **Consultations.** | 7 |
| Proj. 10 | **Workshops:** media supply solutions to the hospital, internal-hospital transport - new options, outsourcing or concentration of functions accompanying the medical process  **Discussion.**  **Knowledge:**  Technical aspects of designing space for medical technologies: water and heating installations, sewage, air treatment, current solutions, expert from medical industry | 7 |
| Proj. 11 | **Design task:**  Studies on the adopted spatial model of the planned hospital or health care facility, shape of the building, structure, spatial connections between individual hospital functions, zoning of the hospital functions.  Individual work.  **Consultations.** | 7 |
| Proj. 12 | **Workshops:** analysis and discussion of the prepared solutions for functional systems of the designed hospitals or other healthcare facilities.  **Design task:**  Correction of the presented solutions, building the shape of the hospital, its structure, adopting material solutions.  Individual work.  **Corrections.** | 7 |
| Proj. 13 | **Design task:**  Proposals of constructional and material solutions for the planned hospital or other healthcare facility (work with an expert); further work on the adopted architectural solutions (scale 1: 200). Coordination of the compliance of projections with sections, elevations and land development plan. Defining the artistic vision of the main elements of the hospital and interior.  Individual work.  **Corrections.** | 7 |
| Proj. 14 | **Workshops:** work on comprehensive spatial solutions for the designed hospitals or other health care facilities in connection with previously developed technological lines, projections and cross-sections (scale 1: 200).  Student presentations, evaluation and discussion of the proposed solutions.  **Design task**:  Improving and detailing the proposed spatial solutions, design of the selected interior with equipment, visual identification.  Individual work.  **Corrections.** | 7 |
| Proj. 15 | **Overview 3.**  Presentation of the results of the work, completion of the project.  Project evaluation criteria:  • completeness of work: research, technological, architectural and construction;  • quality of the adopted design solutions:  • urban composition,  • land development,  • functional and spatial solutions,  • connections of functions with adopted technologies,  • taking into account formal requirements,  • constructional and material;  • work aesthetics. | 7 |
|  | **Total hours** | **105** |

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| **TEACHING TOOLS** |
| **N1** - Multimedia presentations.  **N2** - Projects presentations.  **N3** - Educational excursion.  **N4** - Consultation.  **N5** - Problem discussions.  **N6** - Research and design workshops.  **N7** - Field research.  **N8** - Specialist consultations.  **N9** - Group consultations.  **N10** - Individual adjustments (including consultations with experts).  **N11** - Teamwork |

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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 intermediate surveys |
| F2 | evaluation of the substantive value of the project |
| F3 | evaluation of the graphic design of the project |
| F4 | assessment of the student's involvement in the workshop |
| **C = P = 20%F1 + 50%F2 + 10%F3 + 20% F4** | | |

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| **BASIC AND ADDITIONAL LITERATURE** |
| **basic LITERATURE:**   1. “Health Facilities Review”, The American Institute of Architects Academy of Architecture for Health, 2003-2004. 2. Grands Projects, Architectes Ingenieurs Associes, Paris 2010. 3. Capolongo, S., Architektura dla elastyczności w opiece zdrowotnej, Mediolan 2012. 4. Fermand, C., Les hopitaux et les cliniques, Architecture de la sante, Paris 1991, 2005. 5. Frampton, K., Modern Architecture. A Critical History, London, New York 1987. 6. Laget, P.L., Laroche, C., L’hospital en France, Historie et Architecture, Lyon 2012. 7. Meuser, Ph., Schirmer, Ch., New Hospital Buildings in Germany, t. 1, General Hospitals and Health Centers, t. 2: Specialist Clinics and Medical Departments, Berlin 2006. 8. Mostaedi, A., New Health Facilities, Barcelona 2001. 9. Nickl-Weller, C., Nickl, H., Hospital Architecture and Design, Berlin 2009. 10. Bąkowski, J., Czabański, W., Gębczyńska-Janowicz, A., Pokrzywnicka, K., Projektowanie i programowania obiektów służby zdrowia, Gdańsk 2012. 11. Tomanek, M., Technologia medyczna w projektowaniu obiektów szpitalnych, Katowice 2015.   **additional LITERATURE:**   1. Gerber, P., Ochrona i modernizacja zabytkowych szpitali, Wrocław 2019. 2. Kaiser, K., Wolski A., Klimatyzacja i wentylacja w szpitalach. Teoria i praktyka eksploatacji, Gdańsk 2007. 3. Murken, A.H., Vom Armenhospital zum Grossklinikum. Die Geschichte des Krankenhauses vom 18. Jahrhundert bis zum Gegenwart, Köln 1993. 4. Poplatek, J., Modernisation of existing hospitals. W: “Structural Studies, Repairs and Mainte-nance of Heritage Architecture”, t.15, 2017. 5. Stevens, E.F., The American Hospital of the Twentieth Century, A Treatise on the Development of Medical Institutions, Both in Europe and in America, Since the Beginning of the Present Century, New York 2010. 6. Wójtowicz, M., Dawne szpitale Wrocławia, Wrocław 2007. 7. Wybrane zagadnienia zdrowia publicznego, Dolnośląskie Centrum Zdrowia Publicznego we Wrocławiu, Drobnik, J., Kollbek, P., (red.), Wrocław 2006. |

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