16th March 2022

**DESCRIPTION OF THE STUDY PROGRAMME DESIGN**

Study programme: **ARCHITECTURER**

Level: **2ND CYCLE**

Profile: **GENERAL ACADEMIC**

1) discipline to which the study programme is assigned, or – where the study programme is assigned to more than one discipline – the leading discipline and the remaining disciplines together with the percentage of the ECTS points of each discipline in the total number of the ECTS points necessary for completing the programme at a given level:

   **ARCHITECTURE AND URBAN SCIENCES** – 100%

2) mode of study: **FULL TIME**
3) number of the semesters: **3**
4) total number of teaching hours provided by the university: **1018**
5) number of the ECTS points necessary for the study programme completion: **90**
6) number of the ECTS points the student must obtain for courses conducted with the direct participation of academic teachers or other individuals authorised to conduct classes: **56**
7) number of the ECTS points the student must obtain for courses from the field of humanities or social sciences: **7**
8) number of the ECTS points assigned to elective courses: **56**
9) number of the ECTS points assigned to courses related to the academic activity in the discipline or disciplines to which the study programme is assigned – applies to study programmes of the general academic profile: **84**
10) ~~number of the ECTS points assigned to courses developing practical skills – applies to study programmes of the practical profile:~~
11) ~~for the first cycle full time study programmes – number of hours of the physical education:~~
12) scope, principles and form of completing student work placements and the number of the ECTS points the student must obtain for their work placement:
13) Verification and evaluation methods of the learning outcomes attained by the student throughout the whole study cycle:
    - Verification of the attained learning outcomes requires application of diverse forms of evaluating students' performance, adequate for the category of knowledge, skills or social competences to which the effects are related.
    - Attainment of the required learning outcomes in the category of knowledge is verified with the use of written or oral examinations, reviews, essays and presentations as well as by verification of diverse categories of design projects of various difficulty levels.
    - Oral examinations are standardised and aimed at verification of knowledge at a higher level than mere knowledge of facts (the level of comprehension, the analytical, synthetical and problem solving skills).

- The forms of written examination include: essays, reports, short structured questions or multiple choice tests (MCQ – Multiple Choice Questions), multiple response tests (MRQ – Multiple Response Questions), Yes/No questions and response matching.
- Attainment of the required learning outcomes in the category of skills and in the category of social competences is verified by evaluation of design projects of diverse categories and various difficulty levels.
- Attainment of the required learning outcomes in the category of skills in the "A" course group is verified by evaluation of the completed design project, including the course and reviewed (staged) project, and the test-like project realised in class under supervision, as well as evaluation of the level of student's creativity demonstrated during the design process and direct individual and team review sessions performed by the supervisor in the "master-pupil" mode, as well as evaluation of the skill of presentation and defence of the completed design project.
- Attainment of the required learning outcomes in the category of knowledge, skills and social competences in the "D" course group is verified by evaluation of the knowledge acquired in seminars on scientific work methodology and the skill of its practical application in the design process, as well as by evaluation of the analytical-descriptive and design-graphic aspects of the diploma project; and the level of scientific and design creativity of the student and the value of the architectural solutions developed by them, as well as their skill of public presentation and defence thereof.
- The diploma examination is an examination verifying and summarising the learning outcomes of the 2nd cycle study programme of architecture for the whole study cycle.

14) The professional title awarded to graduates: MAGISTER INŻYNIER ARCHITEKT (M*aster in Engineering – Architect*)

16th March 2022

Table for the description of the learning outcomes
for the study programme of the second cycle

**Cracow University of Technology in Cracow**

**Name of Faculty or Faculties:** Faculty of Architecture

**Name of the study course:** Architecture

**Level of study:** second cycle, full time mode of study

**Profile of studies:** general academic

**Field or fields of study:**[1] engineering and technology

**Scientific discipline or disciplines with the percentage of learning outcomes for each discipline:**[1] Architecture and Urban Sciences (100%)

**Polish Qualification Framework level:**[2] 7 PQF

| Learning outcomes symbols | **STUDY PROGRAMME LEARNING OUTCOMES**<br>**Applicable to the study cycles commencing in the academic year 2022/23 and following years** | Reference to | | |
|---|---|---|---|---|
| | | first PQF[3] level universal characteristics | second PQF[4] level learning outcomes characteristics | second PQF level learning outcomes characteristics allowing attainment of engineering competences[5] |
| 1 | 2 | 3 | 4 | 5 |
| | **KNOWLEDGE: THE GRADUATE KNOWS AND UNDERSTANDS** | Description component code | Description component code | Description component code |
| O.W1 | structural, building and engineering problems related to building design; | P7U_W | P7S_WG | P7S_WG |
| O.W2 | detailed problems referring to architecture and urban sciences involved in solving complex design problems | P7U_W | P7S_WG | P7S_WG |
| O.W3 | advanced problems referring to architecture and urbanc sciences useful in designing architectural objects and urban ensembles in the context of social, cultural, natural, historic, economic, legal and other extra-technical conditions of engineering activities, integrating the knowledge acquired during their studies; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG |
| O.W4 | problems of physics, technology and functions of buildings in the scope enabling ensuring the comfort of their use and protection against adverse weather conditions | P7U_W | P7S_WG | P7S_WG |
| O.W5 | relations between humans and architecture and between architecture and its surrounding environment, as well as the need to adjust architecture to human needs and human scale; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG |

| | | | | |
|---|---|---|---|---|
| O.W6 | legal provisions and procedures necessary to execute building designs and to integrate buildings with the general planning design; | P7U_W | P7S_WK | P7S_WK |
| O.W7 | methods and means of implementing environmentally responsible sustainable design, as well as of protection and conservation of the surrounding environment; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG |
| O.W8 | history and theory of architecture and art, technology and humanities in the extent necessary for correct execution of architectural designs; | P7U_W | P7S_WG | P7S_WG |
| O.W9 | principles, solutions, structures and building materials applied in completing complex engineering tasks within the scope of architectural and urban design; | P7U_W | P7S_WG | P7S_WG |
| O.W10 | problems referring to architecture and urban sciences in the context of the multi-professional character of architectural and urban design and the need to cooperate with other specialists; | P7U_W | P7S_WG | P7S_WG |
| O.W11 | principles of information collection and interpretation for the needs of preparing a design concept; | P7U_W | P7S_WG | P7S_WG |
| O.W12 | principles of professional presentation of architectural and urban concepts; | P7U_W | P7S_WG | P7S_WG |
| O.W13 | character of the architectural profession and its role in the society | P7U_W | P7S_WK | P7S_WK |
| A.W1 | architectural design of various degree of complexity, from simple tasks to objects of a complex function in a complex context, in particular: simple objects catering for the basic needs of its users, single- and multi-family residential development, facilities to house services in residential development ensembles, public buildings and ensembles of public buildings of various scale and complexity in an open landscape or within an urban environment; | P7U_W | P7S_WG | P7S_WG |
| A.W2 | urban design within the scope of completing tasks of various scale and degree of complexity, in particular: development ensembles, local land use plans taking into account the local conditions and connections; | P7U_W | P7S_WG | P7S_WG |
| A.W3 | spatial planning and instruments of spatial policy | P7U_W | P7S_WG | P7S_WG |
| A.W4 | provisions of local land use plans within the scope necessary for architectural design; | P7U_W | P7S_WG | P7S_WG |
| A.W5 | the principles of universal design, including the idea of designing spaces and buildings accessible for all users, in particular for persons with disabilities, in architecture, urban design and spatial planning, and the principles of ergonomics, including ergonomic parameters necessary to ensure full functionality of the designed space and objects for all users, in particular for persons with disabilities; | P7U_W | P7S_WG | P7S_WG |
| A.W6 | advanced methods of analysis, tools, techniques and materials necessary to prepare design concepts in an interdisciplinary environment, with particular consideration given to interprofessional cooperation; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG |
| A.W7 | basic methods and techniques of conservation, modernisation and reconstruction of historic structures; | P7U_W | P7S_WG | P7S_WG |
| A.W8 | the interdisciplinary character of architectural and urban design and the need to integrate knowledge from other fields as well as to apply it in the design process in cooperation with specialists from these fields; | P7U_W | P7S_WG | P7S_WG |
| B.W1 | advanced theory of architecture and urban sciences useful in formulation and solution of complex tasks in architectural and urban design and spatial planning, as well as development trends and current directions in architectural and urban design; | P7U_W | P7S_WG | P7S_WG |
| B.W2 | history of architecture and urban design, contemporary architecture and heritage protection in the extent necessary in architectural, urban and planning creative work; | P7U_W | P7S_WG | P7S_WG |

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|---|---|---|---|---|
| B.W3 | the role and significance of the natural environment in architectural and urban design as well as in spatial planning, and the need to create spatial order and sustainable development, as well as the subject-matter of dangers threatening the cultural environment and landscape | P7U_W | P7S_WG | P7S_WG |
| B.W4 | problems related to architectural and urban design and to spatial planning, such as: technical infrastructure, transit, natural environment, landscape architecture, economic, legal and social conditions – necessary to understand social, economic, environmental, natural, historic, cultural, legal and other extra-technical conditions of engineering activities; they recognise the need to take them into account in architectural, urban and rural design and in spatial planning; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG<br>P7S_WK |
| B.W5 | advanced problems of construction, building technologies and installations, building structure and physics, including the key complex problems in architectural, urban and planning design; | P7U_W | P7S_WG | P7S_WG |
| B.W6 | technical-building regulations; | P7U_W | P7S_WG | P7S_WG |
| B.W7 | theoretical foundations of scientific reasoning and research in the extent useful in completion of complex design tasks, as well as interpretation of scientific publications in the scientific discipline of architecture and urban sciences; | P7U_W | P7S_WG | P7S_WG |
| B.W8 | ways of communicating ideas of architectural, urban and planning designs as well as ways of development thereof; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG<br>P7S_WK |
| B.W9 | the basic principles of the ethics of the architectural profession and concepts related to intellectual property protection; | P7U_W | P7S_WK | P7S_WK |
| C.W1 | styles in art and their related creative traditions as well as the process of execution of art works related to architecture, and the repertoire of techniques and tools used in related artistic disciplines; | P7U_W | P7S_WG | P7S_WG |
| C.W2 | problems of philosophy, with special consideration given to aesthetics – in the extent in which they influence the quality of architectural, urban and planing creative work, necessary to formulate and solve complex tasks in architectural and urban design and in spatial planning, as well as to evaluate existing and designed solutions; | P7U_W | P7S_WG | P7S_WG |
| C.W3 | the basic principles of scientific research methodology, including preparation of scientific publications; | P7U_W | P7S_WG | P7S_WG |
| C.W4 | vocabulary and grammatical structures of a foreign language which is a means of international communication necessary for creation and production of written and oral statements both in general and specialist language in the scope of architecture, as well as the necessity to be proficient in a foreign language, also in the context of academic activities; | P7U_W | P7S_WG | P7S_WG |
| D.W1 | detailed problems referring to architecture and urban sciences in the extent adequate for solving complex design problems; | P7U_W | P7S_WG | P7S_WG |
| D.W2 | advanced problems referring to architecture and urban sciences useful in designing architectural objects and urban ensembles in the context of social, cultural, natural, historic, economic, legal and other extra-technical conditions of engineering activities, integrating the knowledge acquired during their studies; | P7U_W | P7S_WG | P7S_WG |
| D.W3 | principles, solutions, structures and building materials used in completing engineering tasks within the scope of architectural and urban design; | P7U_W | P7S_WG | P7S_WG |
| D.W4 | problems referring to architecture and urban sciences in the context of the multi-professional character of architectural and urban design and the need to cooperate with other specialists; | P7U_W | P7S_WG<br>P7S_WK | P7S_WG<br>P7S_WK |
| D.W5 | principles of professional presentation of architectural and urban concepts; | P7U_W | P7S_WG | P7S_WG |
| | **SKILLS: THE GRADUATE IS ABLE TO** | **Description component code** | **Description component code** | **Description component code** |

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| O.U1 | use the experience gained during their studies in order to perform a critical analysis of the conditions and to formulate conclusions for designing in a complex interdisciplinary context; | P7U_U | P7S_UW | P7S_UW |
| O.U2 | use the interdisciplinary knowledge and skills acquired during their studies to design a complex architectural object or urban ensemble meeting the aesthetic and technical requirements, creating and transforming a space and bestowing new values upon it; | P7U_U | P7S_UW | P7S_UW |
| O.U3 | prepare an advanced graphic, written and oral presentation of their own design concepts in the scope of architecture and urban design, meeting the requirements of professional transcript applicable to architectural and urban design; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| O.U4 | use analytical methods to formulate and solve design tasks, present the theoretical background and a statement of reasons for the presented solutions in the form of an essay of the academic character; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| O.U5 | organise their work taking into consideration all the stages of working on a design concept; | P7U_U | P7S_UW<br>P7S_UO | P7S_UW |
| A.U1 | design a simple and complex architectural structure, creating and transforming the space to bestow new values upon it – in compliance with the assigned or adopted programme meeting the requirements and catering for the needs of all its users, the spatial and cultural context, technical and extra-technical aspects**;** | P7U_U | P7S_UW | P7S_UW |
| A.U2 | design a simple and complex urban ensemble; | P7U_U | P7S_UW | P7S_UW |
| A.U3 | develop planning concepts referring to land use and interpret them in the extent necessary for designing in the urban and architectural scale | P7U_U | P7S_UW | P7S_UW |
| A.U4 | perform a critical analysis of the conditions, including evaluation of the land use and development conditions; formulate conclusions for designing and spatial planning, predict the processes of transformation of the settlement structure in urbanised and rural areas and predict the social consequences of these transformations; | P7U_U | P7S_UW | P7S_UW |
| A.U5 | assess the usefulness of the advanced methods and tools for solving simple and complex engineering tasks typical of architecture, urban design and spatial planning, and select and apply appropriate methods and tools in design; | P7U_U | P7S_UW | P7S_UW |
| A.U6 | develop a conservation design concept of transforming an architectural-urban structure of cultural values addressing the problem of protecting these values and the appropriate methods and techniques, following the adopted programme taking into consideration the extra-technical aspects; | P7U_U | P7S_UW | P7S_UW |
| A.U7 | perform a critical analysis and evaluation of a design and the way of its execution in the scope of modernisation and reconstruction of architectural-urban structures of cultural values; | P7U_U | P7S_UW | P7S_UW |
| A.U8 | think in a creative way and act in a way taking into consideration the complex and multi-aspect conditions of the design activities, as well as express their own artistic concepts in architectural and urban design; | P7U_U | P7S_UW | P7S_UW |
| A.U9 | integrate information obtained from various sources, interpret it, perform a critical and detailed analysis thereof and draw conclusions therefrom, as well as formulate and substantiate opinions and demonstrate their relation to the design process, relying on the available academic body of work in the discipline; | P7U_U | P7S_UW | P7S_UW |
| A.U10 | communicate with the use of various techniques and tools in the professional and interdisciplinary environment in the extent adequate for architectural and urban design and spatial planning; | P7U_U | P7S_UO<br>P7S_UK | P7S_UW |
| A.U11 | work individually and in a team, including a team with specialists of other professions, as well as undertake a leading role in such teams; | P7U_U | P7S_UU | - |
| A.U12 | estimate the time necessary for completion of a complex design task; | P7U_U | P7S_UW<br>P7S_UO | P7S_UW |

