



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Fundamentals of Architectural Design with Elements of Universal Design_1 [S1Arch1E>PPAzEPU1]

Course

Field of study
Architecture

Year/Semester
1/1

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
English

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
45

Number of credit points

5,00

Coordinators

dr inż. arch. Agnieszka Ptak-Wojciechowska
agnieszka.ptak-wojciechowska@put.poznan.pl

Lecturers

Prerequisites

1 Knowledge: • the student has basic knowledge of key issues in the history of art, including architecture • the student has basic knowledge of development trends in the field of visual arts and architecture • the student has the basic knowledge necessary to understand the social conditions of the architect's design activity, which has a direct impact on the surrounding space 2 Skills: • the student knows the basic methods, techniques, tools and materials used in solving simple tasks in the field of shaping the architectural composition • the student is able to fluently use freehand drawing techniques necessary in the design process • the student is able to obtain information from literature, databases and other properly selected sources, also in English or another foreign language recognized as the language of international communication; is able to integrate the obtained information, interpret it, draw conclusions and formulate and justify opinions 3 Social competences • the student is able to communicate using various techniques in a professional environment and in other environments • the student is able to prepare, in Polish (and a foreign language), considered to be the basic language for the fields of science and scientific disciplines, a well-documented elaboration of problems related to the studied field of study • the student has the ability to self-study • the student understands the need for lifelong learning; can inspire and organize the learning process of others • the student is aware of the importance of issues undertaken in an entrepreneurial, creative and innovative way • the student is able to interact and work in a group, assuming various functions

Course objective

- presentation of the design process, taking into account the basic tools of the architect's work and the basic issues related to shaping the architectural form and urban space
- presentation of psychophysical relations between man and architecture, and principles of designing in accordance with ergonomics
- presentation of the basic principles of architectural composition
- presentation of the basic principles of urban composition
- getting acquainted with the development of various, often contradictory, trends and trends in contemporary architecture and urban planning, taking into account its beginnings, sources of inspiration, program assumptions and directions of development
- presentation of the continuity and evolutionary nature of changes in architecture
- getting acquainted with the changes in architecture resulting from the development of culture and societies (transition from the industrial society to the information society), which took place in the 20th century and continue in the present time
- sensitizing to the importance of the broadly understood context

Course-related learning outcomes

Knowledge

Student knows and understands:

A.W1. architectural design for the implementation of simple tasks, in particular: simple facilities taking into account the basic needs of users, single- and multi-family housing, service facilities in residential complexes, public facilities in an open landscape or in an urban environment;

A.W4. principles of universal design, including the idea of designing spaces and buildings accessible to all users, in particular for people with disabilities, in architecture, urban planning and spatial planning, and ergonomic principles, including ergonomic parameters necessary to ensure full functionality of the designed space and facilities for all users, especially for people with disabilities

C.W2. determinants of architectural and urban design resulting from human psychophysical capabilities;

Skills

Student can:

A.U1. design an architectural object by creating and transforming space so as to give it new value - in accordance with a given program that takes into account the requirements and needs of all users;

A.U5. think and act creatively, using the workshop skills necessary to maintain and expand the ability to implement artistic concepts in architectural and urban design;

A.U6. integrate information obtained from various sources, formulate their interpretation and critical analysis;

A.U7. communicate using various techniques and tools in a professional environment appropriate for architectural and urban design;

A.U9. implement the principles and guidelines of universal design in architecture, urban planning and spatial planning.

Social competences

Student is capable of:

A.S1. independent thinking to solve simple design problems;

A.S2. taking responsibility for shaping the natural environment and cultural landscape, including the preservation of the heritage of the region, country and Europe.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

I LECTURES:

The series of lectures ends with an exam in the form of a test. The test is conducted remotely. It contains essay questions (the answer requires about 100-120 words) and multiple choice test questions. There are two deadlines for passing. The first credit date is organized at the last lecture, according to the schedule. The second term of passing takes place in the resit session.

II PROJECTS:

Passing the classes consists in presenting the completed project works, in accordance with the scope described in point Program content. The credit is in the form of a review of works and takes place on a date agreed with the teacher, in the last week preceding the session. The final review is preceded by mid-term reviews. Scale of evaluation: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0

Programme content

I LECTURERS:

Origins and principles of ergonomics, human parameters, anthropometry, standards, social distancing. Universal design: definition, principles, examples. Types and principles of performing analyzes and pre-project studies. Form design. Availability of space / accessibility of public facilities. Design strategies for aging societies, new technologies. Pritzker Prize - review.

II PROJECTS:

Presentation of the silhouette of a man in relation to the environment.

Designing the form in a chosen urban context, preceded by a detailed analysis of the context of the development area.

Course topics

I LECTURES:

LECTURE 1. Ergonomics - origins and principles. Human parameters: Vitruvian canon, modulator, golden ratio etc. Anthropometry. Standards. Social distancing.

LECTURE 2. Types and principles of performing analyzes and pre-project studies.

LECTURE 3. Universal design. Definition, principles, examples. Form design.

LECTURE 4. Scope of architectural design.

LECTURE 5. Pritzker Prize - review.

LECTURE 6. Design strategies for aging societies, new technologies.

LECTURE 7. Availability of space / accessibility of public facilities.

LECTURE 8. Final test

II PROJECTS:

TASK NO. 1. ERGONOMICS / HUMAN SILHOUETTE

Present the silhouette of a man in relation to the environment in the selected shot (projection, view). Keep the proportions and scale correct. Compose a minimum of 4 silhouettes on an A3-sized board, dimension the most important parameters of a person and the environment, sign each of the drawings and the board [task for grade]

TASK NO. 2. FORM DESIGN IN A SELECTED CONTEXT

Design an abstract form in a given city space with a function of your choice (seat, shed, acoustic panel, viewing platform, roofing, etc.). Present the task on two 50x70 boards.

Operating range:

1) "Architect Walk"

[make synthetic sketches in the designed space, presenting the characteristic elements and significant compositional values of the environment]

2) Analyzes

[perform an analysis of the area covered by the design on the main map, e.g. analysis of composition, communication, greenery, height and function of buildings, etc.]

3) Concept/seed sketches

4) Land development plan

5) Plan

[make a dimensioned projection on the scale agreed with the tutor]

6) 4 views/elevations

7) 1 section

8) Form in perspective [present the designed form in context using sketches made as part of the "architect's walk"]

9) Urban model (on the scale agreed with the tutor, e.g.: 1:500, 1:200)

10) Architectural model (selected scale: 1:50, 1:20, 1:10)

Teaching methods

1. Lecture with multimedia presentation

2. Discussion

3. Consultations and project presentations

4. eLearning Moodle (system supporting the didactic process and distance learning).

Bibliography

Basic:

1. Ernst Neufert, Podręcznik projektowania architektoniczno-budowlanego, Arkady, Warszawa 1980
2. Marian Fikus, Przestrzeń w autorskich zapisach graficznych, Wydawnictwo Politechniki Poznańskiej, Poznań, 2019
3. Edward Hall, Ukryty wymiar, Muza , Warszawa 2009
4. K.Kowalski, Włącznik. projektowanie bez barier, wydawca Fundacja Integracja. Publikacja do bezpłatnego pobrania na: <http://www.integracja.org/wlacznik/>
5. Rozporządzenie Ministra Infrastruktury w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie
6. Goldsmith S., Universal Design. A Manual of Practical Guidance for Architects, Architectural Press, Oxford, 2000

Additional:

1. Żórawski, J., O budowie formy architektonicznej, Warszawa 1973.

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	60	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	65	2,50