



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Architecture Design with BIM

### Course

Field of study

Sustainable Building Engineering

Area of study (specialization)

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Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/V

Profile of study

Course offered in

English

Requirements

### Number of hours

Lecture

15

Laboratory classes

Tutorials

30

Projects/seminars

Other (e.g. online)

### Number of credit points

4

### Lecturers

Responsible for the course/lecturer:

dr hab. inż. arch. Maciej Janowski

Responsible for the course/lecturer:

### Prerequisites

structured and theoretically founded general knowledge covering key issues in the field of architectural design;

- basic knowledge of development trends in architectural design;
- basic knowledge necessary to understand social, economic; legal and non-technical conditions of architectural design;
- obtaining information from literature, databases and other, properly selected sources, also in English, integrating information, aggregating and interpreting it, drawing conclusions as well as formulating and justifying opinions;
- critical functional analysis, evaluation of existing solutions, systems and processes;
- identification and formulation of the specification of practical tasks in the field of architectural design;
- designing facilities on the scale of single and multi-family buildings and office buildings



### **Course objective**

- learning about issues, contemporary trends and trends in architectural design of elements of a sustainable human environment;

- developing the ability to recognize the location potential: analysis of various connections, existing values and environmental conditions in terms of improving their conditions in accordance with the principles of sustainable development
- improving the ability to use tools and techniques of qualitative and quantitative analyzes in design practice, acquiring the ability to acquire functional and metric parameters for designing energy-saving solutions;
- acquisition and training of the ability to construct a functional program of an object with a complex function, training of the ability to integrate the facility and its surroundings;

### **Course-related learning outcomes**

#### Knowledge

- architectural design for the implementation of simple tasks, in particular: facilities that take into account the complex needs of users, single- and multi-family housing, and service facilities;

- principles of universal design, including the idea of designing spaces and buildings accessible to all users, in particular for people with disabilities, in architecture.

#### Skills

- conducting a critical analysis of the conditions, including the valorization of the land development and building conditions;

- integrating information obtained from various sources, making its interpretation and critical analysis.

#### Social competences

- taking responsibility for shaping the natural environment and cultural landscape, including preserving the heritage of the region, country and Europe.

### **Methods for verifying learning outcomes and assessment criteria**

Learning outcomes presented above are verified as follows:

The method of checking the learning outcomes - lecture: final work (essay) in the form of a written statement or in the form of a presentation on a selected issue concerning the design of sustainable public and semi-public space. The correctness and completeness of statements on a given topic are assessed as well as the correct application of the research apparatus. An equivalent form of getting credit is a multiple-choice test consisting of 10 questions in the e-moodle system.

The basis for taking the credit is obtaining a credit for the exercises within the education module.

Summative assessment:

Approved grading scale: 2.0; 3.0; 3.5; 4.0; 4.5; 5.0.



## Programme content

### Teaching methods

Lecture 1. The elements of sustainable city

Lecture 2. The development of forms and the function of hybrid architecture

Lecture 3 Sustainable transformations – from the mall to housing block

Lecture 4 Self made architecture

Lecture 5 Age friendly places and buildings

Lecture 6 Architecture of the future human

Lecture 7 Summary - opportunities and threats of contemporary architecture.

1. Lecture with multimedia presentation with elements of conversation.
2. eLearning Moodle (a system supporting the teaching process and distance learning)
3. Design exercises and consultations on solutions proposed by the student..

### Bibliography

#### Basic

Drexler H., El khouli S. [2012], Holistic Housing. Concepts, Design Strategies and Process, Edition Detail, Munich

Fritz A., Krasny E. [2019], Critical Care. Architecture and Urbanism for a broken Planet, Architekturzentrum Wien, Vienna, The MIT Press, Cambridge, Massachusetts and London

Gehl J. [2013], Życie między budynkami. Użytkowanie przestrzeni publicznych, Wydawnictwo RAM, Kraków

Self Made City [2013], Jovis Verlag, Berlin

Hillebrandt A., Riegler-Floors P., Rosen A., Seggewies J.K. Manual of Recycling. [2019], Buildings as sources of materials, Edition Detail, Munich

#### Additional

Architectural papers and magazines, Poznań University of Technology Scientific Journals, series Architecture and Urban Planning.



**Breakdown of average student's workload**

	Hours	ECTS
Total workload	95	4,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	50	2,0

<sup>1</sup> delete or add other activities as appropriate