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| A.U13 | formulate new ideas and hypotheses, analyse and test novelties related to engineering problems and research problems in the scope of architectural and urban design and spatial planning; | P7U_U | P7S_UW<br>P7S_UU | P7S_UW |
| A.U14 | prepare the architectural-building documentation in appropriate scale in relation to the conceptual architectural design; | P7U_U | P7S_UW | P7S_UW |
| A.U15 | implement the principles and guidelines of universal design in architecture, urban design and spatial planning; | P7U_U | P7S_UW | P7S_UW |
| B.U1 | integrate advanced knowledge from various fields of science, including history, history of architecture, history of art and cultural heritage protection and spatial development, while solving complex engineering problems; | P7U_U | P7S_UW<br>P7S_UU | P7S_UW |
| B.U2 | recognise the significance of extra-technical aspects and consequences of the architect's design activities, including their influence on the cultural and natural environment, as well as take responsibility for the technological decisions they make in the environment and for passing on the cultural and natural heritage to the future generations; | P7U_U | P7S_UU | P7S_UW |
| B.U3 | recognise the systemic and extra-technical aspects in the process of architectural, urban and planning design of high complexity level, including environmental, cultural, artistic, economic and legal aspects; | P7U_U | P7S_UW | P7S_UW |
| B.U4 | formulate statements of the critical analysis character within the scope of architecture, as well as present and synthetically describe the ideological foundations of a design, relying on the adopted premises; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| B.U5 | use appropriately selected advanced computer simulations, analyses and information technologies aiding architectural and urban design, as well as evaluate the obtained results and their usefulness in design and draw constructive conclusions; | P7U_U | P7S_UW | P7S_UW |
| B.U6 | prepare and deliver a presentation on the detailed results of executing an engineering design task with the use of various communication techniques, including a presentation formulated in a universally comprehensible way; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| B.U7 | prepare and deliver a presentation on the detailed results of executing an engineering design task with the use of various communication techniques, including a presentation formulated in a universally comprehensible way;<br>adequately apply the professional and ethical standards and principles as well as the legal provisions applicable to architectural and urban design and spatial planning *(tak jest w karcie grupy zajęć B1-Kontekst projektowania)* | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| B.U8 | adequately observe the professional and ethical standards and principles as well as the provisions of law in the scope of architectural and urban design and spatial planning; | P7U_U | P7S_UW | P7S_UW |
| C.U1 | identify various kinds of cultural artefacts specific to architecture and preform a critical analysis thereof using typical methods with the purpose of defining their meanings, social impact and place in the historic-cultural process; | P7U_U | P7S_UW | P7S_UW |
| C.U2 | use correctly the concepts such as aesthetic value, beauty and aesthetic experience, as well as recognise the broader philosophical context of problems related to architectural and urban design; | P7U_U | P7S_UW | P7S_UW |
| C.U3 | obtain information from publications, data bases or other sources, also in a foreign language which is a language of international communication, in order to use it in the design process or – in the basic extent – in the academic activities; | P7U_U | P7S_UW<br>P7S_UK<br>P7S_UU | P7S_UW |
| C.U4 | prepare an academic paper, define the subject, scope and objective of the conducted scientific research; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| C.U5 | use at least one foreign language which is a language of international communication at the level B2+ of the Common European Framework of Reference for Languages, including specialist terminology in architecture and urban sciences, necessary in the design activities and – in the basic extent – in the academic activities; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| D.U1 | perform a critical analysis of the existing conditions, evaluate the conditions of land use and development and formulate conclusions for designing in a complex interdisciplinary context; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |

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| D.U2 | design a complex architectural object or an urban ensemble, creating and transforming the space to bestow new values upon it – in compliance with the adopted programme, taking into consideration the extra-technical aspects and integrating the interdisciplinary knowledge and skills acquired during their studies**;** | P7U_U | P7S_UW | P7S_UW |
| D.U3 | prepare an advanced graphic, written and oral presentation of their own design concepts in the scope of architecture and urban design, meeting the requirements of professional transcript applicable to architectural and urban design; | P7U_U | P7S_UW<br>P7S_UK | P7S_UW |
| D.U4 | use analytical methods to formulate and solve design tasks; | P7U_U | P7S_UW | P7S_UW |
| D.U5 | present the theoretical foundations and a statement of reasons for the presented solutions in the form of an essay of the academic character; | P7U_U | P7S_UW | P7S_UW |
| D.U6 | organise their work taking into consideration all the stages of working on a design concept; | P7U_U | P7S_UW | P7S_UW |
| | **SOCIAL COMPETENCES: GRADUATE IS PREPARED TO** | **Description component code** | **Description component code** | **-** |
| O.S1 | undertake and perform work in a professional manner, including observing the principles of professional ethics and taking responsibility of the undertaken actions; | P7U_K | P7S_KO<br>P7S_KR | - |
| O.S2 | respect various opinions and cultures and display sensitivity to the social aspects of the profession; | P7U_K | P7S_KR | - |
| O.S3 | take responsibility for the humanistic, social, cultural, architectural and urban values in environmental and cultural heritage protection; | P7U_K | P7S_KO | - |
| O.S4 | learn all life long, including undertaking education at a doctoral school and postgraduate study programmes or participation in other forms of education; | P7U_K | P7S_KK<br>P7S_KR | - |
| O.S5 | inspire other individuals to learn and organise the educational process; | P7U_K | P7S_KK<br>P7S_KR | - |
| A.S1 | use imagination, intuition, creative attitude and independent thinking effectively for solving complex design problems; | P7U_K | P7S_KR | - |
| A.S2 | speak in public and deliver presentations; | P7U_K | P7S_KO | - |
| A.S3 | undertake the role of coordinator of activities in the design process, manage the work in a team and use interpersonal skills (problem solving, negotiation skills, delegating tasks), observe the working rules in a team and take responsibility for the shared tasks and designs; | P7U_K | P7S_KR | - |
| A.S4 | take responsibility for shaping the natural environment and cultural landscape, including preservation of the heritage of the region, country and Europe; | P7U_K | P7S_KR<br>P7S_KO | - |
| B.S1 | formulate and communicate to the general public the information and opinions on achievements of architecture and urban sciences, their complex conditions and other aspects of the architect's activities; | P7U_K | P7S_KR<br>P7S_KO | - |
| B.S2 | perform a reliable self-evaluation, formulate constructive criticism related to architectural and urban activities, as well as receive criticism of the solutions presented by themselves, responding to the criticism in a clear and factual manner, also with the use of arguments relying on the available body of work of the scientific discipline, as well as use the criticism in a creative and constructive way; | P7U_K | P7S_KK | - |
| D.S1 | use imagination, intuition, creative attitude and independent thinking effectively for solving complex design problems; | P7U_K | P7S_KR | - |

| | | | | |
|---|---|---|---|---|
| D.S2 | speak in public and deliver presentations; | P7U_K | P7S_KO | - |
| D.S3 | accept criticism of the solutions presented by themselves and respond to it in a clear and factual manner, also with the use of arguments relying on the body of work of the scientific discipline, as well as use the criticism in a creative and constructive way; | P7U_K | P7S_KK | - |
| D.S4 | formulate and communicate to the general public the information and opinions on achievements of architecture and urban sciences, their complex conditions and other aspects of the architect's activities; communicate the opinions in a universally comprehensible manner; | P7U_K | P7S_KR<br>P7S_KO | - |
| D.S5 | adequately define the priorities of the activities serving the purpose of completing the task. | P7U_K | P7S_KR<br>P7S_KO | - |

**Explanation of symbols:**

1. Universal characteristics of PQF levels (first stage):

**P** = PQF level (6, 7)

**U** = universal characteristics

**W = knowledge**

**U = skills**

**K = social competence**

Examples:

**P6U_W** = PQF level 6, universal characteristics, knowledge

**"***The graduate knows and understands at an advanced level – the facts, theories, methods and complex interrelations between them. The graduate knows and understands diverse complex conditions of the conducted activities."*

**P7U_W = PQF level 7, universal characteristics, knowledge**

*"The graduate knows and understands in an in-depth manner selected facts, theories, methods and complex interrelationships between them, also in connection with other fields. The graduate knows and understands diverse complex conditions and the axiological context of the conducted activities."*

2. PQF level characteristics typical of qualifications obtained in higher education (the second cycle):

**P** = PQF level (6, 7)

**S =** characteristics typical of qualifications obtained in higher education

**W = knowledge**
**G** = depth and scope
**K** = context

**U = skills**
**W** = use of knowledge
**K** = communication
**O** = work organisation
**U** = learning

**K = social competences**
**K** = critical evaluation
**O** = responsibility
**R** = professional role

Examples:

**P6S_WG** = PQF level 6, characteristics typical of higher education qualifications, knowledge - depth and scope.

*"The graduate knows and understands at an advanced level – selected facts, objects and phenomena as well as methods related thereto and theories explaining complex interrelationships between them, constituting basic general knowledge within the scope of the scientific or artistic disciplines forming the theoretical basis and selected problems within the scope of detailed knowledge - appropriate for the educational programme, and in the case of the study programme of the practical profile – also practical applications of the said knowledge in the professional activities related to their programme."*

**P7S_WG** = PQF level 7, characteristics typical of higher education qualifications, knowledge - depth and scope.

*"The graduate knows and understands in an in-depth manner – selected facts, objects and phenomena as well as methods related thereto and theories explaining complex interrelationships between them, constituting advanced general knowledge within the scope of the scientific or artistic disciplines forming the theoretical basis, ordered and theoretically founded knowledge also including key problems and selected problems within the scope of detailed advanced knowledge - appropriate for the educational programme, and in the case of the study programme of the practical profile – also practical applications of the said knowledge in the professional activities related to their programme. The graduate*

*knows and understands the major development trends of the scientific or artistic disciplines to which the study programme is assigned – in the case of study programmes of the general academic profile."*

3. Where there is no *Description Component Code*, enter a horizontal line.

The explanation of the symbols of learning outcomes compliant with the education standard for the programme Architecture (based on the Regulation of the Minister of Science and Higher Education of the 18th July 2019 on the education standard preparing for practising the architectural profession, Journal of Laws o 2019, item 1359).

GENERAL LEARNING OUTCOMES:

O.W – general learning outcomes in respect of the transferred knowledge

O.U – general learning outcomes in respect of the acquired skills

O.S – general learning outcomes in respect of the acquired social competences

DETAILED LEARNING OUTCOMES:

A.W – learning outcomes in respect of the knowledge transferred within the course group: A. Design

B.W – learning outcomes in respect of the knowledge transferred within the course group: B. Design context

C.W – learning outcomes in respect of the knowledge transferred within the course group: C. Supplementary courses

D.W – learning outcomes in respect of the knowledge transferred within the course group: D. Diploma courses

A.U – learning outcomes in respect of the skills acquired within the course group: A. Design

V.U – learning outcomes in respect of the skills acquired within the course group: B. Design context

C.U – learning outcomes in respect of the skills acquired within the course group: C. Supplementary courses

D.U – learning outcomes in respect of the skills acquired within the course group: D. Diploma courses

A.S – learning outcomes in respect of the social competences acquired within the course group: A. Design

B.S – learning outcomes in respect of the social competences acquired within the course group: B. Design context

D.S – learning outcomes in respect of the social competences acquired within the course group: D. Diploma courses

[1] Where there are more than one field of science/art or scientific/artistic displine, provide all of them, pursuant to the regulation of the Minister of Science and Higher Education of 20 September 2018 on fields of science and scientific disciplines and artistic disciplines (Journal of Laws of 2018, item 1818).

[2] Please provide the appropriate level of the Polish Qualifications Framework in accordance with the Act of 22 December 2015 on the Integrated Qualifications System (Journal of Laws of 2018, item 2153, as amended).

[3] Description of the assumed learning outcomes for a study programme, level and profile takes into account all universal characteristics of the first level specified in the Act of 22 December 2015 on the Integrated Qualifications System, applicable to the given level of the Polish Qualifications Framework.

[4] All characteristics of the second level of learning outcomes specified in the Regulation of the Minister of Science and Higher Education of 14 November 2018 on the chcharacteristics of the second level of learning outcomes for qualifications at levels 6–8 of the Polish Qualification Framework (Journal of Laws of 2018, item 2218) – part I.

[5] Part III – characteristics of the second level of learning outcomes for qualifications at levels 6 and 7 of the Polish Qualifications Framework enabling obtaining engineering competences (developed descriptions included in part I) specified in the Regulation of the Minister of Science and Higher Education of 14 November 2018 on characteristics of the second level of learning outcomes for qualifications at level 6-8 of the Polish Qualifications Framework.

