





Conditions of Communes Development Strategy	<p>LECTURE: 1. Local development: definition, factors, dimensions. Legal basis of integrated strategic planning. What is a development strategy? Why do local governments need a strategy - system thinking. 2. Project strategy. Stages of constructing a development strategy. Critical aspects of the organization of work on the strategy. The main methodological approaches to creating a strategy. Diagnosis: definition, types, functions, data sources, research methods. The issues and scope of analyzes in the strategic diagnosis. Principles of constructing a strategy. 3. Internal conditions of development. Definition and types of resources. Sustainable development indicators. Local development plans. Ecosystem services. Challenges and problems of housing policy - the role of local government. Clusters, the part of local government. 4. External conditions for development. International, community, national, and regional strategic documents; Relationships of strategic and planning documents. Foresight, megatrends and their impact on local development. 5. The paradigm of sustainable development and its implementation in Poland. Institutional mechanism supporting the implementation of sustainable development in Poland. United Nations Global Sustainable Development Goals. Implementation and status of implementation of global goals of the Development of Development in Poland. Contemporary HR challenges in Poland 6. SWOT analysis, problem tree, system mapping. 7. Competitiveness - instruments and financing of development. Dimensions and factors of the self-government unit competitiveness. Mechanisms and tools for building competitiveness.</p> <p>EXERCISES: Task 1. Plan and organization of work. Development of a work plan in the form of a Pert chart, along with assigning tasks to individual team members. Development of a work schedule in the form of a Gantt chart. Task 2. Diagnosis of internal conditions - index, cartographic descriptive analysis Task 3. Diagnosis of external conditions - PESTER method Task 4. SWOT-TOWS Exercise 5. Problem tree and cause-and-effect diagram mapping Task 6. Assessment of the coherence of the commune's development strategy with its spatial policy. The classes have been prepared and will be conducted using innovative and creative forms of education, including tutoring and teamwork training.</p>
Rural Areas Development 1	<p>Lecture: Directions of rural development in Poland in the light of sustainable economic development. The concept of sustainable development of rural areas, factors influencing sustainable development. Development of rural areas in the post-war period and the results of the latest statistical research related to changes in rural areas. Tasks of government and local government administration in shaping and development of rural areas. Data sources - geodetic databases, digital maps - used for the needs of selected rural development activities. Variability and development of functions of rural areas as a consequence of economic and urbanization processes. Positive and negative impact of particular functions on rural areas. Functions of rural areas, characteristics of basic functions. Problem areas of rural areas. Development strategies. Instruments supporting the development of rural areas. The idea of Smart Villages. Development of villages and rural areas in EU legislation. Act on shaping the agricultural system. Strategic Plan for the Common Agricultural Policy.</p> <p>The design exercises: Students perform three short design exercises in which they examine the spatial conditions, mainly soil, and indicate the possibilities for the development of various functions in rural areas. The area of research is registration precincts located in different parts of the Mazowieckie Voivodeship, which allows students to familiarize themselves with the various needs and problems related to the development of these areas. Students work in project teams of 3-4, gaining the ability to work in a team. The exercises consist of: 1. Analysis of the soil conditions of the selected area from the point of view of spatial planning on the basis of a soil quality map in the scale of 1: 5000. 2. Analysis of the conditions and directions of land development in terms of planning and determining the directions of development of various functions based on cartographic materials and descriptive soil - agricultural maps 3. Preparation of a preliminary design for the development of the habitat plot.</p>
Geodetic and Cartographic Resources	<p>General provisions of the Surveying and cartographic law. Surveying and cartographic services. Surveying and cartographic works. Land and building register. Surveying registers of infrastructure networks. National surveying and cartographic resources. Professional entitlements and disciplinary responsibility. Register of municipalities, streets, and addresses. Penal provisions and fines. Fees for surveying and cartographic activities. Technical standards of performing site and height measurements, and processing and reporting results of such measurements to the national surveying and cartographic resources.</p>
