



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Architectural Design of Residential Buildings_1

		Course
Field of study		Year/Semester
Architecture		III / 3
Area of study (specialization)		Profile of study
-		general academic
Level of study		Course offered in
First-cycle studies		English
Form of study		Requirements
full-time		compulsory

		Number of hours
Lecture	Laboratory classes	Other (e.g. online)
0	0	0
Tutorials	Projects/seminars	
0	45	
Number of credit points		
5		

		Lecturers
Responsible for the course/lecturer:		Responsible for the course/lecturer:
dr hab. inż. arch. Ewa pruszewicz-Sipińska, prof. PP		dr inż. arch. Adam Sieniecki
e-mail: ewa.pruszewicz-sipinska@put.poznan.pl		e-mail: adam.sieniecki@put.poznan.pl
Wydział Architektury Politechniki Poznańskiej ul. Jacka Rychlewskiego 2, 61-131 Poznań		Wydział Architektury Politechniki Poznańskiej ul. Jacka Rychlewskiego 2, 61-131 Poznań

Prerequisites
- Student has basic general knowledge of art, architecture and urban planning, - student knows basic methods, techniques, tools and materials used in solving simple engineering tasks in the field of architecture and urban planning, - student has a structured, theoretically grounded general knowledge covering key issues in the field of residential space design, - student has detailed knowledge of technical construction drawing necessary for presentation of architectural concepts, - the student has knowledge about development trends and the most significant new achievements in designing human dwelling environment, - the student has the knowledge necessary to understand the social, economic and legal determinants of human housing design,



- The student is able to proficiently use hand drawing and architectural techniques necessary in the design process, can present a designed solid with chiaroscuro in perspective or axonometry, with the context of place marked;
- The student is able to acquire information from the literature, databases and other properly selected sources, also in Polish, is able to integrate information, interpret it, draw conclusions and formulate and justify opinions,
- The student is able to use information and communication technologies including artistic means appropriate for realization of tasks typical for shaping of architectural composition;
- the student is able to communicate using various techniques in professional and other environments;
- The student is able to prepare in Polish well documented study of design issues related to the design of small and medium types of residential buildings,
- the student has the ability of self-education,
- The student is able to critically analyze how existing solutions, systems, and processes related to the design of single-family residential development function and evaluate them,
- The student is able to identify and formulate the specification of practical tasks in terms of the developed conceptual design of an average single-family house,
- Understanding of the necessity to broaden one's competences, readiness to cooperate within a team as part of a team.
- The student understands the need for lifelong learning, is able to inspire and organize the learning process of learning of others,
- The student is aware of and understands the non-technical aspects and effects of engineering activities, including their impact on the environment and the related responsibility for making decisions,
- The student is able to cooperate and work in a group, taking various roles in it, the student correctly identifies and solves dilemmas related to the correct application of the existing legislation and administrative procedures,
- The student is able to think and act in an entrepreneurial, creative and innovative way in searching for means of expression in preparing architectural concepts and acquiring materials that help in their realization.

Course objective

- presentation of issues related to designing human residential environment of low or medium intensity,
- presentation of types of single family housing,
- development of the ability to analyze of place in the urban planning and architectural scale,
- presentation of typology of detached house,
- application of known functional schemes in different configurations,
- development of the ability to simultaneous designing the views and block of building,
- development of the ability to graphic presentation of architectural conception (views, sections and facades),
- development of the ability to manual drawing giving facilities for solutions differentiation,
- development of the ability to building models (working and target models),



- improving the knowledge and ability to preparation of conceptual drawings (views, sections and facades) based on building knowledge.
- application of theoretical knowledge learned at the lectures "ARCHITECTURAL DESIGN OF RESIDENTIAL OBJECTS 1"

Course-related learning outcomes

Knowledge

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

Skills

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.U4. make a critical analysis of the conditions, including the valorization of the land development and building conditions;

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.U8. prepare architectural and construction documentation in appropriate scales in relation to the conceptual architectural design;

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

Social competences

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:

Important evaluation criteria are:



