WYŻSZA SZKOŁA EKOLOGII I ZARZĄDZANIA W WARSZAWIE

UNIVERSITY OF ECOLOGY AND MANAGEMENT IN WARSAW

THE LIST OF COURSES 2023/2024

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	**ARCHITECTURAL DESIGN (II) - complex function utility buildings and sites**	**7**
A design of a selected public utility facility with complex (office and retail, accommodation and housing, etc.) functions.		
AW3	**ARCHITECTURAL DESIGN (II) - large size and span objects**	**7**
A design of a selected large size building with a complex structure (stadium, sports hall, show hall, trade hall, exhibition hall, etc.).		
AW4	**INTERMEDIATE PROJECT 2 - URBAN DESIGN**	**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.		
AW5	**URBAN DESIGN (II) - development of urban degraded areas**	**3**
Acquiring the skill of spatial development of urban degraded areas as an instrument for the area structure enrichment.		
AW6	**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.		
AW7	**THEORY OF ARCHITECTURE 1**	**1**
Introduction to the basic issues of architectural theory and practice. Learning the basic rules of designing. Creating forms and solving functions as the basic skill of an architect.		
AW8	**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.		
AW9	**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.		
AW10	**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.		
AW11	**AUDITING and THERMOMODERNISATION**	**3**

No	NAME OF THE COURSE	ECTS
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.		
AW12	**ARCHITECTURAL DETAIL II**	**2**
Teaching the students to consider the details and be aware that details are an important building structure component constituting the basic structural unit of spatial development. Improvement of the skills in performing the design of selected architectural details (2-4 details) related to the semester project.		
AW13	**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).		
AW14	**DRAWING AND PAINTING 1**	**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.		
AW15	**METAL CONSTRUCTION**	**3**
Basic characteristics of metal structures. Mechanical properties of steel. Types and varieties of construction steels. Metallurgical products used in construction. Fundamentals of dimensioning of steel structures. Methods of dimensioning. Loads. Limit states. Classification of sections of structural elements and local stability. Welded connections. Riveted and bolted connections.		
AW16	**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.		
AW17	**COMPUTER LABORATORY**	**3**
Acquiring the skills of professional design of utility models. Creation, edition, analysis, documentation and render. In particular, students learn to design parametrically, to draw quickly, to build ergonomic objects with streamlined surfaces, to draft projects for 3D printing, to design realistic visualization for marketing purposes, and to prepare design documentation.		
AW18	**VISUAL INFORMATION DESIGN**	**3**
Formulation and improvement of artistic skills and knowledge. Preparation for independent expression within the framework of the widely understood graphic design. Learning to use various graphic techniques, from photography through graphic techniques, typography to media technologies (computer programs). Deepening knowledge and imagination of systems of meanings and symbols in the education of visual communication.		
AW19	**GRAPHIC DESIGN BASICS**	**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.		

No	NAME OF THE COURSE	ECTS
AW20	**SOCIAL DESIGN**	**3**
Introduction to the cultural, social, and economic contexts of designer profession. The analysis of needs and attempts to solve observed problems for example in the areas of education, health, environmental protection, and exclusion. Visualisation and presentation of formulated project proposals.		
AW21	**PRESENTATION DRAWING**	**3**
Acquiring theory and practical skills essential for the use of drawing as a design support tool, means of project presentation and technical, advertising illustration purposes. The visual message creation. Knowledge of the most important issues in the area of presentation drawing (prospective drawing, projections, construction of shadows and reflections, page composition, material presentation, human scale sketching, digital processing of handwritten drawings etc.)		
AW22	**FURNITURE DESIGN BASICS**	**3**
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.		
AW23	**EFFECTIVE COMMUNICATION AND PORTFOLIO (II)**	**2**
Introduction to the art of self-presentation and personal brand building. Verbal and non-verbal signals. The discovery and creation of own history. Acquiring the ability to create a portfolio.		
AW24	**INTERIOR DESIGN BASICS**	**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".		
AW25	**ARCHITECTURAL DESIGN FOR INTERIOR ARCHITECTURE**	**2**
Acquiring the skill of preparing an object by taking into account means and factors such as shape, material, colour, light, time, and conditions like objectives, natural and cultural contexts and construction technology. Acquiring the skill of formation of architecturally inscribed form into the surrounding in connection with functions, structures, and construction details.		

