AKADEMIA TECHNICZNO - ARTYSTYCZNA NAUK STOSOWANYCH W WARSZAWIE

UNIVERSITY OF TECHNOLOGY AND ARTS IN APPLIED SCIENCES IN WARSAW

THE LIST OF COURSES 2025/2026

Akademia Techniczno-Artystyczna Nauk Stosowanych w Warszawie

No	NAME OF THE COURSE	ECTS
	WINTER SEMESTER	
AW1	**ARCHITECTURAL DESIGN 1 - housing design**	**3**
	Acquiring the skill of preparing a concept design of a single-family building; the skill of composing the building into the existing urban context. Acquiring knowledge in the scope of function, engineering aspects and shaping the architectural forms of the above mentioned buildings.	
AW2	**URBAN DESIGN - housing and service complex / intermediate project 2**	**5**
	Acquiring the ability to build the composition of an urban layout with a residential and commercial function designed in relation to the existing development, taking into account the multiple conditions of development of the area and its immediate vicinity.	
AW3	**CONTEMPORARY ARCHITECTURE**	**1**
	Paying attention to different features of architecture depending on the function. Discussion about chosen works of contemporary architecture, presentation of different types of buildings and indicating analogies and differences in solving their situation as well as their functional and spatial type.	
AW4	**PHYSICS OF STRUCTURES**	**2**
	The aim of the course is to teach physical grounds for heat penetration and mass through wall barriers and basics of building acoustics to students and teaching design of buildings and wall barriers ensuring comfort to their residents and moderate heating and cooling cost.	
AW5	**STRENGTH OF MATERIALS**	**2**
	Conditions of equilibrium. Concepts and terms in the field of strength of materials. Straight bars subjected to axial forces. Calculations of flat trusses. Analysis of rod bending. Analysis of the rod twisted. Criterion of material failure. Fatigue. Stress concentration. The loss of stability. Numerical methods used in the analysis of tensile structures.	
AW6	**HISTORY OF ART.**	**3**
	Knowledge of history of art from prehistoric to modern age in the perspective of facts and historic, religious and social events. Knowledge of epochs, styles of art and transformations in art. Knowledge of objects and masterpieces. Knowledge of artists.	
AW7	**AUDITING and THERMOMODERNISATION**	**3**
	The main objective of the course is to master students' conceptual and detailed design skills in the field of architecture and structure of energy-efficient buildings and in the use of the best available construction, material and installation technologies that have a significant impact on energy performance, taking into account environmental and economic aspects.	
AW8	**COMPUTER AIDED ARCHITECTURAL DESIGN - housing development**	**5**
	Design assumptions and locational and legal conditions relating to the designed building and its property. General regulations and principles of design of multi-family buildings. Analysis of locational and spatial conditions of the project area and its surroundings. Analysis of selected examples of world architecture in terms of design solutions of multi-family buildings as potential design inspirations. Shaping the architectural form of the object (mass, elevations), solving the functional-spatial and structural layout (drawings 1:100, 1:200). Development of original construction details (drawing 1:5, 1:10 - 1:20). Design of land development (drawing 1:500).	

No	NAME OF THE COURSE	ECTS
AW9	DRAWING AND PAINTING 3	3
Principles of art composition, ways of drawing objects from nature, ways of perspective drawing of architectural objects. Exercises in perspective drawing - solids drawn theoretically, exercises in perspective drawing - solids drawn from nature. Exercises in drawing real objects - still lifes, drawings of selected architectural objects - historic arch. and modern arch. Painting exercises - the principle of the color wheel, still lifes, compositions. Architectural details. Painting expression of moods, times of day, auras, atmospheres created by different types of buildings. Ways of drawing nature, outdoor activities.		
AW10	ECONOMICS OF THE INVESTMENT PROCESS	1
Basic information on economics. Strategy and competition. Sustainable development strategy in investing on the example of a large and small city in Poland - advantages and disadvantages of studies. Marketing in the investment process and the work of the architect. Economic criteria for investment design. Financial short course, balance sheet and income statement. Bank in the investment process. Analysis of economic efficiency, economic consequences of investment decisions. Business plan - making a study of the feasibility of investment. Strategy in business. Economics of the environment and natural resources.		
AW11	BASICS OF GRAPHIC DESIGN	5
To prepare assured, creative design work by developing; 1) a strong and substantial foundation of knowledge, 2) a fundamental proficiency in the use of essential design tools and instruments such as shape, composition, colour, typography, photography and illustration as well as graphic symbols and icons. To foster and promote individual talent and to master techniques of creative self-development. To cultivate teamwork skills, with a partner and within a group context.		
AW12	BASICS OF FURNITURE DESIGN	2
Introduction to the process of designing a piece of furniture, to familiarize students with materials, connection technologies used in furniture making, ergonomics and ways of preparing documentation in order to stimulate students to creative exploration in solving design problems and to consciously use the above-mentioned resources in the creation and implementation of their own ideas in the field of furniture design. Introduction to the process of designing a piece of furniture, learning about the properties, use and processing of wood in furniture making, the use of carpentry joints, mastering the principles of preparing presentation and design documentation based on the standard for technical furniture drawing.		
AW13	BASICS OF INTERIOR DESIGN	3
Paying attention to the basic aspect of the interior as a spatial composition, which is built by lines, planes, solids. The ability to create space to the exclusion of "thinking with furniture", Creation of functions as "carpentry development". An individual approach to each of life's functions realizes the need for the formation of unique, exceptional forms in the interior. The next three semester assignments implement the study of the composition of space based on: demand or function, construction, and color and material combinations. Semester III class topic: "A house on a worker's plot in Canadian frame construction".		
AW14	STATICS	1
The main objective of the course is to obtain knowledge of the basics of statics. Scalars and vectors. Systems of forces. Principles of statics. Static moment. Centers of gravity. Conditions of equilibrium. Actions on structures. Static diagrams of bar systems. Geometrical characteristics of plane figures.		
AW15	SCULPTURE AND MODELLING	2
Introducing students to the broad fundamentals of shaping composition and sculpting form in space. Tasks concerning planes, solids, forms and space: light and heavy form, static and dynamic form, open and closed form, spatialising a plane, transforming a plane into a solid, analytical and synthetic form, shape contrast, size contrast.		

