

## COHERENCE OF THE FIELD STUDY PROGRAMMES AIMS AND INTENDED LEARNING OUTCOMES WITH THE PROGRAMMES COURSES

### Coherence of the field of I cycle (bachelor degree) study programme “*Water and Land Engineering*” aims and intended learning outcomes with the programme courses

<b>The aim of the first cycle study programme <i>Water and land Engineering</i></b>		
The aim of the study program " <i>Water and Land Engineering</i> " is to prepare broad erudition and highly qualified environmental engineering specialists who know modern environmental engineering theories, methods and the most advanced technologies, are able to analyse wildlife phenomena, assess the surrounding environment quality, solve sustainable land and water resource use and environmental problems, to implement innovative technical and technological solutions in various fields of cultural landscape formation, land and water resources management.		
<b>Description of learning outcomes of each study cycle</b>	<b>Intended learning outcomes of the Programme</b>	<b>Study courses of the Programme</b>
Knowledge and its application	-To describe the basic theories of nature and mathematics, the principles necessary for understanding the fundamental foundations in the field of environmental engineering;	Higher Mathematics, Optimization Methods and Basics of Statistics, Environmental Chemistry, Physics, Geotechnics, Technical Mechanics, Limnology and the Basics of Oceanology.
	-To understand the broader multidisciplinary context of environmental engineering, be able to apply methods and processes of other fields of science in solving the problems of sustainable use of land and water resources;	Soil Science, Environmental Chemistry, Basics of Construction, Basics of Geodesy, Practice of Geodetic Measurements, Geotechnics, Drainage and Irrigation, Flood risk and mitigation, Land Law, Digital Photogrammetry, Real Estate Valuation, Project of Technology and Organization of Water Engineering Construction Works.
	- To describe the essential theoretical and applied bases and concepts of environmental engineering, to be able to identify environmental phenomena, international and national environmental and sustainable development problems as well as their causes, to have consistently related knowledge in the field of environmental engineering;	Environmental and Construction Law, Basics of Environmental Engineering, Aquaculture Production Technologies, Feed Production and Feeding Technologies, Hydraulics, Aquatic Organisms and Aquaculture Systems, Fishing Technologies, Marine Aquaculture, Engineering Hydrology and Geohydrology, Hydraulic Structures, Project of Hydraulic Structures, Waterfront and Coastal Structures, Fieldworks for Water Engineers, Drainage and Irrigation, Limnology and the Basics of Oceanology, Renovation of Water Bodies, Technology and Organization of Water Engineering Construction Works, Cartography, Environmental Territory Planning, Project of Environmental Territory Planning, Real

		Estate Valuation, Land Reclamation and Roads Engineering, Project of Environmental Territory Planning.
Research skills	- To be able to find the necessary scientific and professional information using databases and other sources of information and to use it properly in solving various environmental engineering problems;	Computer Graphics And Topography, Practice of Professional Activity, Drainage or Irrigation Systems Project, Digital Photogrammetry, Geographic Information Systems, Final Work of Environmental Engineering.
	- To plan and perform experiments, process and evaluate their data and present conclusions using modern laboratory and field research equipment;	Soil Science, Environmental Chemistry, Geotechnics, Technical Mechanics, Fieldworks for Water Engineers, Aquaculture Production Technologies, Practice of Basics of Aquaculture, Engineering Hydrology and Geohydrology, Fieldworks for Water Engineers, Professional Language of Engineering Sciences, Geodetic Measurements, Basics of Environmental Engineering, Final Work of Environmental Engineering.
Special abilities	- To identify and solve environmental engineering problems by selecting appropriate analytical and modelling methods, experimental and production equipment;	Engineering Hydrology and Geohydrology, Fieldworks for Water Engineers, Drainage and Irrigation, Aquaculture Production Technologies, Optimization Methods and Basics of Statistics, Geographic Information Systems, Aquaculture Production Technologies, Aquaculture Wastewater Treatment, Fish Stock Assessment and Restoration, Sustainable Territorial Development.
	- Using environmental engineering methodologies and special computer programs to design engineering systems or their elements for the improvement of environmental quality, to model the processes taking place in them;	Spatial Planning, Basics of Land Use Planning, Computer Graphics And Topography, Optimization Methods and Basics of Statistics, Engineering Graphics, Water Treatment and Supply for Aquaculture, Engineering Solutions in Aquaculture, Real Estate Cadastre and Register, Project of Land and Buildings Cadastre, Land Use Planning, Project of Land Use Planning.
	- To be able to select and apply appropriate methods, tools and equipment for the implementation of environmental engineering solutions;	Geotechnics, Technical Mechanics, Project of Hydraulic Structures, Waterfront and Coastal Structures, Drainage and Irrigation, Flood risk and mitigation, Renovation of Water Bodies, Technology and Organization of Water Engineering Construction Works, Environmental Territory Planning, Project of Environmental Territory Planning, Land Reclamation and Roads Engineering, Aquaculture Production Technologies, Drainage or Irrigation Systems Project, Technologies of Breeding and Rearing of Warm water Fish, Water Treatment and Supply for Aquaculture, Aquaponics, Technologies of Breeding and Rearing of Coldwater Fish, Course Project of Aquatic Animal Breeding and Rearing Technologies,