No	NAME OF THE COURSE	ECTS
AW26	BASICS OF EXHIBITION DESIGN 1	3
Preparing for independent creative and professional design activities in terms of trade and problem exhibitions. Basic structure of the design process. Function and form of design art work.		
AW27	VISUALISATION 3D 1	2
The class is designed to introduce students 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. Performing practical tasks during class.		
AW28	PACKAGING DESIGN	4
The aim of the course is to make students familiar with a process of creating a brand with special attention to be paid to a role of packaging in this process and with market changes as the background phenomena. Students gain the practical knowledge how to design and create a packaging.		
AW29	PACKAGING TECHNOLOGY	3
The aim of the course is to enable the students to get the fundamental knowledge about the materials used in a packaging industry and the requirements connected with their production, bringing onto the market, utilization and disposal. Fundamentals of packaging industry and printing techniques.		
OW1	ENGLISH LANGUAGE COURSE	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	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	**ARCHITECTURAL DESIGN 8 (CAD) - public utility buildings**	**4**
Acquiring the skills within the technology of the future building and combining that technology with its attractive body design. The additional target comprises teaching the students how to use the state-of-art tools of CAD as well as practical use of CADs in design.		
AS4	**ARCHITECTURAL DESIGN (II) - modernisation of architectural facilities**	**5**
Analysis of location conditions, conceptual drawings, architectural and conceptual design of a building, e.g. a selected historical mansion block in Warsaw.		
AS5	**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.		
AS6	**INTERIM PAPER - URBAN DESIGN 2**	**4**
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.		
AS7	**THEORY OF ARCHITECTURE 2**	**1**
Introduction to the basic issues of architectural theory and practice. Learning the basic rules of designing. Creating forms and solving functions as the basic skill of an architect.		
AS8	**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.		

No	NAME OF THE COURSE	ECTS
AS9	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.		
AS10	ERGONOMICS	2
Acquiring knowledge of ergonomics and ways of applying them in the process of creation of the new product and demonstrating importance of the ergonomics as a factor having an influence on achieving an innovative product with desirable high quality.		
AS11	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.		
AS12	REGIONAL PLANNING	1
Acquiring general knowledge of basic planning documents related to regional planning (at the regional level) and ability to diagnose a development condition of the area and define directions of development of its main structural elements (in the regional scale).		
AS13	COMPUTER MODELING	3
Introduction to BIM. The BIM model as an information database. Branch 3D models: architecture, construction, installations. User interface. Working with models. Modifying views and graphics. Correct principles of creating a 3D model. Analytical model. 2D documentation generation. Preparing list of materials and products. Design of a simple building object.		

No	NAME OF THE COURSE	ECTS
AS14	**URBAN DESIGN - INTERMEDIATE PROJECT 1**	**4**
Relationships between existing land use elements in the urban environment and proposed facilities and areas. General planning and zoning regulations.Multi-scale analyses and studies of the spatial, cultural, natural, social and planning context. Formation of large urban complexes based on the accepted principles of composition. Solution of layouts in cubic terms with accompanying elements: communication, greenery, public spaces		
AS15	**ARCHITEKTURE IN POLAND**	**2**
The origins of Polish architecture. Romanesque style in Poland and European early medieval architecture. Differences and similarities in the Gothic architecture of Poland and Europe. Whether architecture outside Italy was Renaissance: Florence-Rome-Cracow. Northern Mannerism against the background of architecture of the 16th century. Architecture of the Counter-Reformation - Jesuit churches. Features of Baroque architecture on selected examples. Residences "apollonian" . Residence interiors - symbolic space - functional space - ceremonial space. Rococo versus classicism. Costumes of architecture of the "age of history". Functionalism in architecture as a convention. Architecture of the 20th century.		
AS16	**THEORY OF URBAN AND RURAL PLANING**	**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.		
AS17	**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		
AS18	**GENERAL MECHANICS**	**4**
STATICS: Basic concepts of mechanics. Principles of statics. KINEMATICS: Position, velocity and acceleration of a point in a rectangular coordinate system. Rectilinear, harmonic straight and curvilinear motion. DYNAMICS: Free and non-free motion of a material point depending on the type of forcing forces. Principles of motion for a material point. Free and forced, undamped and damped vibrations with one degree of freedom.		
AS19	**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).		
AS20	**VISUAL INFORMATION DESIGN**	**3**
To develop and deepen artistic skills and knowledge. Preparation for independent expression within the framework of the widely understood graphic design. Learning to use various graphic techniques, from photography through graphic techniques, typography to media technologies (computer programs). Deepening knowledge and imagination of systems of meanings and symbols in the education of visual communication.		
AS21	**ADVERTISEMENT DESIGN**	**3**
Building the assumptions of marketing communications, completing the creative brief, acquiring the ability to create and create the brand, trying to implement advertising campaigns in accordance with the principles of clarity of the message		
AS22	**VISUALISATIONS 3D 2**	**2**

No	NAME OF THE COURSE	ECTS
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		
AS23	**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.		
AS24	**BASICS OF EXHIBITION DESIGN 2**	**3**
Preparing for independent creative and professional design activities in terms of trade and problem exhibitions. Basic structure of the design process. Function and form of design art work.		
AS25	**CONSERVATION AND REVALORISATION OF HISTORIC GARDEN AND PARK PROJECTS**	**2**
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.		
AS26	**DRAWING AND PAINTING 2**	**5**
Painting exercises on the juxtaposition of colors, composition, light - still life painting studies. Acquiring the ability to juxtapose colors and compose the plane.		
OS1	**ENGLISH LANGUAGE COURSE**	**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**
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.		