- Knowledge of the functional assumptions necessary to develop a single-family residential building concept;
- ability to critically perceive and analyze the surroundings of the designed object and to draw conclusions being the basis and one of the guidelines in shaping the architectural form,
- method of shaping the architectural composition based on the principles derived from theoretical studies;
- quality of functional-spatial solutions;
- connection of the functional-spatial system with the built and natural environment,
- quality of shaping the architectural composition,
- quality of technical representation of the spatial composition in the form of flat layouts (plans, sections, views, etc.), axonometric sketches and perspectives,
- way of using basic tools and materials helpful in presentation of achieved solutions of architectural composition,
- functionality, efficiency and profitability of applied technologies, sanitary installations and building materials,
- technical correctness and energy efficiency of the adopted design solutions,
- quality of technical reproduction of the spatial composition in the form of mock-ups,
- quality of the presentation of the design solutions in the form of composed/ designed boards,
- aesthetics and legibility of the design solutions presentation.

Assessments include:

- completeness and coherence of the work in the analytical, design and descriptive parts, graphic quality of the project,
- adopted design and functional-spatial solutions,
- relationship of the designed building with the built and/or natural environment,
- relations between public, semi-private and private space,
- the way of satisfying the psycho-physical and social needs of the resident (house user),
- innovation of formal and functional solutions,
- proper solution of technical issues in the building,
- aesthetics and legibility of the graphic and descriptive part and the model.

Formative Assessment:

- The advancement of design work and technical knowledge are evaluated on an ongoing basis during subsequent exercises in the form specified by the instructor,
- Partial reviews, including individual project tasks, checking the progress of the student's work, presented on the group and in front of other lecturers, joint discussion, brainstorming,
- Verification of knowledge of regulations on the design of single-family houses - Regulation of the Minister of Infrastructure of 12 April 2002 on the technical conditions to be met by buildings and their location (Journal of Laws of 2015, item 1422), as amended (Rozporządzenie Ministra Infrastruktury z dnia 12 kwietnia 2002 r. w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie (Dz. U. z 2015 r. poz. 1422), z późniejszymi zmianami);



- assessment of knowledge and skills affects the semester grade,
- the adopted grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

Summative Assessment:

- Final review, including the final project task, which is a summary of the knowledge and skills acquired in the course of previous projects (tasks), a presentation in the group or at a collective review in the presence of other instructors;
- a condition for passing the course is obtaining positive grades from all reviews,
- The adopted grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

Programme content

The semester exercise includes the implementation of the conceptual design of a single-family residential building based on the guidelines received from the instructor and the information: customer profile, plot, etc.

The exact "Content and Deadline Structure of the Course" is presented at the beginning of the semester and is published on eLearning Moodle (a system for supporting the teaching process and distance learning).

The course are divided into three stages:

- I STAGE OF THE PROJECT - ANALYTICAL AND FUNCTIONAL DEVELOPMENT (HAND MADE OR COMPUTER DRAWINGS): Students make a pre-design study, including a series of analyses, sketch and photographic inventory, analysis of the MPZP / DoWZ provisions, functional program, etc. The stage is performed individually. Materials are presented during the class during a conversation with the instructor in paper or computer form (exercises #1 - #4).
- II STAGE OF THE PROJECT - DEVELOPMENT OF THE CONCEPT (HAND MADE OR COMPUTER DESIGN): This stage is performed individually. The concept should include graphic elaboration (site plan, plans, sections, elevations, working mock-ups) and descriptive elaboration (including technical description, general and characteristic data, etc.). Student presents the materials during the classes during a discussion with the teacher in paper or computer form (exercises #5 - #11).
- III STAGE PROJECT - DEVELOPMENT OF GRAPHIC PRESENTATION OF THE PROJECT: This stage is performed individually. Submits materials in class during a discussion with the instructor in paper or computer form (exercises #12 - #14).
- PROJECT REVIEW AND CREDIT (exercise #15).

Each stage ends with a sub-review. The scope of reviews is defined in "the Content and Deadline Structure of the Course".

Teaching methods



1. Exercises based on the use of various sources of knowledge (film, photographs, archival materials, source texts, documents, statistical yearbooks, maps, Internet, etc.),
2. project method / case study (sample study) - discussing different ways of solving project problems
3. eLearning Moodle (distance learning and teaching support system).