**STUDY PROGRAMME CURRICULUM** 16th March 2022
**Faculty of Architecture**
**Study programme: ARCHITECTURE** **Specialising in: No specialisation** **Level of the study programme: 2nd cycle**
**Mode of study: full time** **Study programme profile: general academic**
**Field of science: engineering and technology**
**Leading discipline: architecture and urban sciences - 100% of the total number of ECTS points**

**Code of the study programme: -**

**Applicable since the academic year 2022/2023**

| No. | Course group | Course name | HS | DN | Field of Science | TOTAL | | | | | | | | semesters I | | | | | | | | | semesters II | | | | | | | | | semesters III | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Number of hours | L | PC | Lab | CLab | DN | S | ECTS | Exam | L | PC | Lab | CLab | DN | S | ECTS | Exam | L | PC | Lab | CLab | DN | S | ECTS | Exam | L | PC | Lab | CLab | DN | S | ECTS | Exam |
| 1. | II.A.1-1 Design | MODULE 1.A: PUBLIC UTILITY BUILDINGS DESIGN | | 9 | 9 | 105 | 0 | 0 | 0 | 0 | 105 | 0 | 9 | 0 | | | | | 105 | | 9 | | | | | | | | | | | | | | | | | |
| 2. | II.A.1-2 Design | MODULE 1.B: ARCHITECTURAL AND CONSTRUCTION DESIGN: BUILDING STRUCTURES | | | 2 | 30 | 0 | 0 | 0 | 0 | 30 | 0 | 2 | 0 | | | | | 30 | | 2 | | | | | | | | | | | | | | | | | |
| 3. | II.A.1-3 Design | MODULE 3.A: DESIGN OF A RESIDENTIAL BUILDINGS ENSEMBLE IN URBAN DEVELOPMENT | | 9 | 9 | 105 | 0 | 0 | 0 | 0 | 105 | 0 | 9 | 0 | | | | | | | | | | | | | 105 | | 9 | | | | | | | | | |
| 4. | II.A.1-4 Design | MODULE 3.B: ARCHITECTURAL AND URBAN DESIGN IN THE URBAN PLANNING AND ENVIRONMENTAL PROTECTION CONTEXT | | | 2 | 30 | 0 | 0 | 0 | 0 | 30 | 0 | 2 | 0 | | | | | | | | | | | | | 30 | | 2 | | | | | | | | | |
| 5. | II.A.1-5 Design | MODULE 4.A: DESIGN IN CULTURAL HERITAGE AREAS | | | 5 | 60 | 0 | 0 | 0 | 0 | 60 | 0 | 5 | 0 | | | | | | | | | | | | | 60 | | 5 | | | | | | | | | |
| 6. | II.A.2-1 Design | MODULE 2.A: SPATIAL AND REGIONAL PLANNING AND URBAN ENGINEERING | | 7 | 7 | 90 | 0 | 0 | 0 | 0 | 90 | 0 | 7 | 0 | | | | | 90 | | 7 | | | | | | | | | | | | | | | | | |
| 7. | II.A.2-2 Design | MODULE 2.B: PROTECTION OF HISTORIC URBAN ENSEMBLES | | | 1 | 15 | 0 | 0 | 0 | 0 | 15 | 0 | 1 | 0 | | | | | 15 | | 1 | | | | | | | | | | | | | | | | | |
| 8. | II.A. Design | MODULE 4.B: CONSERVATION DESIGN AND ARCHEOLOGY | | | 3 | 45 | 0 | 0 | 0 | 0 | 45 | 0 | 3 | 0 | | | | | | | | | | | | | 45 | | 3 | | | | | | | | | |
| 9. | II.B.1-1 Design context | THEORY OF ARCHITECTURAL AND URBAN DESIGN WITH ELEMENTS OF ERGONOMICS | | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 15 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| 10. | II.B.1-2 Design context | THEORY OF SPATIAL PLANNING | | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 15 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| 11. | II.B.1-3 Design context | LANDSCAPE ARCHITECTURE | | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 15 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| 12. | II.B.1-4 Design context | HISTORY OF CONTEMPORARY URBAN DESIGN | 1 | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | 15 | | | | | | 1 | | | | | | | | | |
| 13. | II.B.1-5 Design context | THEORY OF HISTORIC BUILDINGS CONSERVATION AND RESTORATION, ARCHEOLOGY | | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | | | | | | | | 15 | | | | | | 1 | 1 | | | | | | | | |
| 14. | II.B.1-6 Design context | ETHICS IN THE ARCHITECTURAL PROFESSION, LAW IN THE CONSTRUCTION PROCESS | 1 | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | 15 | | | | | 1 | | |
| 15. | II.B.1-7 Design context | CULTURAL STUDIES | 1 | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | 15 | | | | | 1 | | |
| 16. | II.B.1-8a Design context | THEORY OF REGIONAL PLANNING or THEORY OF ARCHITECTURAL AND URBAN DESIGN or THEORY OF HISTORIC BUILDINGS CONSERVATION | | 2 | 2 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | | | | | | | | | | | | | | | | | 15 | | | | | 2 | | |
| | II.B.1-8b Design context | CITY DESIGN or NEGOTIATIONS AND PRACTICAL ASPECTS OF PRACTISING THE ARCHITECTURAL PROFESSION or HISTORY OF ARCHITECTURE | | 2 | 2 | 30 | 15 | 0 | 0 | 0 | 0 | 15 | 2 | 0 | | | | | | | | | | | | | | | | | 15 | | | | 15 | 2 | | |
| 17. | II.B. Design context | BUILDING STRUCTURES | | | 3 | 45 | 45 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 45 | | | | | | 3 | 1 | | | | | | | | | | | | | | | | |
| 18. | II.B.2-2 Design context | URBAN ENGINEERING | | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 15 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| 19. | II.B.2-3 Design context | ECOLOGY AND ENVIRONMENT PROTECTION | | | 1 | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | 15 | | | | | | 1 | | | | | | | | | |
| 20. | II.B.2-4 Design context | GENERAL CONSTRUCTION | | | 2 | 30 | 30 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | | | | | | | | | 30 | | | | | | 2 | 1 | | | | | | | | |
| 21. | II.B.3-1 Design context | HERITAGE PROTECTION - IDENTIFICATION | | | 4 | 60 | 15 | 45 | 0 | 0 | 0 | 0 | 4 | 0 | 15 | 45 | | | | | 4 | | | | | | | | | | | | | | | | | |
| 22. | II.B.3-2 Design context | BIM DESIGN PROCESSES INTEGRATION | | | | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | | | 15 | | | | 1 | | | | | | | | | |
| 23. | II.B.3-3 Design context | ACADEMIC WORK METHODOLOGY | 2 | | 2 | 30 | 15 | 0 | 0 | 0 | 0 | 15 | 2 | 0 | | | | | | | | | | | | | | | | | 15 | | | | 15 | 2 | | |
| 24. | II.C-1 Supplementary courses | FOREIGN LANGUAGE | | 2 | | 30 | 0 | 30 | 0 | 0 | 0 | 0 | 2 | 0 | | | | | | | | | | 30 | | | | | 2 | | | | | | | | | |
| 25. | II.C-2 Supplementary courses | ART HISTORY or AESTHETICS WITH ELEMENTS OF PHILOSOPHY | 1 | 1 | | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | 15 | | | | | | 1 | | | | | | | | | |
| 26. | II.C-3 Supplementary courses | ENVIRONMENTAL PSYCHOLOGY or URBAN SOCIOLOGY | 1 | 1 | | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | 15 | | | | | | 1 | | | | | | | | | |
| 27. | II.C-4 Supplementary courses | ELECTIVE COURSES | | 1 | | 15 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 0 | | | | | | | | | | | | | | | 15 | 1 | | | | | | | | |
| 28. | II.D-1 Diploma (project) | DIPLOMA DESIGN (PROJECT) | | 14 | 14 | 10 | 0 | 0 | 0 | 0 | 10 | 0 | 14 | 0 | | | | | | | | | | | | | | | | | | | | | 10 | | 14 | |
| 29. | II.D-2 Diploma (project) | DIPLOMA (PROJECT) SEMINAR | | 6 | 6 | 60 | 0 | 0 | 0 | 0 | 0 | 60 | 6 | 0 | | | | | | | | | | | | | | | | | | | | | | 60 | 6 | |
| 30. | II.D-3 Diploma (project) | TECHNOLOGY-RELATED SPECIALIST CONSULTATIONS | | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 3 | | 1 | |
| 31. | II.D-4 Diploma (project) | DIPLOMA (PROJECT) LABORATORY - DESIGN PROCESS ILLUSTRATION | | 1 | 1 | 30 | 0 | 0 | 30 | 0 | 0 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | |
| | | | 7 | 56 | 84 | 1018 | 300 | 75 | 45 | 0 | 493 | 105 | 90 | 5 | 120 | 45 | 0 | 0 | 240 | 0 | 30 | 3 | 105 | 30 | 15 | 0 | 240 | 15 | 30 | 2 | 75 | 0 | 30 | 0 | 13 | 90 | 30 | 0 |
| Total | | | | | | | | | | | 1018 | | | | | | | | 405 | | | | | | | 405 | | | | | | | | 208 | | | |
| Number of examinations | | | | | | | | | | | 5 | | | | | | | | 3 | | | | | | | 2 | | | | | | | | 0 | | | |

Number "1" in the Exam column signifies examination

Key: L - Lectures, PC - Practical classes, Lab - Laboratory, CLab - Computer Laboratory, DN - Design, S - Seminar

Course group: A.1 Design, A.2 Design, B.1 Design context, B.2 Design context, B.3 Design context, C. Supplementary courses, D. Diploma project

| | Number of hours TOTAL | L | PC | Lab | CLab | DN | S | ECTS | Exam | L | PC | Lab | CLab | DN | S | ECTS | Exam | L | PC | Lab | CLab | DN | S | ECTS | Exam | L | PC | Lab | CLab | DN | S | ECTS | Exam |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 330 | 0 | 0 | 0 | 0 | 330 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 135 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 195 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A2 | 105 | 0 | 0 | 0 | 0 | 105 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B1 | 150 | 135 | 0 | 0 | 0 | 0 | 15 | 11 | 3 | 45 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 30 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 60 | 0 | 0 | 0 | 0 | 15 | 6 | 0 |
| B2 | 60 | 60 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B3 | 105 | 30 | 45 | 15 | 0 | 0 | 15 | 7 | 0 | 15 | 45 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 1 | 0 | 15 | 0 | 0 | 0 | 0 | 15 | 2 | 0 |
| C | 75 | 30 | 30 | 0 | 0 | 0 | 15 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 30 | 0 | 0 | 0 | 15 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 193 | 0 | 0 | 30 | 0 | 13 | 60 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 13 | 60 | 22 | 0 |
| | 926 | 255 | 75 | 45 | 0 | 448 | 105 | 84 | 4 | 75 | 45 | 0 | 0 | 240 | 0 | 27 | 2 | 105 | 30 | 15 | 0 | 195 | 15 | 27 | 2 | 75 | 0 | 30 | 0 | 13 | 90 | 30 | 0 |

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

| | |
|---|---|
| A course group | **A.1 – DESIGN**<br>**Architectural and urban design** |
| Language of instruction | **Polish / English** |

| | | |
|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

**The design block A1 – architectural and urban design** is the basic core of education at the second cycle study programme of Architecture. The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **A1 – Design** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**A.W1-II** architectural design of various degree of complexity, from simple tasks to objects of a complex function in a complex context, in particular: simple objects catering for the basic needs of its users, single- and multi-family residential development, facilities to house services in residential development ensembles, public buildings and

ensembles of public buildings of various scale and complexity in an open landscape or within an urban environment;

**A.W2-II** urban design within the scope of completing tasks of various scale and degree of complexity, in particular: development ensembles, local land use plans taking into account the local conditions and connections;

**A.W4-II** provisions of local land use plans within the scope necessary for architectural design;

**A.W5-II** the principles of universal design, including the idea of designing spaces and buildings accessible for all users, in particular for persons with disabilities, in architecture, urban design and spatial planning, and the principles of ergonomics, including ergonomic parameters necessary to ensure full functionality of the designed space and objects for all users, in particular persons with disabilities;

**A.W6-II** advanced methods of analysis, tools, techniques and materials necessary to prepare design concepts in an interdisciplinary environment, with particular consideration given to interprofessional cooperation;

**A.W7-II** basic methods and techniques of conservation, modernisation and reconstruction of historic structures;

**A.W8-II** the interdisciplinary character of architectural and urban design and the need to integrate knowledge from other fields as well as to apply it in the design process in cooperation with specialists from these fields.

**In respect of skills, the graduate is able to:**

**A.U1-II** design a simple and complex architectural structure, creating and transforming the space to bestow new values upon it – in compliance with the assigned or adopted programme meeting the requirements and catering for the needs of all its users, the spatial and cultural context, technical and extra-technical aspects**;**

**A.U2-II** design a simple and complex urban ensemble;

**A.U4-II** perform a critical analysis of the conditions, including evaluation of the land use and development conditions; formulate conclusions for designing and spatial planning, predict the processes of transformation of the settlement structure in urbanised and rural areas and predict the social consequences of these transformations;

**A.U5-II** assess the usefulness of the advanced methods and tools for solving simple and complex engineering tasks typical of architecture, urban design and spatial planning, and select and apply appropriate methods and tools in design;

**A.U7-II** perform a critical analysis and evaluation of a design and the way of its execution in the scope of modernisation and reconstruction of architectural-urban structures of cultural values;

**A.U8-II** think in a creative way and act in a way taking into consideration the complex and multi-aspect conditions of the design activities, as well as express their own artistic concepts in architectural and urban design;

**A.U9-II** integrate information obtained from various sources, interpret it, perform a critical and detailed analysis thereof and draw conclusions therefrom, as well as formulate and substantiate opinions and demonstrate their relation to the design process, relying on the available academic body of work in the discipline;

**A.U10-II** communicate with the use of various techniques and tools in the professional and interdisciplinary environment in the extent adequate for architectural and urban design and spatial planning;

**A.U11-II** work individually and in a team, including a team with specialists of other professions, as well as undertake a leading role in such teams;

**A.U12-II** estimate the time necessary for completion of a complex design task;

**A.U13-II** formulate new ideas and hypotheses, analyse and test novelties related to engineering problems and research problems in the scope of architectural and urban design and spatial planning;

**A.U14-II** prepare the architectural-building documentation in appropriate scales corresponding to the conceptual architectural design;

**A.U15-II** implement the principles and guidelines of universal design in architecture, urban design and spatial planning;

**In respect of social competences, the graduate is prepared to:**

**A.S1-II** use imagination, intuition, creative attitude and independent thinking effectively for solving complex design problems;

**A.S2-II** speak in public and deliver presentations;

**A.S3-II** undertake the role of coordinator of activities in the design process, manage the work in a team and use interpersonal skills (problem solving, negotiation skills, task delegating), observe the working rules in a team and take responsibility for the shared tasks and designs;

**A.S4-II** take responsibility for shaping the natural environment and cultural landscape, including preservation of the heritage of the region, country and Europe;

**Form of classes, number of hours in one semester**

| **Course** | Sem. | ECTS points | Form of credit (C/E) | Form of classes / number of hours | Hours of individual work |
|---|---|---|---|---|---|
| **MODULE A** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **MODULE 1.A:**<br>**PUBLIC UTILITY BUILDINGS DESIGN** | 1 | 9 | C | dn/105 | 165 |
| **MODULE 3.A:**<br>**DESIGN OF A RESIDENTIAL BUILDINGS ENSEMBLE IN URBAN DEVELOPMENT** | 2 | 9 | C | dn/105 | 165 |
| **MODULE 4.A:**<br>**DESIGN IN CULTURAL HERITAGE AREAS** | 2 | 5 | C | dn/60 | 90 |
| **MODULE B / C** | | | | | |
| **MODULE 1.B:**<br>**ARCHITECTURAL AND CONSTRUCTION DESIGN: BUILDING STRUCTURES** | 1 | 2 | C | dn/30 | 30 |
| **MODULE 3.B:**<br>**ARCHITECTURAL AND URBAN DESIGN IN THE CONTEXT OF URBAN PLANNING AND ENVIRONMENTAL PROTECTION** | 1 | 2 | C | dn/30 | 30 |