Revitalization project	<p>Framework program: 1. Selection of a research area - introduction and getting to know the subject. 2. Diagnosis of the research area. 3. Field research for the identification of residents b. Survey on the needs of residents c. Inventory and analysis of the research area - Inventory of the current state of development; - Analysis of planning documents; - Analysis of related strategic documents; - Analysis of the area's connections including: environment, demographic, functional and spatial analysis, service availability, transport accessibility, analysis of spatial conflicts, etc. 3. Research of the literature in terms of the identification of revitalization solutions used in areas of similar specificity - theoretical study. Identification of 'good practices' of the most important elements and activities related to the selected type of area to be transformed. 4. Revitalization project. 5. Presentation of solutions. 6. The Oxford debate. The classes have been prepared and will be conducted with the use of innovative and creative forms of education.</p>
Spatial Planning (Planning Project)	<p>DESIGN EXERCISES: Preparation of a draft drawing of a local spatial development plan for a selected area of a city or commune, along with the text of detailed arrangements for selected areas, with the use of applicable standards and legal provisions used in spatial planning.</p>
Spatial Analyses and Modelling	<p>LECTURE: Spatial analysis and modeling - introduction and review of basic terms and definitions. The adopted data model (raster, vector), and the specificity and scope of analyzes, topological data model. Overview of the basic types of analytical operations, operators and functions of spatial analyzes in the raster and vector environment. Multi-criteria analyzes; definition of the problem and determination of the purpose of the analysis, definition of decision criteria and selection of the analysis method, correct identification of the input data, evaluation and normalization of the response (images) to the criteria, weighting, combining the responses to the criteria. Methodology of solving tasks in the field of land suitability analyzes for a specific activity, investment. Comparative analyzes. Development and presentation of analysis results. Overview of practical applications in the field of land suitability analyzes. Designing optimal connections on the ground surface: cost weighted distance, relative and cumulative cost areas. Introduction to analyzes using MMT and NMPT data, examples. Introduction to network analysis, applications. Landscape analysis, study of changes, methods of analysis of temporal changes. Development of the concepts: model, modeling, modeling in the GIS environment, modeling methodology, generation of various scenarios. Review of selected issues in the field of environmental impact assessment of investments, examples of the use of spatial analyzes. The quality of the input data and the accuracy of the results of spatial analyzes. Project.</p> <p>EXERCISES: Practical implementation of selected tasks illustrating the use of spatial analyzes to support the decision-making process. Basic tasks in the field of spatial analysis are performed in both raster and vector-oriented GIS environment using IRRIS and ARCGIS software, respectively. Before starting work with the use of specific software for the first time, an introduction and familiarization with the basic functionality of the software are provided. The subject of the tasks includes, in particular, various examples of the use of multi-criteria spatial analyzes in the assessment of the suitability of a site for a specific purpose, the result of which is to indicate the optimal location for a given type of investment, activities, etc., and to generate and evaluate various scenarios.</p>
<b>Specialization courses</b>	
Landscape Assessment	<p>The subject covers issues related to approaches currently used for the assessment and the valorization of spaces, approaches differentiated due to the different objectives and criteria of the assessments, and formulated on the basis of geography, biology and of the social and technical sciences. The subjects' content encompasses selected methods of quality assessment of a given space. As part of the classes, a landscape valorization of a chosen area is carried out according to the criteria of the usefulness of the territory to serve a particular function. LECTURES: Landscape perception. Biological determinants of landscape perception. Cultural and individual determinants of landscape perception. Landscape study and valorization. Assessment scale. Landscape valorization with regard to cultural values. The study of the cultural environment. Valorization of the cultural landscape. Landscape valorization with regard to natural environment values. Landscape valorization according to the criteria of the usefulness of the area to serve a particular function. DESIGN CLASSES: Landscape perception. Study of the visual environment. Working out a mental map of a chosen area. Analysis and valorization of architectural-landscape interiors (ALI). Landscape valorization for the requirements of the tourist-recreational function. Grade point method.</p>
