EDUCATIONAL EFFECTS FOR THE MAJOR: ARCHITECTURE AND URBAN PLANNING

FACULTY: ARCHITECTURE

The name of the major: Architecture

Educational Level: 1st cycle studies

Educational Profile: general academic

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Major Educational Effects</th>
<th>Reference to Educational Effects for the Area of Technical Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1A-W1</td>
<td>Knowledge of mathematics in the field of: derivatives and their application, elements of integral calculus, systems of linear equations, equations of lines and planes, equations of curves and surfaces, elements of mathematical logic, elements of analytical geometry, elements of calculus of vectors and matrix.</td>
<td>T1A_W01</td>
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<tr>
<td>K1A-W2</td>
<td>Knowledge of descriptive geometry in the field of: perspective and axonometry, methods of mapping and restitution of spatial elements, geometrical shaping of architectural forms with a use of polyhedrons, solids and surfaces; methods of applied perspective.</td>
<td>T1A_W01</td>
</tr>
<tr>
<td>K1A-W3</td>
<td>Knowledge of fundamentals of physics of a building in the field of thermal and humidity properties of division walls as well as principles of lighting and acoustics in buildings.</td>
<td>T1A_W01, T1A_W02</td>
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<tr>
<td>K1A-W4</td>
<td>Knowledge of fundamentals of construction mechanics, statics on a plane, analysis of statically determinate systems, methods of graphic and analytical determination of forces and strength of construction systems.</td>
<td>T1A_W01, T1A_W02</td>
</tr>
<tr>
<td>K1A-W5</td>
<td>Knowledge of fundamentals of architecture and urban design.</td>
<td>T1A_W03, T1A_W04</td>
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<tr>
<td>K1A-W6</td>
<td>Knowledge of basic elements of architectural and urban composition as well as relations between elements shaping space.</td>
<td>T1A_W03, T1A_W04</td>
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<tr>
<td>K1A-W7</td>
<td>Knowledge of history and theory of architecture and urban planning as well as related arts and their cultural background; knowledge of basic trends in the development of architecture and contemporary urban planning.</td>
<td>T1A_W03, T1A_W04, T1A_W05</td>
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<tr>
<td>K1A-W8</td>
<td>Knowledge of basic elements of development planning system in Poland.</td>
<td>T1A_W03</td>
</tr>
<tr>
<td>K1A-W9</td>
<td>Knowledge of types, properties and ranges of application of building materials.</td>
<td>T1A_W01, T1A_W02, T1A_W06</td>
</tr>
<tr>
<td>K1A-W10</td>
<td>Knowledge of basic rules of designing constructions as well as modelling, combining and determining construction load.</td>
<td>T1A_W01, T1A_W02, T1A_W06</td>
</tr>
<tr>
<td>K1A-W11</td>
<td>Knowledge of contemporary building installations and their influence on the form and energy-efficiency of a building as well as a way of plot development.</td>
<td>T1A_W01, T1A_W02, T1A_W06</td>
</tr>
<tr>
<td>K1A-W12</td>
<td>Knowledge of plastic and visual arts as well as artistic techniques in the scope in which they influence the quality of a design project.</td>
<td>T1A_W01, T1A_W02</td>
</tr>
<tr>
<td>K1A-W13</td>
<td>Knowledge of principles of creating drawings and technical descriptions as well as technical, architectural and urban documentation.</td>
<td>T1A_W07</td>
</tr>
<tr>
<td>K1A-W14</td>
<td>Knowledge of basic information technologies in the field of processing texts, calculation sheets, data bases, managerial or presentation graphics; services in information networks, information acquisition and processing.</td>
<td>T1A_W07</td>
</tr>
<tr>
<td>K1A-W15</td>
<td>General knowledge of fundamentals of economics, quality management, organization of an investment and design process at home and in member countries of the European Union.</td>
<td>T1A_W08, T1A_W09, T1A_W11</td>
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K1A-W16 Basic knowledge of managing an economic activity, including architectural practice.  
T1A_W08  
T1A_W09  
T1A_W11

K1A-W17 Knowledge of legal acts, technical and constructional regulations in effect in construction industry as well as safety and work hygiene rules.  
T1A_W08  
T1A_W09  
T1A_W11

K1A-W18 Knowledge of elements of professional ethics and basic problems connected with intellectual property protection and copyright laws.  
T1A_W08  
T1A_W09  
T1A_W10

K1A-W19 Foreign language: knowledge of both grammar and lexical structures enabling comprehension and creation of various types of written and oral texts, formal and informal ones, on specific and abstract topics, concerning both general knowledge as well as the study field.  
T1A_W01  
T1A_W08

K1A-W20 Basic knowledge of health and physical culture sciences, knowledge of basic terms in physical fitness.  
T1A_W08

K1A-W21 Basic Knowledge of typical engineering technologies in the field of study  
InzA_W05

SKILLS: The student has acquired skills included in the following points:

K1A-U1 Ability to use basic mathematical methods in architectural and urban design.  
T1A_U09

K1A-U2 Ability to use descriptive geometry in architectural design as well as construction and visualization of architectural objects.  
T1A_U09  
T1A_U15

K1A-U3 Ability to consider thermal and humidity requirements, sound-proof protection and proper lighting in architectural design.  
T1A_U09  
T1A_U08  
T1A_U13  
T1A_U16