## The course outline

| Course | Course contents |
|---|---|
| **MODULE A** | |
| **MODULE 1.A:**<br>**PUBLIC UTILITY BUILDINGS DESIGN** | **YEAR 1 sem. 1**<br>*Notes:*<br>– *Course integrated with the problem area and applicable scope of lectures within the framework of the course Theory of architectural and urban design with elements of ergonomics – sem. 1*<br>– *Course integrated with the course: MODULE 1.B: Architectural and construction design: building structures – sem. 1*<br>Course objectives:<br>– developing the skill of architectural and urban design of public utility buildings preceded by:<br>– analyses of the plot, its surroundings and environmental and cultural conditions;<br>– developing the skill of transforming a complex functional and use programme into the functional plan of the building; analysis of the interrelations between the interior programme and the land use components;<br>– developing the skill of implementing the optimal architectural solutions with reference to the existing cultural environment.<br>Topics:<br>The course on public utility architectural design is realised in the following topic areas:<br>– sports and recreation architecture; |

| | |
|---|---|
| | – public utility architecture;<br>– workplace architecture, office buildings and multi-functional ensembles.<br><br>The topical module for realisation in the design class features a design of a public utility building in an urban context, and it addresses the following problems in particular:<br><br>– a public utility building in a difficult context strongly affecting the design decisions;<br>– an architectural and urban design taking into consideration an analysis of the context;<br>– the functional plan and structure of a high complexity level (the programme featuring a large hall spanning more than 25 m);<br>– the spatial context requiring supplementation and ordering, posing problems in creating the urban composition.<br><br>The design in the architectural and urban scales appropriate to the problems and complexity as well as the level of detail of the designs. |
| **MODULE 3.A:**<br><br>**DESIGN OF A RESIDENTIAL BUILDINGS ENSEMBLE IN URBAN DEVELOPMENT** | **YEAR 1 sem. 2**<br><br>*Notes:*<br><br>– *Course integrated with the problem area and applicable scope of lectures within the framework of the course Theory of architectural and urban design with elements of ergonomics – sem. 1*<br>– *Course integrated with the course: MODULE 3.B: Architectural and urban design in the context of urban planning and environmental protection – sem. 2*<br>– *Course integrated with the course: BIM design processes integration – sem. 2*<br><br>Course objectives:<br><br>– obtaining knowledge on the programmatic and spatial problems related to residential areas – large ensembles of multifamily development integrated with the existing spatial layout of the city;<br>– developing the skill of preparing a detailed analysis, diagnosis and prognosis for the growth and transformations of multifamily development areas/estates/ensembles;<br>– developing the skill of preparing a functional and spatial concept for a residential area – a district, together with supplementary functions;<br>– learning about sustainable solutions in a residential environment and how to implement them.<br><br>The topical module for realisation in the design class features a design of a residential area with multifamily development, and it addresses the following problems in particular: |

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| | – a large area of multifamily development integrated with the existing spatial layout of the city;<br>– urban analysis of residential areas;<br>– an urban design: a spatial and programmatic architectural and urban concept of an area featuring multifamily residential development (a city district/a part of a district) of the primarily residential function supplemented by services, workplaces, recreational functions, etc.;<br>– an architectural and urban design: a part of a project featuring a public space and a building of the residential function;<br>– the topical scope: architecture/urban design<br><br>The design in the architectural and urban scales appropriate to the problems and complexity as well as the level of detail of the designs. |
| **MODULE 4.A: DESIGN IN CULTURAL HERITAGE AREAS** | **YEAR 1 sem. 2**<br><br>*Notes:*<br><br>– *Course integrated with the problem area and applicable scope of lectures within the framework of the course Theory of historic buildings conservation and restoration, archaeology – sem. 2*<br>– *Course integrated with the course: MODULE 4.B: Conservation design and archaeology – sem. 2*<br>– *Course integrated with the course: Heritage protection – identification – sem. 2*<br>– *Course integrated with the course: BIM design processes integration – sem. 2*<br><br>The topical module for realisation in the design class is related to the problems of designing in a cultural heritage areas, and it addresses the following problems in particular:<br><br>– integrated design courses are aimed at accumulation of the necessary knowledge and acquisition of the skills needed for execution of architectural and urban designs taking into consideration the values of cultural heritage in a broadly understood historic context;<br>– the course prepares for the conscious and full recognition of historic (material and non-material) values pertinent to the historic areas and buildings which are the topic of the design. Relying on available research and the results of the analysis of the collected archive materials, the course is in effect to enable formulation of conservation guidelines for design taking into consideration these values and the limitations resulting therefrom, as well as developing a preliminary design concept.<br><br>The design in the architectural and urban scales appropriate to the problems and complexity as well as the level of detail of the designs. |
| **MODULE B** | |
| **MODULE 1.B:** | **YEAR 1 sem. 1**<br><br>*Notes:* |

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| **ARCHITECTURAL AND CONSTRUCTION DESIGN: BUILDING STRUCTURES** | – *Course integrated with the course: MODULE 1.A: Public utility buildings design – sem. 1*<br><br>Topics:<br><br>Design of the main structural components in the form of advanced structural systems of buildings relying on the design developed as part of the integrated course: MODULE 1.A: Public utility buildings design – sem. 1. Advanced systems of metal structures, concrete and reinforced concrete structures as well as timber structures. Preparing design documentation in compliance with applicable standards and legal provisions. The documentation features adequate scale and dimensioning of the building.<br><br>The design in the architectural and urban scales appropriate to the problems and complexity as well as the level of detail of the designs. |
| **MODULE 3.B: ARCHITECTURAL AND URBAN DESIGN IN THE CONTEXT OF URBAN PLANNING AND ENVIRONMENTAL PROTECTION** | **YEAR 1 sem. 2**<br><br>*Notes:*<br><br>– *Course integrated with the course: MODULE 3.A: Design of a residential buildings ensemble in urban development – sem. 2*<br><br>Objectives:<br><br>– further development of the knowledge in the scope of Module 3A: Design of a residential buildings ensemble in urban development;<br>– the skill of performing an analysis of the functional, compositional and aesthetic context of a building ensemble;<br>– the skill of correct correlation of planning problems with architectural design;<br>– the skill of programming and planning of the impact the designed development will have on the aspects of environmental protection;<br>– obtaining knowledge at the level of integrating the environmental protection actions with the planning and design aspect;<br>– the skill of applying large-scale spatial analyses in the scale of the city.<br><br>The topical module for realisation in the design class is related to the planning context and the aspect of environmental protection, and it addresses the following problems in particular:<br><br>– creation of a residential building ensemble in the context of its environmental impact and the adequate land development;<br>– determining the spatial conditions, including an analysis of the urban environment in the broader area of impact effected by the building ensemble;<br>– defining the compositional, functional and spatial premises.<br><br>Scope:<br><br>– analyses and studies of planning and environmental conditions in the area of the urban context;<br>– design guidelines – developing a synthesis of conditions; |

| | |
|---|---|
| | – variants of the land development concepts;<br>– provisions of planning regulations;<br>– a draft of the development plan;<br>– preliminary visualisations of the model.<br><br>The design in the architectural and urban scales appropriate to the problems and complexity as well as the level of detail of the designs. |

## Teaching methods:

Design practice, work on mock-ups, conceptual sketches and drawings, computer drawing, essay, discussion, consultations, design presentations and defence, individual and team work.

## Methods of learning outcomes verification and evaluation:

Attainment of the required learning outcomes in the category of skills and in the category of social competences is verified by evaluation of design projects of diverse categories and various difficulty levels. Attainment of the required learning outcomes in the category of skills in the A1 course group is verified by evaluation of the completed design project, including the course and reviewed (staged) project, and the test-like project realised in class under supervision, as well as evaluation of the level of student's creativity demonstrated during the design process and direct individual and team review sessions performed by the supervisor in the "master-pupil" mode, as well as evaluation of the skill of presentation and defence of the completed design project.

## Evaluation criteria:

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|
| **A** | **5.0** | **Very good:**<br><br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of proficiency in all the aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:**<br><br>Beyond average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive |

| | | |
|---|---|---|
| | | majority of the aspects of the taught material (transferred range of knowledge). |
| **C** | **4.0** | **Good:**<br>Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of the aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:**<br>The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

Approval of the course group syllabus:

…… ……

place, date Dean of the Faculty of Architecture, CUT

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

| | |
|---|---|
| A course group | **A.2 – DESIGN**<br>**Conservation design, spatial planning and specialist design resulting from local conditions** |
| Language of instruction | **Polish / English** |

| | | |
|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

**The design block A2 – conservation design, spatial planning and specialist design resulting from local conditions** is a supplementary course group to the A1 Design courses. The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **A2 – Design** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**A.W2-II** urban design within the scope of completing tasks of various scale and degree of complexity, in particular: development ensembles, local land use plans taking into account the local conditions and connections;

**A.W3-II** spatial planning and instruments of spatial policy;

**A.W4-II** provisions of local land use plans within the scope necessary for architectural design;

**A.W5-II** the principles of universal design, including the idea of designing spaces and buildings accessible for all users, in particular for persons with disabilities, in architecture, urban design and spatial planning, and the principles of ergonomics, including ergonomic parameters necessary to ensure full functionality of the designed space and objects for all users, in particular persons with disabilities;

**A.W6-II** advanced methods of analysis, tools, techniques and materials necessary to prepare design concepts in an interdisciplinary environment, with particular consideration given to interprofessional cooperation;

**A.W7-II** basic methods and techniques of conservation, modernisation and reconstruction of historic structures;

**In respect of skills, the graduate is able to:**

**A.U1-II** design a simple and complex architectural structure, creating and transforming the space to bestow new values upon it – in compliance with the assigned or adopted programme meeting the requirements and catering for the needs of all its users, the spatial and cultural context, technical and extra-technical aspects**;**

**A.U2-II** design a simple and complex urban ensemble;

**A.U3-II** develop planning concepts referring to land use and interpret them in the extent necessary for designing in the urban and architectural scale;

**A.U4-II** perform a critical analysis of the conditions, including evaluation of the land use and development conditions; formulate conclusions for designing and spatial planning, predict the processes of transformation of the settlement structure in urbanised and rural areas and predict the social consequences of these transformations;

**A.U5-II** assess the usefulness of the advanced methods and tools for solving simple and complex engineering tasks typical of architecture, urban design and spatial planning, and select and apply appropriate methods and tools in design;

**A.U6-II** develop a conservation design concept of transforming an architectural-urban structure of cultural values addressing the problem of protecting these values and the appropriate methods and techniques, following the adopted programme taking into consideration the extra-technical aspects;

**A.U7-II** perform a critical analysis and evaluation of a design and the way of its execution in the scope of modernisation and reconstruction of architectural-urban structures of cultural values;

**A.U8-II** think in a creative way and act in a way taking into consideration the complex and multi-aspect conditions of the design activities, as well as express their own artistic concepts in architectural and urban design;

**A.U9-II** integrate information obtained from various sources, interpret it, perform a critical and detailed analysis thereof and draw conclusions therefrom, as well as formulate and substantiate opinions and demonstrate their relation to the design process, relying on the available academic body of work in the discipline;

**A.U10-II** communicate with the use of various techniques and tools in the professional and interdisciplinary environment in the extent adequate for architectural and urban design and spatial planning;

**A.U11-II** work individually and in a team, including a team with specialists of other professions, as well as undertake a leading role in such teams;

**A.U12-II** estimate the time necessary for completion of a complex design task;

**A.U13-II** formulate new ideas and hypotheses, analyse and test novelties related to engineering problems and research problems in the scope of architectural and urban design and spatial planning;

**A.U15-II** implement the principles and guidelines of universal design in architecture, urban design and spatial planning.

**In respect of social competences, the graduate is prepared to:**

**A.S1-II** use imagination, intuition, creative attitude and independent thinking effectively for solving complex design problems;

**A.S2-II** speak in public and deliver presentations;

**A.S3-II** undertake the role of coordinator of activities in the design process, manage the work in a team and use interpersonal skills (problem solving, negotiation skills, task delegating), observe the working rules in a team and take responsibility for the shared tasks and designs;

**A.S4-II** take responsibility for shaping the natural environment and cultural landscape, including preservation of the heritage of the region, country and Europe.

## Form of classes, number of hours in one semester

| **Course** | Sem. | ECTS points | Form of credit (C/E) | Form of classes / number of hours | Hours of individual work |
|---|---|---|---|---|---|
| **MODULE A** | | | | | |
| **MODULE 2.A: SPATIAL AND REGIONAL PLANNING AND URBAN ENGINEERING** | 1 | 7 | C | dn/90 | 120 |
| **MODULE B / C** | | | | | |
| **MODULE 2.B:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **PROTECTION OF HISTORIC URBAN ENSEMBLES** | 1 | 1 | C | dn/15 | 15 |
| **MODULE 4.B: CONSERVATION DESIGN AND ARCHAEOLOGY** | 2 | 3 | C | dn/45 | 45 |

## The course outline

| Course | Course contents |
|---|---|
| **MODULE A** | |
| **MODULE 2.A:**<br>**SPATIAL AND REGIONAL PLANNING AND URBAN ENGINEERING** | **YEAR 1 sem. 1**<br>*Notes:*<br>– *Course integrated with the problem area and applicable scope of lectures within the framework of the course Theory of spatial planning – sem. 1*<br>– *Course integrated with the problem area and applicable scope of lectures within the framework of the course Urban engineering – sem. 1*<br>– *Course integrated with the course: MODULE 2.B: Protection of historic urban ensembles – sem. 1*<br>Course objectives:<br>– the skill of preparing a comprehensive analysis and synthesis of regional an municipal conditions;<br>– the skill of formulating the spatial development directions of a city and region growth;<br>– obtaining the knowledge and principles of preparing the Study of Conditions and Directions of Spatial Development and the Local Land Use Plan.<br>The task topic and scope of work:<br>1) in the regional scale:<br>– examination of the existing conditions in the regional scale and the voivodeship land use plans as well as the planning documents drafted at the commune (*gmina*) level;<br>– developing a concept for growth in the regional scale.<br>2) In the municipal scale:<br>– Studies for the design – local conditions: analysis of the existing conditions in respect of the natural and cultural environment and the technical as well as transportation infrastructure;<br>– Identifying the main spatial problems as well as problems stemming from the social and economic spheres possible for solving in the design;<br>– Diagnosis of the existing conditions, synthesis of the growth conditions and programmatic and spatial premises;<br>– Defining the main components shaping the spatial structure of a city and identifying the areas of key significance; |

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| | – Developing a concept of the city spatial development;<br>– Developing premises for a draft of the local land use plan for a selected city section: configuration of the programmatic and functional layout, technical solutions and spatial relations.<br><br>The above tasks are to be developed in the planning (regional, municipal) and urban scales, respectively; they are supported by conceptual sketches, a perspective and description corresponding to the above design project topic. The key component of the description are the recommendations of the local land use plan draft: indicators, standards, transformation rules. |
| **MODULE B** | |
| **MODULE 2.B: PROTECTION OF HISTORIC URBAN ENSEMBLES** | **YEAR 1 sem. 1**<br><br>*Notes:*<br><br>– *Course integrated with the course: <u>MODULE 2.A: Spatial and regional planning and urban engineering</u> – sem. 1*<br><br><u>Course objectives:</u><br><br>– transferring knowledge on the heritage and cultural value of historic cities and their components as well as on the forms of protection thereof;<br>– acquiring the skill of analysing the current forms of protection of a selected historic city;<br>– making students understand the need for protection of historic city cultural cityscape;<br>– acquiring the skill of analysing the cultural values of a historic city.<br><br><u>Topic:</u><br><br>A design of a small space or architectural form which aims at popularisation of knowledge on the history and cultural heritage of a city.<br><br><u>The scope of work:</u><br><br>Analysis of the urban cultural heritage stock in a selected historic city in the planning and/or urban scales which includes: the historic urban layout, objects/areas listed in the commune (*gmina*) historic heritage register, objects/areas listed in the cultural heritage protection register, objects/areas covered by another from of heritage protection, objects or areas worth popularising (the heritage aspect), zones of heritage protection indicated in the Local Land Use Plan, culturally valuable objects or areas which are nonetheless currently unprotected.<br><br>Design of small space or architectural form which aims at popularisation of knowledge on history and cultural heritage of a city (or a selected section thereof). The task features preparation of a land development draft as well as a floor plan, cross-section, façades, visualisations and description. |

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| | The design in the architectural and urban scales appropriate to the problems and complexity as well as the level of detail of the designs. |
| **MODULE 4.B: CONSERVATION DESIGN AND ARCHAEOLOGY** | **YEAR 1 sem. 2**<br>*Notes:*<br>– *Course integrated with the problem area and applicable scope of lectures within the framework of the course Theory of historic buildings conservation and restoration, archaeology – sem. 2*<br>– *Course integrated with the course: MODULE 4.A: Design in cultural heritage areas – sem. 2*<br>The Course objectives and topic:<br>The course leads to preparation of a complete architectural design which – on the one hand – will take into account the transformations of the historic area or/and object compliant with the developed conservation guidelines and the preliminary concept, and – on the other hand – will present a suggestion of an acceptable contemporary architectural intervention, respecting yet enriching the historic context. The subject of the design are existing historic objects or ensembles featuring problems related to adaptation of the historic building to a new function and the necessary transformations both in the architectural and urban scale.<br>In the field of archaeology, the course aims to familiarise students with the important role of archaeological research in the process preceding the design work and to focus attention on the type of architectural and urban design that addresses the growing need to make relicts of architecture and archaeological heritage accessible as one of the components of sustainable development of local communities, while taking into consideration the specific problems of conservation in design activities related to the field of archaeological heritage. |

## Teaching methods:

Design practice, work on mock-ups, conceptual sketches and drawings, computer drawing, essay, discussion, consultations, design presentations and defence, individual and team work.