Fundamentals of Real Estate Management	<p>1. Definition of real estate management. 2. Real estate management activities. 3. Real estate management contract. 4. Professional standards of real estate managers. 5. Characteristics of a real estate manager - features and skills. 6. Real estate management plan.</p> <p>LECTURE Past and present environmental degradation. The main causes of environmental degradation. Relationship of spatial economy with reclamation activities. Protection and shaping of the environment: goals, principles and legal bases. Processes of environmental degradation with particular emphasis on soils: basic information about soil, water and wind erosion; mass movements; desertification and stepping; geomechanical degradation of soils; hydrological degradation of soils (drainage, watering); chemical degradation of soils (acidification, salinization, contamination with trace elements, contamination with organic substances); soil biological degradation ('soil fatigue', soil biological contamination). General principles and methods of restoring degraded areas: definition of reclamation; legal grounds for reclamations; reclamation and development; rehabilitation phases (methods) preparatory phase, technical rehabilitation phase and biological rehabilitation phase); functions of vegetation in biologically reclaimed areas; directions of development of reclaimed areas. Reclamation and management of areas degraded by underground mining; the specificity of underground mining; underground mining in Poland; underground exploitation of hard coal, metal ores and salt (effects on the environment and human economy, methods of technical and biological reclamation and directions of development of reclaimed areas). Reclamation and management of areas degraded by borehole mining; specificity of borehole mining; borehole exploitation in Poland; borehole exploitation of sulfur, crude oil and natural gas (effects on the environment and human economy, methods of technical and biological reclamation and directions of development of reclaimed areas).</p>
Reclamation and development of degraded areas	<p>Reclamation and management of areas degraded by opencast mining; the specificity of opencast mining; opencast mining in Poland; open-cast mining of lignite, sulfur and rock raw materials (effects on the environment and human economy, methods of technical and biological reclamation and directions of development of reclaimed areas). Reclamation and management of waste from coal energy. Reclamation of chemically contaminated areas: rehabilitation versus remediation; methods of neutralization of acidified soils; saline soil remediation methods; methods of remediation of soils contaminated with trace elements; methods of remediation of soils contaminated with organic compounds; biological methods of soil remediation - bioremediation and phytoremediation (rhizodegradation, phytodegradation, phytostabilization, phytovolatilization, phytoextraction) advantages and disadvantages of phytoextraction; permissible content of trace metals in soils. PROJECT CLASSES The classes consist of three projects and a field trip. Students develop the following projects: 1. Preparation of an application for consent to the allocation of agricultural and forest land for the purposes of a mining investment, along with guidelines for reclamation. 2. Preparation of a reclamation and development plan for areas covered by opencast mining. 3. Preparation of a reclamation and development plan for areas covered by opencast mining and chemically contaminated areas. The exercise program includes a field trip to one of the lignite mines in Poland. During the trip, the problems of reclamation and development of areas degraded by opencast mining will be presented.</p>
Rural Areas Development 2	<p>LECTURE: Surface and spatial characteristics of rural areas in Poland. Basic concepts and their characteristics concerning rural areas: agrarian structure, land tenure and use structure, farm. Features of agricultural real estate affecting their value. Legal bases of land consolidation and exchange. Legal and technical procedures for land consolidation. Comparative estimate of merged land. Design stages in consolidation works. Effects of consolidation works. PROJECTS: Development of a project to improve the communication system taking into account the change in the structure of plots. Indication of the area for the separation of public utilities. The project is performed on the selected area. One of the elements is a field inventory of the current land use and development, and an interview with the participants of the consolidation process.</p>
Habitat Study	<p>1. Formation, diversity and properties of terrestrial habitats. 2. Cause-effect relationships between the habitat (biotope) and the biocenosis. 3. Typology of habitats and practical application of habitat science in forestry, agriculture, spatial planning and environmental protection. 4. Physical and geographical conditions of terrestrial habitat properties and their characteristics. 5. Economic and natural importance of the most important habitats. 6. Causes and effects of degradation of terrestrial habitats. 7. Legal protection of habitats.</p>