Bibliography

Basic

- Adamczewska-Wejchert H., Kształtowanie zespołów mieszkaniowych, Arkady, Warszawa 1985 + nowe wyd
- Adamczewska-Wejchert H. , Domy atrialne, Arkady, Warszawa
- Basista A., „Betonowe dziedzictwo”
- Berek R., Architektura środowiska mieszkaniowego tworzonego z udziałem środków publicznych (wyd. drugie), Wydawnictwo Politechniki Poznańskiej, Poznań 2009.
- Dąbrowska –Milewska G., Zabudowa mieszkaniowa w kształtowaniu przestrzeni miasta.
- Grandjean Etienne –Ergonomia mieszkania
- Korzeniewski W.(1989) –Budownictwo mieszkaniowe poradnik projektanta, Arkady , Warszawa1989
- Korzeniewski W. (2011) –Projektowanie mieszkań,Wydawnictwo POLCEN, Warszawa 2011
- Korzeniewski W. Warunki techniczne dla budynków i ich usytuowanie-poradnik z komentarzem , (wydanie 8 i późniejsze) PolCen , Warszawa 2009.
- Pallado J., Architektura wielorodzinnych domów dostępnych.
- Rozbicka M., Małe mieszkanie z ogrodem w tle, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2007.
- (red.) Gałęziowski J., Odbudowa polskiego miasteczka, Kraków 1916, reprint Wydawnictwo Górnolesie, Lublin 2007
- Peters P., Rosner R. Małe zespoły mieszkaniowe , Arkady, Warszawa. Włodarczyk J.A. –Życie znaczy mieszkać, PWN, warszawa-Kraków 1997
- ROZPORZĄDZENIE MINISTRA INFRASTRUKTURY z dnia 12 kwietnia 2002r w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie (Dz.U.Nr75,poz.690 z późniejszymi zmianami.)
- Ustawa z dnia 7 lipca 1994 r. Prawo budowlane.
- Rozporządzenie Ministra Infrastruktury z dnia 12 kwietnia 2002 r. w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie.
- Bell Jonathan, 21stCentury House, wyd. Laurence King, Londyn, 2006.
- Chueca Pilar, Today’s city houses, wyd. Structure, Barcelona, 2006.
- Davies Colin, Key houses of the twentieth century, wyd. Laurence King Publishing, Londyn, 2006.
- Melhuish Clare, Modern house 2, wyd. Phaidon, Londyn, 2000.
- Neufert E., Podręcznik projektowania architektoniczno-budowlanego, Arkady, Warszawa 1980 + nowe wydania



Additional

- Ghel J., Życie między budynkami. Użytkowanie przestrzeni publicznych, Wydawnictwo RAM, Kraków 2009.
- Neufert E., Podręcznik projektowania architektoniczno-budowlanego, Arkady, Warszawa 1980 + nowe wydania.
- Wječert K., Elementy kompozycji urbanistycznej, Arkady, Warszawa.
- Żórawski J., O budowie formy architektonicznej, Arkady, Warszawa 1962.
- Rasmunssen S.E., Odczuwanie architektury, Wyd. Murator, Warszawa 1999.
- Periodyki: Czasopisma architektoniczne, urbanistyczne, zeszyty Naukowe Politechniki Poznańskiej, seria Architektura i Urbanistyka , itp.
- Renomowane pisma architektoniczne (krajowe i zagraniczne).
- Giedion Siegfried, Przestrzeń, czas, architektura. Narodziny nowej tradycji, tłum. J. Olkiewicz, PWN, Warszawa, 1968.
- Jencks Charles, Architektura postmodernistyczna. tłum. B. Gadomska, Arkady, Warszawa, 1987.
- Riley Terrence, The Un-Private House, The Museum of Modern Art, Nowy York, 1999.

Breakdown of average student's workload

	Hours	ECTS
Total workload	150	5,0
Classes requiring direct contact with the teacher	45	1,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	105	3,5

¹ delete or add other activities as appropriate