## Methods of learning outcomes verification and evaluation:

Attainment of the required learning outcomes in the category of skills and in the category of social competences is verified by evaluation of design projects of diverse categories and various difficulty levels. Attainment of the required learning outcomes in the category of skills in the A2 course group is verified by evaluation of the completed design project, including the course and reviewed (staged) project, and the test-like project realised in class under supervision, as well as by evaluation of the level of student's creativity demonstrated during the design process and direct individual and team review sessions performed by the

supervisor in the “master-pupil” mode, as well as by evaluation of the skill of presentation and defence of the completed design project.

**Evaluation criteria:**

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|
| **A** | **5.0** | **Very good:**<br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of proficiency in all the aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:**<br>Above average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive majority of the aspects of the taught material (transferred range of knowledge). |
| **C** | **4.0** | **Good:**<br>Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of the aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:** |

| | | |
|---|---|---|
| | | The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

Approval of the course group syllabus:

…… …….

place, date Dean of the Faculty of Architecture, CUT

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

| | |
|---|---|
| A course group | **B.1 – DESIGN CONTEXT**<br>**Theory and history or architecture and urban design, heritage protection, archaeology and theory of conservation, law in the construction process, professional ethics, ergonomics** |
| Language of instruction | **Polish / English** |

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|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **B1 – Design context** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**B.W1-II** advanced theory of architecture and urban sciences useful in formulation and solution of complex tasks in architectural and urban design and spatial planning, as well as development trends and current directions in architectural and urban design;

**B.W2-II** history of architecture and urban design, contemporary architecture and heritage protection in the extent necessary in architectural, urban and planning creative work;

**B.W3-II** the role and significance of the natural environment in architectural and urban design as well as in spatial planning, and the need to create spatial order and sustainable development, as well as the subject-matter of dangers threatening the cultural environment and landscape;

**B.W4-II** problems related to architectural and urban design and to spatial planning, such as: technical infrastructure, transit, natural environment, landscape architecture, economic, legal and social conditions – necessary to understand social, economic, environmental, natural, historic, cultural, legal and other extra-technical conditions of engineering activities; they recognise the need to take them into account in architectural, urban and rural design and in spatial planning;

**B.W6-II** technical-building regulations;

**B.W7-II** theoretical foundations of scientific reasoning and research in the extent useful in completion of complex design tasks, as well as interpretation of scientific publications in the scientific discipline of architecture and urban sciences;

**B.W8-II** ways of communicating ideas of architectural, urban and planning designs as well as ways of development thereof;

**B.W9-II** the basic principles of the ethics of the architectural profession and concepts related to intellectual property protection.

**In respect of skills, the graduate is able to:**

**B.U1-II** integrate advanced knowledge from various fields of science, including history, history of architecture, history of art and cultural heritage protection and spatial development, while solving complex engineering problems;

**B.U2-II** recognise the significance of extra-technical aspects and consequences of the architect's design activities, including their influence on the cultural and natural environment, as well as take responsibility for the technological decisions they make in the environment and for passing on the cultural and natural heritage to the future generations;

**B.U3-II** recognise the systemic and extra-technical aspects in the process of architectural, urban and planning design of high complexity level, including environmental, cultural, artistic, economic and legal aspects;

**B.U4-II** formulate statements of the critical analysis character within the scope of architecture, as well as present and synthetically describe the ideological foundations of a design, relying on the adopted premises;

**B.U7-II** adequately apply the professional and ethical standards and principles as well as the legal provisions applicable to architectural and urban design and spatial planning;

**In respect of social competences, the graduate is prepared to:**

**B.S1-II** formulate and pass on to the general public the information and opinions on achievements of architecture and urban sciences, their complex conditions and other aspects of the architect's activities;

**B.S2-II** perform a reliable self-evaluation, formulate constructive criticism related to architectural and urban activities, as well as receive criticism of the solutions presented by themselves, responding to the criticism in a clear and factual manner, also with the use of arguments relying on the available body of work of the scientific discipline, as well as use the criticism in a creative and constructive way;

**Form of classes, number of hours in one semester**

| Course | Sem. | ECTS points | Form of credit (C/E) | Form of classes / number of hours | Total number of hours of student's work |
|---|---|---|---|---|---|
| **THEORY OF ARCHITECTURAL AND URBAN DESIGN WITH ELEMENTS OF ERGONOMICS** | 1 | 1 | E | l/15 | 15 |
| **THEORY OF SPATIAL PLANNING** | 1 | 1 | E | l/15 | 15 |
| **LANDSCAPE ARCHITECTURE** | | 1 | C | l/15 | 15 |
| **HISTORY OF CONTEMPORARY URBAN DESIGN** | 2 | 1 | C | l/15 | 15 |
| **THEORY OF HISTORIC BUILDINGS CONSERVATION AND RESTORATION, ARCHAEOLOGY** | 2 | 1 | E | l/15 | 15 |
| **ETHICS OF THE ARCHITECTURAL PROFESSION, LAW IN THE CONSTRUCTION PROCESS** | 3 | 1 | C | l/15 | 15 |
| **CULTURAL STUDIES** | 3 | 1 | C | l/15 | 15 |
| **THEORY OF REGIONAL PLANNING** | 3 | 2 | C | l/15 | 45 |
| **CITY DESIGN** | 3 | 2 | C<br>C | l/15<br>s/15 | 30 |
| **THEORY OF ARCHITECTURAL AND URBAN DESIGN** | 3 | 2 | C | l/15 | 45 |
| **NEGOTIATIONS, PRACTICAL ASPECTS OF PRACTISING THE ARCHITECTURAL PROFESSION** | 3 | 2 | C<br>C | l/15<br>s/15 | 30 |
| **THEORY OF HISTORIC BUILDINGS CONSERVATION** | 3 | 2 | C | l/15 | 45 |
| **HISTORY OF ARCHITECTURE** | 3 | 2 | C<br>C | l/15<br>s/15 | 30 |

## The course outline

| Course | Course contents |
|---|---|
| **THEORY OF ARCHITECTURAL AND URBAN DESIGN WITH ELEMENTS OF ERGONOMICS** | **YEAR 1 sem. 1**<br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course MODULE 1.A: Public utility buildings design – sem. 1*<br>– *Course constitutes a theoretical foundation for the course MODULE 3.A: Design of a residential buildings ensamble in urban development – sem. 2*<br>Course objective:<br>The lectures on theory feature the fundamental functional, spatial and structural problems characteristic of architectural objects of various functions. The lectures constitute a theoretical foundation for architectural and urban design of both public utility buildings and residential development.<br>Topics:<br>– Characteristics, specific features; creating ensembles of services, residential and services and residential buildings in a changing spatial, social and environmental context;<br>– Compositional and structural aspects, contemporary typologies of shaping form and function;<br>– Contemporary perspective on the specific features of the post-war rebuilding and restoration of cities;<br>– Environmental aspects in creating sustainable architecture;<br>– Contemporary forms of shaping public and private spaces, problems of universal accessibility, cities for everybody and the "happy city;"<br>– Typology of architectural objects – functional and spatial layouts;<br>– Community – the significance of demographic processes in shaping urban structures, "shrinking cities" and remedial action trends; social participation in urban processes;<br>– Principles of shaping architectural objects (including objects for people with disabilities), functional zones, interior aesthetics, ergonomics;<br>– The art of building a city – elementary city, ideal city, geometric city, garden city, utopian cities, the perspective of the city;<br>– "Technical conditions…" in architectural design;<br>– Context in architectural and urban design;<br>– Building detail in architecture – materials solutions. |
| **THEORY OF SPATIAL PLANNING** | **YEAR 1 sem. 1**<br>*Notes:* |

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| | – *Course constitutes a theoretical foundation for the course <u>MODULE 2.A: Spatial and regional planning and urban engineering</u> – sem. 1*<br><br><u>Topics:</u><br>– Objectives, principles, scope and methods of creating land use plans in the light of the legal conditions – types of plans, ways of recording the reached decisions, scales, selected practical problems in the light of the legal requirements;<br>– Problems related to studies for land use plans, with emphasis placed on their scope and level of detail;<br>– Role and significance of the land use plan as an act of local law in shaping the space of a city (or a section thereof), managing land and executing construction projects;<br>– Role and significance of the architect in creating a draft of a land use plan and the need for participation of designers specialising in other areas in the process of planning documents creation;<br>– Significance of planning documents in space harmonisation and ensuring spatial order;<br>– Principles and types of spatial planning systems in selected European countries set against the background of Poland; legal grounds of these systems;<br>– Fundamental stages of the planning process illustrated on the example of the Study of Conditions and Directions of Spatial Development;<br>– Spatial planning and the idea of the network city; planning consequences of the network approaches in urban design;<br>– Functional areas and places/areas of urban activity concentration as a practical problem of spatial planning;<br>– New types of urban structures and techniques of recording planning decisions that have been reached referring to these components of the functional and spatial structure;<br>– Principles of sustainable mobility and sustainable accessibility in spatial planning;<br>– The concept of a structural unit in urban design – consequences for the technology of recording the reached planning decisions. |
| **LANDSCAPE ARCHITECTURE** | **<u>YEAR 1 sem. 1</u>**<br><br><u>Topics:</u><br>– Beginnings of the profession of landscape architect and its contemporary context. Shaping landscape in the most ancient times. History of horticulture. Terminology;<br>– Kinds and types of urban green areas. Systems of urban green areas. Greenery in the urban structure and landscape. The public park. Typology of forms of greenery. Functions of green areas;<br>– The garden-city and the evolutionary trend. Avantgarde concepts and the new tradition. New Urbanism versus Landscape Urbanism;<br>– Vegetation in landscape. Using various forms of vegetation; |

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| | – Analysis of selected examples of contemporary landscape architecture projects – various scales of landscaping projects;<br>– Typology, composition, landscape evaluation and assessment methods; |
| **HISTORY OF CONTEMPORARY URBAN DESIGN** | **YEAR 1 sem. 2**<br>Topics:<br>The lectures present problems referring to the complexity of conditions affecting the shape of the contemporary urban form and the principles of its composition, they demonstrate the mutually complementary role of interdisciplinary actions for shaping urbanised spaces, as well as the role of the work of architecture, landscape forms and planning conditions in the process of transformation of the urban ensembles form.<br>The lectures include the following problem areas:<br>– The space of the city;<br>– Urban design of the 19th century;<br>– Urban design of the 20th and 21st centuries;<br>– Polish urban design;<br>– Relation of architecture and urban design. |
| **THEORY OF HISTORIC BUILDINGS CONSERVATION AND RESTORATION, ARCHAEOLOGY** | **YEAR 1 sem. 2**<br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course MODULE 4.A: Design in cultural heritage areas – sem. 2*<br>– *Course constitutes a theoretical foundation for the course MODULE 4.B: Conservation design and archaeology – sem. 2*<br>Topics:<br>The topics covered in the lectures include the genesis of societies' interest in their own past as a source of experiences building the knowledge necessary for progress and growth, as well as the aspects of inspiration with the past for rational heritage protection and correct shaping of the contemporary cultural spaces. The discussion features development of conservation doctrines and their significance for forming of the modern theory of historic buildings protection, evolution of the concept of monument of architecture and urban design against the background of the persevering trend to expand the areas of protection, as well as the problem of interpretation of *authenticity* of the historic substance, which – in the context of the revolutionary Nara Document – has led to a change in the cultural heritage protection methodology from objective to subjective and holistic approach. |
| **ETHICS OF THE ARCHITECTURAL PROFESSION, LAW IN THE CONSTRUCTION PROCESS** | **YEAR 2 sem. 3**<br>Topics:<br>The lectures cover problem areas related to the specific character of the construction process, which creates a relationship between the client commissioning a design and the architect, between architects |

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| | and other architects and designers, as well as between architects and contractors and officials of administrative agencies and organs.<br><br>The topics of the lectures also include discussion of specialist professional conditions of an architectural design. Solutions and technical conditions necessary to meet detailed requirements, selection of the appropriate technology for a given building and a synthetic approach to legal, economic and management problems illustrated with selected examples from design practice. |
| **CULTURAL STUDIES** | **YEAR 2 sem. 3**<br><br>Course objectives:<br><br>The objective of the course is familiarising students in detail with certain concepts within the scope of culture and new media in art, as well as their mutual interrelations.<br><br>Topics:<br><br>The topics covered in the course include: social aspects of visual arts, theory of media convergence, role of the new media in contemporary art, status of the new media in contemporary art. Selected problem areas feature the genesis, history and character of the fundamental problems, concepts, models and strategies of media communication and social interaction. The lectures will discuss extensively problems within the scope of culture and the new media in art and architecture and their mutual interrelations. These are: social aspects of visual arts, theory of media convergence, role of the new media in contemporary art, status of the new media in contemporary art. Selected problem areas feature the genesis, history and character of the fundamental problems, concepts, models and strategies of media communication and social interaction. |
| **THEORY OF REGIONAL PLANNING** | **YEAR 2 sem. 3**<br><br>*Notes:*<br><br>– *Course constitutes a theoretical foundation for the course Diploma project – sem. 3*<br>– *Course integrated with the course City design – sem. 3*<br>– *Elective course*<br><br>Topics:<br><br>– Definition of regions and their types. Factors deciding a regional unique character;<br>– Problems related to European integration and regional cooperation in spatial planning. New types of urbanisation in the regional scale;<br>– Fundamental problems of regional development in Poland. Designs and realised projects in the regional scale in Poland and in the world – urban agglomerations, areas of urbanisation, region of recreational function, privileged and protected areas;<br>– Contribution of Polish architects and urban designers into the development of the European theory and practice of regional planning; |