		Practice of Professional Activity, Aquaculture Wastewater Treatment, Fish Stock Assessment and Restoration, Engineering Solutions in Aquaculture, Engineering Structures, Water Preparation and Water Supply, Project of Water Supply and Sewage Networks, Hydraulic Structures, Sewerage, Landscape Management.
	- To understand the principles of organization of environmental engineering activities, the importance of work and fire safety and the basic requirements, the interaction of engineering activity chains, be able to combine theoretical and applied knowledge in solving engineering problems;	Technology and Organization of Water Engineering Construction Works, Land Reclamation and Roads Engineering, Drainage or Irrigation Systems Project, Practice of Professional Activity, Complex Project of Aquaculture, Renovation of Water Bodies, Organization of Land Management Works.
	- To understand and assess the current environmental situation, forecast the probability and extent of impact on the environment, its components and people, ethical, environmental and commercial circumstances of engineering activities, select or model environmental control and pollution prevention measures;	Marine Aquaculture, Research Methods of Environmental Engineering, Basics of Environmental Engineering, Fishing Technologies, Biosafety in Aquaculture, Complex Project of Aquaculture, Building Information Modeling, Hydropower, Engineering Geodesy, Research Methods of Environmental Engineering, Land Use Planning, Organization of Land Management Works
Social abilities	-To understand holistically the impact of environmental engineering decisions on society and the environment, to observe the norms of professional ethics and engineering activities, to understand the responsibility for engineering activities, to be able to communicate with the engineering community and the general public;	Limnology and the Basics of Oceanology, Project of Environmental Territory Planning, Aquaculture Production Technologies.  <i>According to the specifics of the courses, includes other study courses.</i>
Personal abilities	To understand the importance of individual lifelong learning in the field of environmental engineering, prepare for it and be able to work effectively independently and in a team, know the aspects of project management and business, understand the links between technological solutions and their economic consequences.	Higher Mathematics, Optimization Methods and Basics of Statistics, Land Law, Professional Language of Engineering Sciences.  <i>According to the specifics of the courses, includes other study courses.</i>

**Coherence of the field of II cycle (master degree) study programme “*Land use Planning*” aims and intended learning outcomes with the programme courses**

<b>The aim of the second cycle study programme <i>Land use Planning</i></b>		
The aim of the study program “ <i>Land Use Planning</i> ” is to prepare broad erudition and highly qualified land use planning specialists who are able to sustainably solve multiple theoretical and practical problems of environmental engineering, landscaping and land administration, improve their professional activities, have critical, systematic and creative thinking and research (scientific) work experience in professional real estate administration, planning, etc. work or developing innovative and science-based real estate technology and management solutions.		
<b>Description of learning outcomes of each study cycle</b>	<b>Intended learning outcomes of the Programme</b>	<b>Study courses of the Programme</b>
Knowledge and its application	- To understand the principles of environmental engineering and be able to apply them when solving new engineering tasks that are directly related to landscaping, land administration and real estate formation.	Rural Landscape Management, Real estate Valuation and Market Analysis, Management of Protected Areas Landscape, Land Resources Information System, Geographic Databases, Rural Development and Land Consolidation, Urban Planning, Research Work-1, Agroenvironmental Assessment, Management of Investment Projects, Landscape Architecture, Landscape Ecology, Master studies final work, Legal Regulation of Constructions, Evaluation of Planning Solutions.
	- To be able to perform engineering analysis by remote, contact, mathematical statistical and other methods, and to critically evaluate the latest achievements in the field of environmental engineering, to solve various problems of environmental engineering. Have the knowledge and skills required to perform design work in environmental engineering, measurement engineering and landscaping.	Analysis of Land Administration, Research Work-1, Digital Photogrammetry, Regulation of Land Use Planning, Spatial Data Analysis, Legal Regulation of Constructions, Automation of Geodetic Works.
Research skills	- To be able to identify, find, evaluate the data required for engineering work, landscaping and land administration using databases and other information sources.	Management of Protected Areas Landscape, Land Resources Information System, Geographic Databases, Urban Planning, Master studies final work, Spatial Data Analysis, Research Work - 2.

	-To be able to plan and perform analytical, modelling and experimental research in the field of environmental engineering, critically evaluate their data and present conclusions.	Rural Landscape Management, Real Estate Valuation and Market Analysis, Land Resources Information System, Analysis of Land Administration, Rural Development and Land Consolidation, Digital Photogrammetry, Regulation of Land Use Planning, Spatial Data Analysis.
	-To be able to investigate the applicability of new methods and techniques for solving environmental engineering, landscaping and land administration problems for sustainable land use, theory planning and efficient land administration.	Rural Development and Land Consolidation, Research Work -1, Legal Regulation of Constructions.
Special abilities	-To be able to combine the knowledge of different fields of study in solving multiple problems of environmental engineering, landscaping and land administration, using modern technologies that conserve land and other natural resources.	Methodology of Scientific Research, Landscape Ecology, Digital Photogrammetry, Master studies final work, Research Work -2, Automation of Geodetic Works.
	-To comprehensively understand and be able to apply methods and methodologies in accordance with ethical, environmental and commercial engineering requirements.	Agroenviromental Assessment, Landscape Architecture, Digital Photogrammetry, Evaluation of Planning Solutions.
Social abilities	- To be able to work effectively in solving environmental engineering issues, independently and in a team, to be able to be the leader of a team that can be formed by representatives of various fields of study and levels.	Spatial Data Analysis.  <i>According to the specifics of the courses, includes other study courses</i>
Personal abilities	-To be able to communicate, coordinate and solve land administration and management issues with the engineering community and the general public at the national and international levels.	Digital Photogrammetry.  <i>According to the specifics of the courses, includes other study courses.</i>
	-Holistic understanding of the impact of environmental engineering and related land use planning solutions on society and the environment, adherence to professional ethics and engineering standards, knowledge of project management and business aspects, understanding of responsibility for engineering activities and the importance of individual lifelong learning.	Agroenviromental Assessment, Management of Investment Projects, Evaluation of Planning Solutions.  <i>According to the specifics of the courses, includes other study courses.</i>