K1A-U4 Understanding of shaping building structures and constructions.  
T1A_U08  
T1A_U09

K1A-U5 Ability to acquire, accumulate, analyze information and draw conclusions as well as formulate design guidelines on their basis.  
T1A_U08  
T1A_U09  
T1A_U10  
T1A_U13  
T1A_U15

K1A-U6 Ability to design being conscious of complexity and changeability of spatial relations in an object and its surrounding as well as a necessity to respect the current cultural context.  
T1A_U10  
T1A_U13

K1A-U7 Ability to do a basic analysis and evaluation of an architectural work in a given cultural context, considering its location, form, function, usefulness, construction and aesthetics as well as quality during usage (POE).  
T1A_U08  
T1A_U09  
T1A_U10  
T1A_U13  
T1A_U15

K1A-U8 Understanding of determinants and consequences of development planning documents, ability to do an analysis of the town’s structure.  
T1A_U09  
T1A_U10  
T1A_U13  
T1A_U14  
T1A_U15  
T1A_U16

K1A-U9 Ability to design an architectural facility with a small degree of complexity as well as a building complex or a plan of land development with greenery and selected urban facilities, meeting technical requirements, considering ergonomy principles, design for all and other social, natural, cultural and legal requirements.  
T1A_U10  
T1A_U14  
T1A_U16

K1A-U10 Ability to make an architectural and urban inventory as well as prepare full documentation, both architectural-constructional and urban one.  
T1A_U07  
T1A_U14  
T1A_U15

K1A-U11 Ability to apply modern technologies and energy-saving solutions while designing buildings and urban layouts.  
T1A_U10  
T1A_U13  
T1A_U14

K1A-U12 Ability to apply building materials in designing adequately to the function and form of a facility as well as environmental factors and cultural context.  
T1A_U13  
T1A_U15  
T1A_U16

K1A-U13 Ability to develop an architectural and building design applying properly selected constructional elements.  
T1A_U07  
T1A_U08  
T1A_U09  
T1A_U14

K1A-U14 In architectural designs ability to consider design principles of proper installations in facilities for different purposes.  
T1A_U07  
T1A_U13
**K1A-U15**  Ability to do drawing, painting and sculpture studies from nature and imagination. Application of different artistic and plastic techniques, technical and material means as well as modelling techniques to present an architectural concept, including an application of computer programmes.

**K1A-U16**  Ability to plan an investment process on a basic level, understanding basic economic processes and negotiations principles.

**K1A-U17**  In a design process ability to apply legal regulations referring to architectural-construction and urban design as well as investment realization.

**K1A-U18**  Knowledge of a foreign language on B2 competence level: comprehension of main themes in a message included in complex texts, both factual and abstract ones. Ability to speak fluently with a native speaker of a given language. Ability to formulate oral and written opinions on a wide scale of topics.

**K1A-U19**  Ability to adjust the level of physical effort and relaxation to the needs and capabilities of one’s own organism.

**COMPETENCES: The student has acquired competences included in the following points:**

| K1A-K1 | Abstract comprehension of technical problems. | T1A_K02 | T1A_K04 |
| K1A-K2 | Preparation for undertaking a professional activity as an auxiliary worker as well as in construction execution and supervision in the field of urban and architectural design. | T1A_K02 | T1A_K03 | T1A_K05 | T1A_K06 |
| K1A-K3 | Understanding of the character and social responsibility of an architect, particularly in preparation of design conceptions whose aesthetics and functionality consider social factors and cultural heritage. | T1A_K01 | T1A_K02 | T1A_K04 | T1A_K05 | T1A_K06 |
| K1A-K4 | Understanding of relations between people and buildings as well as between buildings and the surrounding environment. | T1A_K02 | T1A_K05 |
| K1A-K5 | Ability to interpret social phenomena (cultural, political, legal) in the field of science disciplines related to the studied major. | T1A_K02 | T1A_K04 | T1A_K05 |
| K1A-K6 | Understanding of issues and procedures in accordance with ethical conduct in the professions of architect and urban planner. | T1A_K02 | T1A_K03 | T1A_K05 | T1A_K07 |
| K1A-K7 | Preparation for undertaking 2nd cycle studies. | T1A_K01 |
| K1A-K8 | Ability to think and act in a resourceful way. | T1A_K03 | T1A_K04 | T1A_K06 |
| K1A-K9 | Understanding of the structure of an undertaken task, ability to outline a plan of its realization. | T1A_K04 |
| K1A-K10 | Ability to cooperate in a group taking on different roles. | T1A_K01 | T1A_K03 | T1A_K06 | T1A_K07 |
| K1A-K11 | Awareness of social importance of the role of a technical university graduate, ability to convey in a credible and comprehensive way information and multifaceted opinions referring to technical achievements and various aspects of engineer-architect’s activity. | T1A_K01 | T1A_K03 | T1A_K06 | T1A_K07 |
| K1A-K12 | Understanding of a life-long learning necessity, mainly in order to improve professional and personal competences. | T1A_K01 | T1A_K06 |
| K1A-K13 | Ability to choose the most appropriate form of physical activity for individual predispositions, understanding the necessity of life-long physical activity. | T1A_K02 |