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|---|---|
| | – Instruments of regional planning in the Polish legal system, against the background of spatial planning systems in other countries;<br>– Significance of regional nodes – networks and lines of technical infrastructure, motorways, components of water management, protected areas;<br>– European regions – reasons for emergence and significance for the local, regional and national development. |
| **CITY DESIGN** | **YEAR 2 sem. 3**<br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course Diploma project – sem. 3*<br>– *Course integrated with the course Theory of regional planning – sem. 3*<br>– *Elective course*<br>Topics:<br>– Definition of the city, basic components defining an urban space, types of cities and their classification;<br>– Causes and mechanisms of the historic and contemporary development of cities: city structure as a material record of its history, evolution of the city development principles; influence of function and compositional factors on the city structure shape; the idea of traditional city in contemporary projects realised in European cities;<br>– Problems of urban communities: needs, preferences and aspirations of city dwellers in relation to the social structure;<br>– Contemporary problems of cities: social, economic, functional, environmental and compositional problems. The legal grounds for creating and rebuilding cities in Poland and other countries;<br>– Fundamental concepts of urban sciences;<br>– Designing a city and the scientific and professional identity of urban sciences;<br>– Studying the urban form: the basic material of urban composition; basic criteria of evaluating changes in an urban space; the concept of spatial order in urban sciences. Identity and conditions of city construction;<br>– Urban doctrines and ideas: Modernism in urban design, the breakthrough in urban sciences in the second half of the 20$^{th}$ c., major urban theories of the second half of the 20$^{th}$ c., the idea of sustainable development; postmodernism in urban design; New Urbanism; classic and avantgarde approaches to the urban form and structure. |
| **THEORY OF ARCHITECTURAL AND URBAN DESIGN** | **YEAR 2 sem. 3**<br>*Notes:* |

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| | – *Course constitutes a theoretical foundation for the course Diploma project – sem. 3*<br>– *Course integrated with the course Negotiations, practice aspects of the practising the architectural profession – sem. 3*<br>– *Elective course*<br><br>*Course objectives:*<br><br>Lectures on theory cover advanced functional, spatial and structural problems characteristic of architectural objects of a complex function. The lectures constitute a theoretical foundation for architectural and urban design of both public utility buildings and residential development. The knowledge complements the problem areas of the Diploma Project.<br><br>*Topics:*<br><br>– Characteristics, specific features; shaping ensembles of services, residential-services and residential buildings in a changing spatial, social and environmental context;<br>– Compositional and structural aspects, contemporary typologies of shaping form and function;<br>– Contemporary perspective on the specific features of the post-war rebuilding and restoration of cities;<br>– Environmental aspects in creating sustainable architecture;<br>– Contemporary forms of shaping public and private spaces, problems of universal accessibility, cities for everybody and the "happy city;"<br>– Typology of architectural objects – functional and spatial layouts;<br>– Community – the significance of demographic processes in shaping urban structures, "shrinking cities" and remedial action trends; social participation in urban processes;<br>– Principles of shaping architectural objects (including objects for people with disabilities), functional zones, interior aesthetics, ergonomics;<br>– The art of building a city – elementary city, ideal city, geometric city, garden city, utopian cities, the perspective of the city;<br>– "Technical conditions…" in architectural design;<br>– Context in architectural and urban design;<br>– Building detail in architecture – materials solutions. |
| **NEGOTIATIONS, PRACTICAL ASPECTS OF PRACTISING THE ARCHITECTURAL PROFESSION** | **YEAR 2 sem. 3**<br><br>*Notes:*<br><br>– *Course constitutes a theoretical foundation for the course Diploma project – sem. 3*<br>– *Course integrated with the course Theory of architectural and urban design – sem. 3*<br>– *Elective course* |

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| | *Topics:*<br><br>Presenting the practical side of the design process and the process of creating buildings in all the stages – from the concept to the construction supervision – and familiarising students with professional presentation of designs in architecture at the stages starting from negotiating and drafting contracts with investors and subcontractors until the supervision at the building site and the handover. |
| **THEORY OF HISTORIC BUILDINGS CONSERVATION** | **YEAR 2 sem. 3**<br><br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course Diploma project – sem. 3*<br>– *Course integrated with the course History of architecture – sem. 3*<br>– *Elective course*<br><br>*Topics:*<br><br>Transferring knowledge on the European concept of historic buildings protection, including the Polish experience in this respect, methodology and principles of conservation design, historic development of conservation ideas in Europe, regional differences in conservation doctrines. The Polish school of conservation and contemporary trends in the cultural environment protection. The lectures also cover methods of archaeological and historic research into historic environment and contemporary conservation techniques. |
| **HISTORY OF ARCHITECTURE** | **YEAR 2 sem. 3**<br><br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course Diploma project – sem. 3*<br>– *Course integrated with the course Theory of historic buildings conservation – sem. 3*<br>– *Elective course*<br><br>*Topics:*<br><br>The main objective is transferring knowledge on the genesis and historic development of individual architectural components and details in the extent necessary for recognition of the style in which they were created and mastering their professional nomenclature, done on the basis of an analysis of selected representative examples and characteristic architectural forms in the context of stylistic changes of individual periods and broad cultural background. The course topics include an analysis of how individual architectural components and details were created and developed historically, their functional and structural genesis as well as the chronology of transformations of their forms and stylistic features in individual periods until the present time. |

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| | The series of lectures discuss how various types and forms of architectural details and decorations covering them were changing in time, according to the latest state of knowledge and suggested methods of research into this problem area within the scope of history of architecture. The lectures also include introduction to the problems of architectural detail conservation. |

## Teaching methods:

Lectures (also field lectures), seminars (also in the form of drawing under the teacher's guidance), consultations, discussions, multimedia presentations, visits to building sites in the company of designers, exhibitions and field lectures, individual and team work.

## Methods of learning outcomes verification and evaluation:

Attainment of the required learning outcomes in the category of knowledge is verified by written or oral examinations, reviewed works, essays and presentations. Oral examinations are standardised and aimed at verification of knowledge at a higher level than mere knowledge of facts (the level of comprehension, the analytical, synthetical and problem solving skills). The forms of written examination include: essays, reports, short structured questions or multiple choice tests (MCQ – Multiple Choice Questions), multiple response tests (MRQ – Multiple Response Questions), Yes/No questions and response matching. The attainment of the required learning outcomes in the category of knowledge is also verified with the use of: multimedia presentations, active participation in seminar discussions, critical essays or other works (e.g. a poster or drawing), tests / test-like projects realised in class under supervision or a written or oral examination.

## Evaluation criteria:

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|
| **A** | **5.0** | **Very good:**<br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of proficiency in all aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:** |

| | | |
|---|---|---|
| | | Above average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive majority of aspects of the taught material (transferred range of knowledge). |
| **C** | **4.0** | **Good:**<br>Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:**<br>The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

Approval of the course group syllabus:

…… ……

place, date Dean of the Faculty of Architecture, CUT

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

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|---|---|
| A course group | **B.2 – DESIGN CONTEXT**<br>**Engineering, techniques and technology: advanced aspects of the design process** |
| Language of instruction | Polish / English |

| | | |
|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology, art** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **B2 – Design context** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**B.W4-II** problems related to architectural and urban design and to spatial planning, such as: technical infrastructure, transit, natural environment, landscape architecture, economic, legal and social conditions – necessary to understand social, economic, environmental, natural, historic, cultural, legal and other extra-technical conditions

of engineering activities; they recognise the need to take them into account in architectural, urban and rural design and in spatial planning;

**B.W5-II** advanced problems of construction, building technologies and installations, building structure and physics, including the key complex problems in architectural, urban and planning design;

**B.W6-II** technical-building regulations;

**B.W8-II** ways of communicating ideas of architectural, urban and planning designs as well as ways of development thereof;

**In respect of skills, the graduate is able to:**

**B.U2-II** recognise the significance of extra-technical aspects and consequences of the architect's design activities, including their influence on the cultural and natural environment, as well as take responsibility for the technological decisions they make in the environment and for passing on the cultural and natural heritage to the future generations;

**B.U4-II** formulate statements of the critical analysis character within the scope of architecture, as well as present and synthetically describe the ideological foundations of a design, relying on the adopted premises;

**B.U5-II** use appropriately selected advanced computer simulations, analyses and information technologies aiding architectural and urban design, as well as evaluate the obtained results and their usefulness in design and draw constructive conclusions;

**B.U6-II/B.U7-II** prepare and deliver a presentation on the detailed results of executing an engineering design task with the use of various communication techniques, including a presentation formulated in a universally comprehensible way;

**B.U8-II** adequately observe the professional and ethical standards and principles as well as the provisions of law in the scope of architectural and urban design and spatial planning;

**In respect of social competences, the graduate is prepared to:**

**B.S1-II** formulate and pass on to the general public the information and opinions on achievements of architecture and urban sciences, their complex conditions and other aspects of the architect's activities;

**B.S2-II** perform a reliable self-evaluation, formulate constructive criticism related to architectural and urban activities, as well as receive criticism of the solutions presented by themselves, responding to the criticism in a clear and factual manner, also with the use of arguments relying on the available body of work of the scientific discipline, as well as use the criticism in a creative and constructive way;

**Form of classes, number of hours in one semester**

| Course | Sem. | ECTS points | Form of credit (E/c) | Form of classes / number of hours | Total number of hours of student's work |
|---|---|---|---|---|---|
| **BUILDING STRUCTURES** | 1 | 3 | E | l/45 | 45 |
| **URBAN ENGINEERING** | 1 | 1 | C | l/15 | 15 |
| **ECOLOGY AND ENVIRONMENT PROTECTION** | 2 | 1 | C | l/15 | 15 |
| **GENERAL CONSTRUCTION** | 2 | 2 | E | l/30 | 30 |

## The course outline

| Course | Course contents |
|---|---|
| **BUILDING STRUCTURES** | **YEAR 1 sem. 1**<br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course MODULE 1.B: Architectural and construction design: building structures – sem. 1 (course integrated with MODULE 1.A: Public utility buildings design – sem. 1)*<br>Topics:<br>The lecture topics include discussion of the problems related to strengthening structural components used in historic buildings conservation. The scope of this problem area includes presentation of the classification of damages of historic vaults, walls and foundations (including complex layouts resulting from junctions with existing components). The lectures will also explain the principles of designing high-rise buildings and large-span roofs, as well as the formal and merit-based grounds for assessing the technical condition of buildings. |
| **URBAN ENGINEERING** | **YEAR 1 sem. 1**<br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course MODULE 2.A: Spatial and regional planning and urban engineering – sem. 1*<br>Course objectives:<br>Transferring knowledge on the principles and practical problems related to planning, designing and operating systems in urban engineering.<br>Topics:<br>The outcome for students will be knowledge of: |

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| | – fundamentals of technical infrastructure systems planning in the scale of the city, designing and operating water supply and sewage disposal systems, gas and heating grids, electric power, telecommunication, transit and drainage systems of urbanised areas as well as the interrelations between them;<br>– urban engineering systems in city land use plans, relations between water supply and sewage disposal systems and spatial and quality growth of cities. They will also acquire knowledge on sewage systems of drainage in urban areas of high intensity of development;<br>– gas, heating and electric power systems as sources of energy needs of the city municipal services management against the background of regional systems;<br>– communication systems in the city;<br>– functioning principles in the planning scale of public and individual transit;<br>– management of infrastructural systems and conditions of their operation; – contemporary methods of creation and modernisation of urban engineering systems in urban conditions;<br>– efficiency of infrastructural systems in providing services to residents;<br>– economic aspects of construction and operation of urban engineering systems and efficiency of the above systems in providing services to residents;<br>– principles and practical problems related to planning, designing and operating systems in urban engineering, including power plants, heat and power plants, sewage treatment plants, water treatment plants, waste incineration plants;<br>– planning (at the elementary level) technical infrastructure systems in the scale of the city, as well as operation of water supply and sewage disposal facilities and devices, gas and heating grids, electric power, telecommunication and transit systems. |
| **ECOLOGY AND ENVIRONMENT PROTECTION** | **<u>YEAR 1 sem. 2</u>**<br><br><u>Topics:</u><br><br>The course will allow students to acquire knowledge on architectural and urban design compliant with the ideas of environment protection and ecology. The following topics – among others – will be discussed in class:<br><br>– primary legal acts changing awareness in the category of natural environment protection;<br>– definitions related to environment protection and Polish legislation in this area;<br>– primary legal acts (“the Environment Protection Act”);<br>– principles of preparing environmental impact assessments.<br><br>The course also includes topics related to green areas in cities and their role in shaping the urban environment. |
| **GENERAL CONSTRUCTION** | **<u>YEAR 1 sem. 2</u>** |

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|---|---|
| | Topics:<br>– Energy in architecture: principles of design and energy-related solutions;<br>– Solutions for systems in environmentally friendly buildings;<br>– Glass and glazed structures;<br>– Modular construction – technical solutions;<br>– Contemporary timber construction – structural solutions;<br>– Errors in technical solutions of buildings. |

## Teaching methods:

Lectures and multimedia presentations.

## Methods of learning outcomes verification and evaluation:

Attainment of the required learning outcomes in the category of knowledge is verified by written or oral examinations, reviewed works, essays and presentations. Oral examinations are standardised and aimed at verification of knowledge at a higher level than mere knowledge of facts (the level of comprehension, the analytical, synthetical and problem solving skills). The forms of written examination include: essays, reports, short structured questions or multiple choice tests (MCQ – Multiple Choice Questions), multiple response tests (MRQ – Multiple Response Questions), Yes/No questions and response matching.

## Evaluation criteria:

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|
| **A** | **5.0** | **Very good:**<br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of proficiency in all aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:**<br>Above average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive majority of aspects of the taught material (transferred range of knowledge). |

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| **C** | **4.0** | **Good:**<br>Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:**<br>The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

Approval of the course group syllabus:

…… ……

place, date Dean of the Faculty of Architecture, CUT

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

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|---|---|
| A course group | **B.3 – DESIGN CONTEXT**<br>**Repertoire of design tools and techniques: integration of design processes and scientific work methodology** |
| Language of instruction | Polish / English |

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|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **B3 – Design context** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**B.W1-II** advanced theory of architecture and urban sciences useful in formulation and solution of complex tasks in architectural and urban design and spatial planning, as well as development trends and current directions in architectural and urban design;

**B.W3-II** the role and significance of the natural environment in architectural and urban design as well as in spatial planning, and the need to create spatial order and sustainable development, as well as the subject-matter of dangers threatening the cultural environment and landscape;

**B.W4-II** problems related to architectural and urban design and to spatial planning, such as: technical infrastructure, transit, natural environment, landscape architecture, economic, legal and social conditions – necessary to understand social, economic, environmental, natural, historic, cultural, legal and other extra-technical conditions of engineering activities; they recognise the need to take them into account in architectural, urban and rural design and in spatial planning;

**B.W7-II** theoretical foundations of scientific reasoning and research in the extent useful in completion of complex design tasks, as well as interpretation of scientific publications in the scientific discipline of architecture and urban sciences;

**B.W8-II** ways of communicating ideas of architectural, urban and planning designs as well as ways of development thereof;

**B.W9-II** the basic principles of the ethics of the architectural profession and concepts related to intellectual property protection.