Diploma Seminar	<p>As part of the diploma seminar, there is a presentation on the topic, scope and subject of the diploma thesis. During the seminar, students also obtain information about the general principles of the diploma thesis process, the rules of editing and the structure of the study, as well as information about the course of the diploma examination. These classes also allow the graduate to improve the skills of presenting the results of his / her work and submitting them to public discussion.</p>
Cartography in the decision support process of spatial planning	<p>LECTURE: 1) Definitions of the main concepts: decision problem, decision situation, multi-criteria spatial analyzes, the synergy of GIS and multi-criteria analyzes in spatial decision making. Characteristics of spatial decision-making problems in spatial planning, social participation in making spatial decisions. The role of cartography in supporting decision-making processes. Data, information, knowledge, the essential role of a conceptual model of data and their organization in a database, data quality issues. 2) Discussion of the decision-making process components using multi-criteria analyzes: decision-makers, criteria, hierarchical structure, decision alternatives; decision matrix; basic procedure of multi-criteria analyzes in geographic information systems. 3) Modeling the preferences of the decision-maker / decision-makers: methods of normalization and evaluation of criteria values, criteria weightings - assumptions, methods of determining criteria weights. 4) Decision rules: compensation and non-compensation methods, OWA operator, linear additive method WLC, AHP and ANP methods, distance methods (IP, TOPSIS), basic information on outranking methods (PROMETHEE, ELECTRE). 5) Elements of the sensitivity and uncertainty analysis in GIS-MCDA. 6) Group decision making: consensus and compromise, voting and debate, collective decision rules, consensus assessment, group AHP. 7) Basics of multiobjective decision analysis (MODA). Location-Allocation problems, the definition of spatial conflict, simple heuristic methods. 8) The use of map services and the issue of the cartographic presentation method for two-way communication in the interactive decision-making support systems. LAB: Students carry out in groups and teams. There are three stages of the lab work. In the first stage, the participants work individually. They design and perform multi-criteria (multi-attribute) analyzes related to the suitability of the terrain for the location of selected terrain functions. They develop criteria and methods for their determination. In the second stage, students work in groups and, using the methods of reaching a consensus, set a common map of the site suitability for a specific function and determine the discrepancy of their assessments. In the third stage, students analyze potential spatial conflicts between different land use and develop result that minimizes spatial conflicts, reduce the divergence of assessments and ensure the required compact area of land for a specific land use function. The project ends with preparing the presentation and cartographic elaboration of the results. The classes use the e-learning form of remote education (MS Teams platform and Moodle ePW platform).</p>
Residential real estate management	<p>Management of public housing resources, including: the role of the commune in the national housing policy, management of public housing resources, communal housing resources, rules of rent of residential premises for an indefinite period. Management of residential real estate with designated apartments - management of shared real estate property, including: basic concepts, establishment of separate ownership of apartments, rights and obligations of apartment owners, determination of the way of management of shared real estate property, management of a housing cooperative, activities exceeding the scope of usual management, passing resolutions. Management of residential real estate constituting property or shared property of natural and legal persons including real estate used only by the owner or co-owners, real estate with apartments used by persons other than the owner or co-owners. Management of residential real estate of housing cooperatives, including: concept of a housing cooperative, members of a housing cooperative, authorities of a housing cooperative. Obligations of members of a housing cooperative, rights to apartments in housing cooperatives. Social housing initiatives. Occasional rental. Housing support programmes</p>
Geological Background of Spatial Development	<p>During this course, participants will learn the basics of economic geology, hydrogeology, engineering geology, groundwater protection, mining activities, engineering geology, soil mechanics, and principal issues of mass movements.</p> <p>LECTURE: 1) mineral deposits and groundwater resources, protection and spatial development over the deposits and groundwater protection zones; 2) basics of engineering geology, suitability of land for construction, engineering, and geotechnical purposes; geological hazards and geological risk assessment, mass movements; human impact on the environment and geological aspects of reclamation devastated areas.</p> <p>CLASSES: determination of landslide risk zones and delineation of areas of occurrence of grounds with favorable construction conditions.</p>