No	NAME OF THE COURSE	ECTS
AW16	COMPUTER MODELLING	3
Introduction to BIM (Building information Modelling). BIM model as an information database. Branch 3D model: architecture, construction, installations. User interface. Working with models. Modification of views and graphics. Correct principles of creating a 3D model. Analytical model.Generation of 2D documentation. Creation of statements of materials and products.		
AW17	CONSTRUCTION LAW	2
Introduction to the set of rights directly related to construction investments. Demonstrating that they have an impact in each investment phase.		
AW18	BASICS OF URBAN PLANNING	2
Paying attention to the rules of composition of an urban space as a cultural landscape and functional-spatial unit, in relation to the history of town construction, urban theories, law regulations, changing technologies and methods of perception of space by their receivers.		
AW19	URBAN DESIGN - INTRODUCTION TO URBAN DESIGN	3
Relations between existing elements of spatial management in an urban environment and designed objects and areas. General rules concerning spatial planning and management. Big scale analyses and studies concerning spatial, cultural, natural, social and planning context. Shaping large urban complexes subject to agreed rules of composition. Solving systems subject to cubature together with accompanying elements: communication, greenery, public spaces.		
AW20	COMPUTER GRAPHICS 1	2
The aim of the course is to familiarise students with the possibilities of drawing basic elements in ArchiCAD14, and to acquire the ability to develop and generate technical documentation of a simple detached building (floor plans, elevation views and sections).		
AW21	METAL STRUCTURES 1	3
The aim of the course is to acquire knowledge in the shaping and dimensioning of metal structural components. To acquire the ability to rationally assess the stress states of the designed steel structure.		
AW22	WOODEN STRUCTURES	3
The course aims to present the theoretical fundamentals of wood and wood-based materials as construction materials and the selection and formation of wooden structures from them. Introduction to wooden structural elements in buildings and technologies of constructing prefabricated wooden buildings.		
AW23	REGIONAL PLANNING	1
Acquisition of basic knowledge on the basics of planning documents in the field of regional planning (at the regional level) and the ability to diagnose the state of development of an area and to determine the development directions of its main structural elements (at the regional scale).		
AW24	RURAL DESIGN	2
Acquisition of the ability to carry out conceptual designs: development of an existing extensive rural ensemble, divided into residential and agricultural service areas. Acquisition of knowledge regarding the formation of rural complexes with different functions and programmes.		

No	NAME OF THE COURSE	ECTS
AW25	**INTERIM PAPER 1,2,3 - architetural design**	**3**
Acquisition of skills to carry out a conceptual design of a multi-family building with a service area and the ability to integrate this building into the existing urban context. Acquiring knowledge of the functions, engineering aspects and form design of multi-family residential buildings.		
AW26	**INTERIM PAPER 1,2,3 - urban design**	**3**
Acquisition of skills in the execution of conceptual designs: a multi-family residential complex, a service complex and a local plan for selected urban areas. Acquiring knowledge in the field of shaping urban complexes with diversified functions and programmes.		
AW27	**INTERIOR RESTORATION**	2
Outdoor lectures in an interactive format. Familirising students with the principles of conservation of historic interiors and architectural spaces.		
AW28	**ORGANISATION OF INVESTMENT PROCESS**	2
Familiarising students with the basic knowledge of economics and the economics of the construction process and their impact on the broader conduct and organisation of the construction investment process.		
OW1	**ENGLISH LANGUAGE COURSE 1,3**	**2**
Obtaining knowledge of English language at B2 language proficiency level according to the Common European Framework of Reference for Languages, as well as developing competencies of using specialized language and the terminology related to the field of study.		
OW2	**POLISH LANGUAGE COURSE 1,3**	**2**
Obtaining knowledge of Polish language at B1 language proficiency level according to the Common European Framework of Reference for Languages, as well as developing competencies of using specialized language and the terminology related to the field of study.		