**In respect of skills, the graduate is able to:**

**B.U1-II** integrate advanced knowledge from various fields of science, including history, history of architecture, history of art and cultural heritage protection and spatial development, while solving complex engineering problems;

**B.U2-II** recognise the significance of extra-technical aspects and consequences of the architect's design activities, including their influence on the cultural and natural environment, as well as take responsibility for the technological decisions they make in the environment and for passing on the cultural and natural heritage to the future generations;

**B.U3-II** recognise the systemic and extra-technical aspects in the process of architectural, urban and planning design of high complexity level, including environmental, cultural, artistic, economic and legal aspects;

**B.U4-II** formulate statements of the critical analysis character within the scope of architecture, as well as present and synthetically describe the ideological foundations of a design, relying on the adopted premises;

**B.U5-II** use appropriately selected advanced computer simulations, analyses and information technologies aiding architectural and urban design, as well as evaluate the obtained results and their usefulness in design and draw constructive conclusions;

**B.U6-II/B.U7-II** prepare and deliver a presentation on the detailed results of executing an engineering design task with the use of various communication techniques, including a presentation formulated in a universally comprehensible way;

**B.U8-II** adequately observe the professional and ethical standards and principles as well as the provisions of law in the scope of architectural and urban design and spatial planning;

**In respect of social competences, the graduate is prepared to:**

**B.S1-II** formulate and pass on to the general public the information and opinions on achievements of architecture and urban sciences, their complex conditions and other aspects of the architect's activities;

**B.S2-II** perform a reliable self-evaluation, formulate constructive criticism related to architectural and urban activities, as well as receive criticism of the solutions presented by themselves, responding to the criticism in a clear and factual manner, also with the use of arguments relying on the available body of work of the scientific discipline, as well as use the criticism in a creative and constructive way;

## Form of classes, number of hours in one semester

| Course | Sem. | ECTS points | Form of credit (E/C) | Form of classes / number of hours | Hours of individual work |
|---|---|---|---|---|---|
| **MODULE A** | | | | | |
| **HERITAGE PROTECTION - IDENTIFICATION** | 1 | 4 | C | l/15<br>lab/45 | 60 |
| **BIM DESIGN PROCESSES INTEGRATION** | 1 | 1 | C | lab/15 | 15 |
| **SCIENTIFIC WORK METHODOLOGY** | 3 | 2 | C | l/15<br>s/15 | 30 |

## The course outline

| Course | Course contents |
|---|---|
| **HERITAGE PROTECTION - IDENTIFICATION** | **YEAR 1 sem. 1**<br>*Notes:*<br>– *Course constitutes a theoretical foundation for the course MODULE 4.A: Design in heritage areas – sem. 2*<br>– *Course integrated with the course: Diploma design project (the theoretical part) – sem. 3*<br>– *Course integrated with the course: Diploma design project – sem. 3*<br>– *Course integrated with the course: Scientific work methodology – sem. 3*<br>Topics: |

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| | The course aims to familiarise students with the problems related to identification, documentation and the complex research process of historic architecture, including historic monuments of architecture. The knowledge is necessary for correct recognition of conservation problems in a building assigned for conversation design or in the area of cultural heritage, as well as for performing the necessary research preceding the design process and/or execution/commission of appropriate conservation or protection works. The essence of the course is also familiarising students with scientific disciplines and their methodology and research tools useful in the complex process of researching historic architecture. An important objective is students' acquisition of the skill of using modern appliances for documentation of architectural objects and non-invasive examination, and also gaining some experience in field work.<br><br>The course lectures will introduce students to the theory of architectural research and present knowledge – necessary for this research – on interdisciplinary cooperation related to the conservation professional environment, historians, art historians, archaeologists and scientific researchers. Students will learn the theory related to using modern measurement methods and non-invasive examination, which are introduction to the practical tasks in seminars. Seminars will familiarise students with the problems related to identification, documentation and the complex research process of historic architecture, including historic monuments of architecture. Students will also participate in field research. Field documentation will be prepared both using traditional methods and with the use of the latest methods, including photogrammetry and laser 3D scanning, and thus they will learn about the possibilities offered by such equipment and how to use it. |
| **BIM DESIGN PROCESSES INTEGRATION** | **YEAR 1 sem. 2**<br><br>*Notes:*<br><br>– *Course partly integrated with the course: MODULE 3.A: Design of a residential buildings ensemble in urban development – sem. 2*<br>– *Course partly integrated with the course: MODULE 4.A: Design in cultural heritage areas – sem. 2*<br><br>Topics:<br><br>The objective of the course is development of skill to use and integrate modern computer technology, such as parametric design, BIM, digital fabrication and virtual reality, in architectural and urban design. Further development of knowledge on the operation and working strategies in BIM programmes. |
| **SCIENTIFIC WORK METHODOLOGY** | **YEAR 2 sem. 3**<br><br>*Notes:*<br><br>– *Course integrated with the course: Diploma design project (the theoretical part) – sem. 3* |

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| | – *Course integrated with the course: <u>Diploma design project</u> – sem. 3*<br>– *Course integrated with the course: <u>Heritage protection – identification</u> – sem. 1*<br><br><u>Topics:</u><br>The course on scientific work methodology, research and interpretation of architecture and urban design aim to prepare students in the aspect of repertoire of tools and techniques for independent scientific work, principles of information collection and its interpretation, analysis of scientific and research materials and formulation scientific conclusions.<br>Students will be introduced to methods of scientific work, ways of information collection, implementing diverse types of bibliographic records and references, as well as source citation, problems of copyrights and abuse of intellectual property. |

## Teaching methods:

Lectures, seminars, laboratory classes, blended learning (with the use of the ELF e-learning platform), multimedia presentations, individual and team work, workshops, visits to historic objects, including historic monuments, consultations, discussion.

## Methods of learning outcomes verification and evaluation:

Ongoing evaluation of the student's work in class and evaluation of individual tasks, verification of the learning outcomes attained during the semester (knowledge, skills), active participation in class, course final written test (e.g. multiple choice test), individual assignment projects (e.g. a graded virtual 3D model in the native format, a descriptive part, historic study prepared with the use of scientific work methodology, a chart / poster, field works documentation).

## Evaluation criteria:

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|
| **A** | **5.0** | **Very good:**<br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of |

| | | |
|---|---|---|
| | | proficiency in all aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:**<br>Above average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive majority of aspects of the taught material (transferred range of knowledge). |
| **C** | **4.0** | **Good:**<br>Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:**<br>The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

**Approval of the course group syllabus:**

…… ……

place, date Dean of the Faculty of Architecture, CUT

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

| | |
|---|---|
| A course group | **C – SUPPLEMENTARY COURSES**<br>**Supplementary courses, in particular: foreign languages and – to choose from – philosophy and aesthetics, history of art, sociology and environmental psychology** |
| Language of instruction | A foreign language or Polish / English |

| | | |
|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **C – Supplementary courses** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**C.W1-II** styles in art and their related creative traditions as well as the process of execution of art works related to architecture, and the repertoire of techniques and tools used in related artistic disciplines;

**C.W2-II** problems of philosophy, with special consideration given to aesthetics – in the extent in which it influences the quality of architectural, urban and planning creative work, necessary to formulate and solve complex tasks in architectural and urban design and in spatial planning, as well as to evaluate existing and designed solutions;

**C.W3-II** the basic principles of scientific research methodology, including preparation of scientific publications;

**C.W4-II** ways of communicating ideas of architectural, urban and planning designs as well as ways of development thereof;

**In respect of skills, the graduate is able to:**

**C.U1-II** identify various kinds of cultural artefacts specific to architecture and preform a critical analysis thereof using typical methods with the purpose of defining their meanings, social impact and place in the historic-cultural process;

**C.U2-II** use correctly the concepts such as aesthetic value, beauty and aesthetic experience, as well as recognise the broader philosophical context of problems related to architectural and urban design;

**C.U3-II** obtain information from publications, data bases or other sources, also in a foreign language which is a language of international communication, in order to use it in the design process or – in the basic extent – in the academic activities;

**C.U4-II** prepare an academic paper, define the subject, scope and objective of the conducted scientific research;

**C.U5-II** use at least one foreign language which is a language of international communication at the level B2+ of the Common European Framework of Reference for Languages, including specialist terminology in architecture and urban sciences, necessary in the design activities and – in the basic extent – in the academic activities;

**Form of classes, number of hours in one semester**

| **Course** | Sem. | ECTS points | Form of credit (E/C) | Form of classes / number of hours | Hours of individual work |
|---|---|---|---|---|---|
| **FOREIGN LANGUAGE** | 2 | 2 | C | pc/30 | 30 |
| **HISTORY OF ART**<br>**or**<br>**AESTHETICS WITH ELEMENTS OF PHILOSOPHY** | 2 | 1 | C | l/15 | 15 |
| **ENVIRONMENTAL PSYCHOLOGY**<br>**or**<br>**URBAN SOCIOLOGY** | 2 | 1 | C | l/15 | 15 |

| | | | | | |
|---|---|---|---|---|---|
| **ELECTIVE COURSES** | 2 | 1 | C | s/15 | 15 |

## The course outline

| Course | Course contents |
|---|---|
| **FOREIGN LANGUAGE** | **YEAR 1 sem. 2**<br>Objectives:<br>– development of communication and linguistic competences;<br>– development of the skill to participate in a discussion on topics related to architecture and urban sciences;<br>– development of the skills of reading and listening comprehension of texts on architecture and urban sciences.<br>Topics:<br>– linguistic elements related to looking for a job in the architectural profession: a CV and a covering letter; job interview;<br>– linguistic elements related to functioning in the professional environment: qualifications and licences; practical aspects of practising the architectural profession; the architectural contest;<br>– linguistic elements related to the role of architect in the construction process, stages of architectural design; technical description of the design; presentation of the design; stages of the construction process; architect's responsibilities towards the investor and contractors;<br>– linguistic elements related to urban sciences and the architecture of the future: cities of the future, human- and environment-friendly cities; building materials of the future, sustainable life-cycle of building structures;<br>– obtaining information from publications, data bases and other sources. |
| **HISTORY OF ART<br>or<br>AESTHETICS WITH ELEMENTS OF PHILOSOPHY** | **YEAR 1 sem. 1**<br>**HISTORY OF ART**<br>Course objectives:<br>– familiarise students with the latest artistic trends and movements in the context of contemporary culture development in the fields of: architecture, sculpture, painting, music, applied art;<br>– complement the contents of the cultural studies course.<br>Topics:<br>– significance of art for development of cultural and civilizational progress as well as its influence on individuals and contemporary society;<br>– the process of execution of art works;<br>– contemporary forms of expression and artistic creation;<br>– multi-aspect areas of creative interests and artistic ideas; |

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| | – techniques and technology applied and used in contemporary art;<br>– the role of artist and the role of recipient;<br>– contemporary possibilities of architectural creation viewed as artistic creation in the broadly understood cultural space.<br><br>**AESTHETICS WITH ELEMENTS OF PHILOSOPHY**<br><br>Course objectives:<br><br>More in-depth discussion of the theoretical problems related to the research methods of aesthetics in the context of globalisation, "glocalisation," mass culture, post-industrial civilisation, cultural and historical policies.<br><br>Presentation of the categories of description and analysis appurtenant to the language of aesthetics and the aesthetic phenomena themselves as connecting the practically oriented view of reality with generalisations related to existential issues.<br><br>Topics:<br><br>– phenomenological aesthetics;<br>– pluralist definitions and variability of meanings of concepts in aesthetics and sciences on art;<br>– aesthetic situation;<br>– postmodernist pluralism in aesthetics and architecture;<br>– overcoming the dualist conceptual oppositions in theory and practice of contemporary architecture, deconstruction;<br>– evolution of deconstruction: from poststructuralism to the rediscovery of the sphere of values;<br>– the category of virtuality with reference to digital spaces and beyond them. |
| **ENVIRONMENTAL PSYCHOLOGY**<br>**or**<br>**URBAN SOCIOLOGY** | **YEAR 1 sem. 2**<br><br>**ENVIRONMENTAL PSYCHOLOGY**<br><br>Course objectives:<br><br>– more in-depth discussion of the problems of environmental psychology with reference to designing and using certain types of environment.<br><br>Topics:<br><br>– psychological problems related to the housing environment and the environment of work, learning and rest;<br>– integrated urban environment in the perspective of environmental psychology (environmental stress, sense of security, prosocial and pro-ecological behaviours);<br>– relations of people with their surrounding environment: memory of the city, identity, attachment to places.<br><br>**URBAN SOCIOLOGY**<br><br>Course objectives: |

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| | – learning elements of sociology related to shaping architectural and urban space and the space of the city<br><br>Topics:<br><br>– actions and tools enabling enrichment and optimisation of the design processes in the aspect of social issues;<br>– mutual interrelations between sociology and the art of design, sociological methods and design or planning errors – discussion of examples;<br>– threats resulting from incorrect forms of participation.<br><br>*Note: Due to the humanistic and social character of the course topics oriented towards research fundamentals, both Environmental Psychology and Urban Sociology include the basic elements of scientific research methodology in the teaching process.* |
| **ELECTIVE COURSES** | **YEAR 1 sem. 2**<br><br>Topics of elective courses are suggested by the academic teachers of the Faculty of Architecture every year and subsequently voted by the FoA Board for the next academic year. They include a wide range of topics, e.g. the following problem areas:<br><br>– theory and aesthetics of the most recent architecture;<br>– heritage of sacral architectural space;<br>– concrete architecture;<br>– urban form;<br>– planning documents in urban sciences;<br>– activation of contemporary public spaces;<br>– shaping the space of health resorts, thermal baths and SPA centres;<br>– settlements (and architecture) of mountainous lands;<br>– Smart City – an intelligent and sustainable city;<br>– greenery in architectural design;<br>– interior architecture design;<br>– carpenter structures in architecture;<br>– BIM parametric design;<br>– VR/AR technology in architecture;<br>– traditional graphic techniques in modern design;<br>– designing artificial illumination in architecture;<br>– lighting an ensemble of buildings;<br>– colour and advertisements in the space of the city;<br>– architectural debate;<br>– psychology of architecture;<br>– photography;<br>– designing sustainable medium height environmentally effective timber buildings;<br>– construction with the use of sustainable local and traditional building materials;<br>– the most recent architecture and the historic heritage;<br>– social space of work places;<br>– problems of design in the field of archaeological heritage; |

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| | – Kenneth Frampton's Critical Regionalism. Searching for identity in Contemporary Architecture. |

## Teaching methods:

In teaching a foreign language: practical classes, discussion, consultations, presentations.

In teaching the remaining courses: lectures, consultations, discussion, multimedia presentations, site visits, discussion of problems in the context of selected architectural spaces, environmental methods (research walk, photo-story, observations), plan analysis.

## Methods of learning outcomes verification and evaluation:

In teaching a foreign language: an individual project (reading assignment/presentation), mid- and end-semester tests, active participation in class, activities on the CUT e-learning platform. The final grade: sum of points obtained for various graded activities translated into the final grade in compliance with the adopted grading scale; the course final test.

In teaching the remaining courses: the course final test, presentation of student's own studies and seminar works (elective courses).

## Evaluation criteria:

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|
| **A** | **5.0** | **Very good:**<br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of proficiency in all aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:**<br>Above average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive majority of aspects of the taught material (transferred range of knowledge). |
| **C** | **4.0** | **Good:** |

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|---|---|---|
| | | Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:**<br>The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

Approval of the course group syllabus:

…… …….

place, date Dean of the Faculty of Architecture, CUT

Cracow University of Technology

# A COURSE GROUP SYLLABUS

**Applicable to students commencing their studies in the academic year 2022/2023 at the Faculty of Architecture**

| | |
|---|---|
| A course group | **D – DIPLOMA (PROJECT)**<br>**Diploma project: preparation of the diploma work and preparation for the diploma examination (theoretical part and practical part)** |
| Language of instruction | **Polish / English** |

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|---|---|---|
| Study programme: | **architecture** | Study programme code: - |
| Specialising in: | **no specialisation** | |
| Programme profile: | **general academic** | |
| Level of the study programme: | **second cycle** | |
| Field: | **engineering and technology** | |
| Discipline(s): | **leading discipline: architecture and urban sciences (100%)** | |

## Objectives of the courses included in the course group:

The objective of completing this block is the student's acquisition of the detailed learning outcomes for the course group **D – Diploma project** at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

Obtaining the detailed learning outcomes leads to obtaining the general learning outcomes at the Second Cycle Study Programme in compliance with the *Regulation of the Minister of Science and Higher Education of the 18th July 2019 (item 1359) on the standard of education preparing for practising the architectural profession*.

## Learning outcomes for the course group:

**In respect of knowledge, the graduate knows and understands:**

**D.W1-II** detailed problems referring to architecture and urban sciences in the extent adequate for solving complex design problems;

**D.W2-II** advanced problems referring to architecture and urban sciences useful in designing architectural objects and urban ensembles in the context of social, cultural, natural, historic, economic, legal and other extra-technical conditions of engineering activities, integrating the knowledge acquired during their studies;

**D.W3-II** principles, solutions, structures and building materials used in completing engineering tasks within the scope of architectural and urban design;

**D.W4-II** problems referring to architecture and urban sciences in the context of the multi-professional character of architectural and urban design and the need to cooperate with other specialists;

**D.W5-II** principles of professional presentation of architectural and urban concepts;

**In respect of skills, the graduate is able to:**

**D.U1-II** perform a critical analysis of the existing conditions, evaluate the conditions of land use and development and formulate conclusions for designing in a complex interdisciplinary context;

**D.U2-II** design a complex architectural object or an urban ensemble, creating and transforming the space to bestow new values upon it – in compliance with the adopted programme, taking into consideration the extra-technical aspects and integrating the interdisciplinary knowledge and skills acquired during their studies;

**D.U3-II** prepare an advanced graphic, written and oral presentation of their own design concepts in the scope of architecture and urban design, meeting the requirements of professional transcript applicable to architectural and urban design;

**D.U4-II** use analytical methods to formulate and solve design tasks;

**D.U5-II** present the theoretical foundations and a statement of reasons for the presented solutions in the form of an essay of the academic character;

**D.U5-II** organise their work taking into consideration all the stages of working on a design concept;

**In respect of social competences, the graduate is prepared to:**

**D.S1-II** use imagination, intuition, creative attitude and independent thinking effectively for solving complex design problems;

**D.S2-II** speak in public and deliver presentations;

**D.S3-II** accept criticism of the solutions presented by themselves and respond to it in a clear and factual manner, also with the use of arguments relying on the body of work of the scientific discipline, as well as use the criticism in a creative and constructive way;

**D.S4-II** formulate and communicate to the general public the information and opinions on achievements of architecture and urban sciences, their complex conditions and other

aspects of the architect's activities; communicate the opinions in a universally comprehensible manner;

**D.S5-II** adequately define the priorities of the activities serving the purpose of completing the task.

**Form of classes, number of hours in one semester**

| Course | Sem. | ECTS points | Form of credit (E/C) | Form of classes / number of hours | Hours of individual work |
|---|---|---|---|---|---|
| **DIPLOMA DESIGN (PROJECT)** | 3 | 14 | C | dn/10 | 410 |
| **DIPLOMA (PROJECT) SEMINAR** | 3 | 6 | C | dn/60 | 120 |
| **TECHNOLOGY-RELATED SPECIALIST CONSULTATIONS** | 3 | 1 | C | dn/3 | 30 |
| **DIPLOMA (PROJECT) LABORATORY - DESIGN PROCESS ILLUSTRATION** | 3 | 1 | C | dn/30 | 0 |

**The course outline**

| Course | Course contents |
|---|---|
| **DIPLOMA DESIGN (PROJECT)** | **YEAR 2 sem. 3**<br>*Notes:*<br>– *Course integrated with the problems and appropriate scope of the course Diploma (project) seminar – sem. 3*<br>– *Course integrated with the course Technology-related specialist consultations – sem. 3*<br>– *Course integrated with the course Diploma (project) laboratory – design process illustration – sem. 3*<br>– *Course integrated with the course Scientific work methodology – sem. 3*<br>– *Course integrated with the course Theory of regional planning or Theory of architectural and urban design or Theory of historic buildings conservation – sem. 3*<br>Topics:<br>Diploma design (project) is a course concluding the second-cycle study programme in which the diploma candidate should demonstrate the ability to solve complex design problems independently and the knowledge acquired during their studies necessary to undertake professional activity and further self-study. |

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| | Master's degree diploma projects refer to a wide range of topics and are related to the scientific and research problem areas which are subject to the research conducted at the Faculty of Architecture.<br><br>The topics of master's degree diploma projects vary depending on the diploma candidate's choice and their Supervisor's area of specialist expertise. Problems of diploma projects include broadly understood issues from the following areas:<br><br>– architectural design;<br>– conservation of monuments of architecture and urban design;<br>– architectural and urban design;<br>– urban design;<br>– spatial planning.<br><br>The master's degree diploma project is characterised by complexity of the covered problem area both in design and in theoretical and ideological aspects, which differentiates it from the solutions at the Bachelor's degree diploma project. In their projects, diploma candidates take into consideration complex conditions of the social, cultural, natural, historic, economic and legal context, as well as other extra-technical conditions, integrating the knowledge acquired during their studies. Diploma candidates prepare an analysis of the existing conditions and evaluate the site development in order to be able to formulate conclusions for designing in a complex context. In the design process, they create and transform the space to bestow new values upon it – in compliance with the adopted programme, taking into consideration extra-technical aspects, integrating the interdisciplinary knowledge and skills acquired during their studies. The diploma candidate prepares a graphic and written presentation of their concept meeting the requirements of professional transcript. They undertake and perform work, observing the principles of professional ethics and taking responsibility of the undertaken actions, including the humanistic, social, cultural, architectural and urban values in environmental and cultural heritage protection.<br><br>The diploma project consists of the drawing part and the written part. The student solves both a theoretical and a design problem. Individual drawing portfolio corresponds to no fewer than eight charts of the 100x70 cm format, and team portfolios – fourteen charts of the 100x70 cm format. Diploma projects on <u>architectural objects and historic building conservation</u> are to include presentations on solutions attesting the student's knowledge of the problems of contemporary technology and building techniques, historic building conservation – if the project is related to this problem area – and the knowledge of the building code. In this respect, drawings attesting the knowledge of building problems will be accepted, including details. Similarly, diploma projects on <u>urban design and spatial planning</u> should include urban details in appropriate scales. |
| **DIPLOMA (PROJECT) SEMINAR** | **<u>YEAR 2 sem. 3</u>**<br><br>*Notes:* |

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|---|---|
| | – *Course integrated with the problems and appropriate scope of the course Diploma design (project) – sem. 3*<br>– *Course integrated with the course Technology-related specialist consultations – sem. 3*<br>– *Course integrated with the course Diploma (project) laboratory – design process illustration – sem. 3*<br>– *Course integrated with the course Scientific work methodology – sem. 3*<br><br>Topics:<br><br>The course has the character is of a seminar and consultation, done in seminar groups in the diploma-awarding unit with the participation of the Supervisor. It serves the purpose of supporting the theoretical (research) and practical (design) tasks related to preparation of the diploma project and expanding the student's knowledge in the undertaken subject-matter.<br><br>The diploma (project) seminar includes:<br><br>– Further development of the skill of performing complex analyses and syntheses of the design conditions – spatial, social, environmental, transit and technical conditions, taking into consideration the complex cultural heritage, architectural and urban context and the impact of natural environment, also related to the knowledge of legal regulations, including planning regulations;<br>– Formulating individual diagnoses, development of the conceptual and critical approach, drawing conclusions and putting forward guidelines related to the undertaken complex design topic, shaping one's own repertoire of creative techniques and tools and presentation skills;<br>– Using research methods in preparation of the theoretical foundation of the design – preparing an academic essay constituting the foundation of the diploma project and the ideological layer. Case studies, ordering the list of references for the topic and agreeing on the way the comparative-research methodology is to be used. Developing critical understanding of how knowledge is expanded in the research process and how to create an original and logically structured written work – referring to architecture and urban sciences, theory and design.<br>– Supporting the skill of creating complex design proposals, with knowledge of the contemporary architectural and urban problems, taking into consideration the individual approach to knowledge, creative testing of new hypotheses and solutions and their critical evaluation;<br>– Further development of the skill of solving complex design problems independently, based on knowledge of cultural, social, environmental and intellectual conditions, taking into consideration the principles and methods of design, technical requirements, legal and standard-related guidelines;<br>– Further development of the skill of creating the architectural and urban form and composition, taking into consideration the spatial, |

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| | technical, transit and interdisciplinary conditions, while simultaneously following the programmatic guidelines;<br>– Further development of creating a complex functional programme addressing social needs (the human-building relation, requirements of the user) in compliance with the location and context;<br>– Selection and independent evaluation of appropriate materials and technical, installation, structural and materials-related solutions, building strategies and their economics, the skill of using the physical properties and characteristics of materials, taking into consideration the contemporary eco-friendly and environmentally safe solutions, supporting climate protection, as well as creating a space of internal comfort for users;<br>– Verification and support of the student's ability to think critically, acquire knowledge, skills and competences needed to undertake professional activity, and – potentially – to continue education at a 3rd level study programme. |
| **TECHNOLOGY-RELATED SPECIALIST CONSULTATIONS** | **YEAR 2 sem. 3**<br>*Notes:*<br>– *Course integrated with the course Diploma design (project) – sem. 3*<br>– *Course integrated with the problems and appropriate scope of the course Diploma (project) seminar – sem. 3*<br>– *Course integrated with the course Diploma (project) laboratory – design process illustration – sem. 3*<br>The student, while preparing their diploma project, should be able to have a certain number of specialist consultations in the field directly related to the project topic, in compliance with the applicable study programme curriculum. The consultations may vary in nature. The detailed subject-matter and scope of the consultations are determined by the supervisor, with the stipulation that master's degree diploma projects which deal with solving architectural problems should obtain structural specialist consultations. The consultant may not be the supervisor or the reviewer of the diploma project.<br>The character and subject-matter of the consultations are always adjusted to the topic and scope of the diploma project undertaken by the student. The suggested scope of consultations at the CUT FoA include, inter alia:<br>– Structural consultations<br>– Transit-related consultations<br>– Building systems consultations<br>The scope of the consultations may be extended by the Supervisor, depending on the topic of the project, and subject to agreement of the CUT FoA Dean. |

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| **DIPLOMA (PROJECT) LABORATORY - DESIGN PROCESS ILLUSTRATION** | **YEAR 1 sem. 2**<br>*Notes:*<br>– *Course integrated with the course Diploma design (project) – sem. 3*<br>– *Course integrated with the problems and appropriate scope of the course Diploma (project) seminar – sem. 3*<br>– *Course integrated with the course Technology-related specialist consultations – sem. 3*<br>Topics:<br>Development of competences in interpreting and creating a visual message and perception of space as well as the skill of translating it into a visual representation. Development of the skill to implement and integrate traditional and modern imaging techniques in the design currently in creation. Raising awareness of the need to differentiate the architectural message depending on the recipient: selection of the type of presentation, selection of the presentation convention to make communication of the message for efficient and effective.<br>The character and scope of the laboratory are adjusted to the topic and scope of the diploma project prepared by the student. |

## Teaching methods:

Seminars, multimedia presentations, consultations, project discussions, design practice, test-like projects realised in class under supervision, individual and team work, discussions, defending projects before a board of examiners.

## Methods of learning outcomes verification and evaluation:

Attainment of the required learning outcomes in the categories of knowledge, skills and social competences in the course group **D – Diploma (project)** is verified by evaluation of the knowledge acquired in seminars on scientific work methodology and the skill of its practical implementation in design, as well as by evaluation of the analytical and descriptive work and the design and graphic aspects of the diploma project, evaluation of the student's level of academic and design creativity, the value of the architectural solutions developed by the student and the skill of their public presentation and defence.

## Evaluation criteria:

**The grading scale compliant with the European ECTS system:**

| ECTS grade in the A-F scale | Grade in the 5-2 scale | Requirements |
|---|---|---|

| | | |
|---|---|---|
| **A** | **5.0** | **Very good:**<br>Particularly high (perfect) degree of mastering the required knowledge or/and skills, with no discernible errors or with only small errors or shortcomings, indicating a very high level of proficiency in all aspects of the taught material (transferred range of knowledge). |
| **B** | **4.5** | **Good +:**<br>Above average (high) degree of mastering the required knowledge or/and skills, yet with errors or shortcomings of slight significance, indicating a high level of proficiency in the decisive majority of aspects of the taught material (transferred range of knowledge). |
| **C** | **4.0** | **Good:**<br>Generally good degree of mastering the required knowledge or/and skills, yet with a certain limited number of discernible errors and shortcomings, indicating a good proficiency in the majority of aspects of the taught material (transferred range of knowledge). |
| **D** | **3.5** | **Satisfactory +:**<br>Satisfactory degree of mastering the required knowledge or/and skills, yet with a number of discernible errors and shortcomings, indicating incomplete proficiency in the taught material (transferred range of knowledge). |
| **E** | **3.0** | **Satisfactory:**<br>Minimum necessary degree of mastering the required knowledge or/and skills, with a large number of discernible errors and shortcomings, indicating the minimal proficiency in the taught material (transferred range of knowledge). |
| **F** | **2.0** | **Unsatisfactory:**<br>The degree of mastering the required knowledge or/and skills unacceptable in all respects. Requires further work. |

Approval of the course group syllabus:

…… …….

place, date Dean of the Faculty of Architecture, CUT