No	NAME OF THE COURSE	ECTS
	SUMMER SEMESTER	
AS1	**ARCHITECTURAL DESIGN 2 - public services architecture**	**3**
Acquiring the skill of preparing a concept design of a single-family building; the skill of composing the building into the existing urban context. Acquiring knowledge in the scope of function, engineering aspects and shaping the architectural forms of the above mentioned buildings.		
AS2	**ARCHITECTURAL DESIGN 4 (CAD) - modernisation of buildings**	**4**
Familiarising students with working on an existing object with its own history and technical conditions. The students are supposed to perform the functional object inventory and suggest their own ideas for its function or adjust the object to the functions indicated by the lecturer.		
AS3	**INTERIOR DESIGN 1**	**2**
General aspects of interior design: the human being as the reference point, architectural facility, flat ergonomics, lighting, manner of perceiving the reality, natural interiors, living space. Improvement of the designer's skill in simple interior designs.		
AS4	**INTERIM PAPER - URBAN DESIGN 2**	**3**
Acquiring the skills to create conceptual designs of: multi-family housing estates, retail facilities and local spatial development plans for selected urban regions. Learning how to shape urban estates with diverse functions and programmes.		
AS5	**UNCONVENTIONAL ENERGY SOURCES**	**3**
Classification and general characteristics of energy sources - conventional, renewable and unconventional - in terms of resources and impact on the natural environment. Characteristics of primary sources of renewable energy. Direct and indirect ways of using energy for energy purposes and the possibilities of their application in construction. Heat pumps. Techniques and technologies for the use of energy: wind, water, solar and geothermal. Use of forest and agricultural biomass for energy purposes. Biofuels and bioliquids. Hydrogen as a fuel. Fuel cells. Energy storage. Economic aspects of the use of unconventional energy sources in construction. Current directions of applications of unconventional energy.		
AS6	**MECHANICS OF STRUCTURES**	**2**
Knowledge of shaping structures and construction systems considering the engineering aspects. Acquiring ability to draw static diagrams of construction and calculation.		
AS7	**BUILDING INSTALLATIONS**	**2**
Mastering the basics of building and designing building installations that significantly affect the comfort of use and the safety of room operation. Teaching the basics of rational operation of building installations. Water supply, water intakes. Pumping pressure tank. Principles of hydraulic calculations. Construction of internal water and sewage systems. Theoretical basis of ventilation and air conditioning. Calculation of the factors that cause changes in indoor air. Air distribution in ventilated.		

No	NAME OF THE COURSE	ECTS
AS8	URBAN DESIGN - revitalization of urban complex/intermediate project 1	4

Creation of an information base on the current state of spatial development of the area, taking into account spatial, technical cultural, natural and legal aspects. Diagnosing functional-spatial and programmatic problems. Building a concept based on the defined scope of revitalization activities with the use of appropriate indicators and urban design standards. Conceptual design on a scale of 1:1000, diagrams illustrating the adopted concept (communication, functional, public spaces and greenery). Urban detail- first floor design of a selected part of the complex of planned buildings and its immediate surroundings scale 1:500, visualizations.

AS9	THEORY OF URBAN DESIGN AND RURAL PLANING 1	1

Principles of designing fragments of cities, including residential complexes and service centers as functional-spatial complexes, taking into account the history of urban development, urban planning theories, the latest technologies and legislation.

AS10	CITY PLANNING	2

Principles and methods of preparing a local spatial development plan and the manner of conducting the formal and legal procedure for preparing a draft local plan.

AS11	ARCHITECTURAL DESIGN 6 (CAD) - work place	5

Design assumptions and locational and legal considerations relating to the designed building and its plot. General regulations and rules for the design of buildings containing workplaces as a primary zone. Analysis of the locational and spatial conditions of the project site and its surroundings.
Analysis of selected examples of world architecture in terms of design solutions of buildings intended for workplaces as potential design inspirations. Shaping the architectural form of the object (mass, elevations), solving the functional-spatial and structural layout (drawings 1:100, 1:200). Development of author's construction details (drawing 1:5, 1:10 - 1:20). Design of land development (drawing 1:500).

AS12	VISUALISATIONS 3D 2	2

Introduction to the universe of 3D graphics. We use 3DS MAX (Autodesk) software for interior design and 3D modeling, and cover the most important issues related to the principles of creating professional architectural visualizations, as well as techniques for modeling, texturing, lighting and rendering objects and entire three-dimensional scenes. Making your own visualization project according to specific formal requirements.

AS13	BASICS OF FURNITURE DESIGN IV	3

Introduction to the furniture design process. Acquaintance with materials using in furniture, their characteristics, ways of treatments, and basic wood construction connectors. Acquaintance with the principles of project documentation based on norms related to the technical furniture drawing.

AS14	CONSERVATION AND REVALORISATION OF HISTORIC GARDEN AND PARK PROJECTS	3

Essential knowledge of theory and practical aspects of revalorisation methodology. Acquaintance with the principles and creation of historical garden project in practice. The knowledge of the historic assumptions, the need to preserve, revalorise and conserve them. The methodology of proceeding in the revalorisation of historic garden assumptions.

AS15	URBAN DESIGN - INTRODUCTION TO URBAN DESIGN 2	2

Relations between existing elements of spatial management in an urban environment and designed objects and areas. General rules concerning spatial planning and management. Big scale analyses and studies concerning spatial, cultural, natural, social and planning context. Shaping large urban complexes subject to agreed rules of composition. Solving systems subject to cubature together with accompanying elements: communication, greenery, public spaces.

No	NAME OF THE COURSE	ECTS
AS16	BASICS OF LANDSCAPE SITE CONSTRUCTION	2
1. Tasks and responsibilities of persons responsible for the course of construction of a landscaping facility. Documentation of the implementation process. 2. Development of a landscaping operation for a landscaping facility. 3. Arranging selected functional and spatial elements, paving of pathways, water bodies, and irrigation systems in landscaping facilities. 4. Landscaping of vegetation in diverse habitat conditions.		
AS17	TECHNICAL URBAN INFRASTRUCTURE	2
Gaining knowledge of the basics of layout and design of the main components and networks of the city's technical infrastructure.		
AS18	HERITAGE PROTECTION AND CULTURAL STUDIES	2
The aim of the course is to introduce students of architecture and urban planning to the issue of heritage conservation in the context of multicultural social structure and history and to link the issues of heritage conservation with contemporary architectural and urban planning design.		
AS19	SPECIALISED DESIGN - TRANSFORMATION OF AREAS WITH SPECIFIC LOCAL CONDITIONS	3
Acquisition of skills in the execution of conceptual designs: a multi-family residential complex, a service complex and a local plan for selected urban areas. Acquiring knowledge in the field of shaping urban complexes with diversified functions and programmes.		
AS20	COMPUTER AIDED URBAN DESIGN - Local plan / Intermediate project	5
Acquisition of the ability to produce a draft local plan for a section of a city using computer programmes used in urban planning with particular emphasis on ArcGIS programmes. Acquiring knowledge of creating a multilayer database for the project using ArcView. Acquired knowledge of the procedure for drawing up a local plan.		
AS21	INTERIM PAPER - architectural design 2	3
Acquiring the ability to carry out a conceptual design for a multi-family building with a service area and the ability to integrate this building into an existing urban context. Acquiring knowledge of the functions, engineering aspects and form design of multi-family residential buildings.		
AS22	PROTECTION OF INTELLECTUAL PROPERTY	1
The overall objective is to provide students with practical knowledge of intellectual property law, in particular copyright and related rights, and industrial property law in Poland, against the background of Community and international law. Familirising students with the most important issues of intellectual property law with particular emphasis on practical aspects.		
AS23	CONCRETE STRUCTURES	2
Basic knowledge of the mechanical properties and interaction of concrete and steel in reinforced concrete structures, the design of reinforced concrete structures, the principles of reinforcement dimensioning and the design of structural elements (slabs, beams, columns).		
AS24	OLIMPIC ARCHITECTURE	3
Aim of the subject is to familiarise students with a design work on multi-function, large-size objects designed for contemporary use for sports needs.		

No	NAME OF THE COURSE	ECTS
OS1	ENGLISH LANGUAGE COURSE 2	2
Obtaining knowledge of English language at B2 language proficiency level according to the Common European Framework of Reference for Languages, as well as developing competencies of using specialized language and the terminology related to the field of study.		
OS2	POLISH LANGUAGE COURSE 2	2
Obtaining knowledge of Polish language at B1 language proficiency level according to the Common European Framework of Reference for Languages, as well as developing competencies of using specialized language and the terminology related to the field of study.		