

Courses in English

PhD Study Programme LANDSCAPE ENGINEERING

SCIENTIFIC/RESEARCH PART		120 ECTS
Code	Course	Course content
PHD_Z001	Dissertation Examination	Elaboration of dissertation thesis and its defense.
PHD_Z071	Thesis project 1	Scientific part of PhD project is presented in conferences, study visits, publications, fellowship, workshops and seminars. A detailed list of activities is a part of the conditions of study at third level to the SUA in Nitra. The student is notified after registration in the corresponding year.
PHD_Z302	Thesis project 2	Scientific part of PhD project is presented in conferences, study visits, publications, fellowship, workshops and seminars. A detailed list of activities is a part of the conditions of study at third level to the SUA in Nitra. The student is notified after registration in the corresponding year.
PHD_Z303	Thesis project 3	Scientific part of PhD project is presented in conferences, study visits, publications, fellowship, workshops and seminars. A detailed list of activities is a part of the conditions of study at third level to the SUA in Nitra. The student is notified after registration in the corresponding year.
PHD_Z304	Thesis project 4	Scientific part of PhD project is presented in conferences, study visits, publications, fellowship, workshops and seminars. A detailed list of activities is a part of the conditions of study at third level to the SUA in Nitra. The student is notified after registration in the corresponding year.
PHD_Z070	Methodology	PhD student in cooperation with his supervisor has to elaborate the methodology of the PhD thesis up to three months since the accession to his study. Consequently this methodology (2 copies) has to be delivered to the Department of science and research of HLEF, in the date that will be specified in advance. The methodology contains: information about actual condition, existing solutions and approach in described topic, main scientific, social aims, purpose of the research and implementation of the topic, time schedule of activities (theoretical, practical, research...). Review will be elaborated by one referee. It is recommended to present the methodology during the public presentation on departmental meeting. Members of competent committee will be invited.
PHD_Z300	Dissertation defense	The defense of the doctoral dissertation thesis study is completed. It demonstrates the ability for independent scientific and creative activity in the field of research or development.

OBLIGATORY SUBJECTS		40 ECTS
Code	Course	Course content
PHD_Z032	Reclaiming measures in landscape	Reclamation of barren and devastated areas as part of landscape maintenance (in the context of a European Landscape Convention - ELC). Definitions, their legal and professional aspects. Reclamation technologies and their chronology. Basic reclamation methods according to realized adjustments (technical, biological) and according to the future use of the rehabilitated land (for agriculture, forestry, water management, and others-recreation, sport etc.). Technical standardization in the field of reclamation.
PHD_Z002	Water erosion	Soil water erosion - basic terms, classification of soil water erosion according the factor, form and intensity. Soil water erosion protection - part of integrated soil and water protection in the agricultural exploited territories. Analysis of the conditions for creation of soil water erosion. Theory of soil water erosion - rain erosivity, soil erodibility as a function of soil property /inherent/ and utilization of soil. Modelling of soil water erosion - the Universal Soil Loss Equation (USLE) as a widely used mathematical model that describes soil erosion processes. Theory of soil water erosion. Antierosion measures, their selection, localization, dimensioning.
PHD_E003	Scientific language PhD	The subject is aimed at the development of the following skills: academic writing, making presentation, translation of professional.
PHD_K001	Scientific publishing	

COMPULSORY SUBJECTS		20 ECTS
Code	Course	Course content
PHD_Z031	Spatial planning with GIS	Information systems in efficiency in the sectors of agriculture and the environment, accessibility of digital data from various databases, import spatial data sets into GIS and their processing needs for the project.
PHD_Z068	Water quality and quantity assessment	Summary knowledge of the problematic water supplies hydraulic structures in the country. Methods for assessment of surface and groundwater WFD 2000/60/EC and practical application in SR. Biological evaluation of plants. Quality assessment is associated with sufficient amount of water for the country and society. For practical evaluation of a particular area must be individualized according to the recommended assessment methods. Familiarity with possible methods for comprehensive evaluation of water.

PHD_Z004	<u>Remote sensing for environmental monitoring</u>	Landscape monitoring according to remote sensing of the Earth, basic monitoring principles, utilization of different types of remote sensing of the Earth products (satellite, aerial photographs), analyses of digital photographs, choice of suitable spectral zones for monitoring of followed surface objects, interpretation of digital pictures. The methods of radiation and reflection radiation measurement. Preparation of raster and vectorial photographs of monitored area and monitored surface objects.
PHD_Z067	<u>Drought evaluation in agricultural land</u>	Definition of drought (meteorological, hydrological, drought of soil, ecological, hydrogeological, agricultural, socio-economical, etc.) Processing the input data for evaluation of drought. Methods of drought evaluation. Analysis of drought impacts. Processing of the case study.
PHD_Z024	<u>Hydroinformatics</u>	Water monitoring system as part of a complex information and monitoring system, the Water Management balance, legislation in water management in Slovakia, water management perspective and the integration of water management in the Slovak water management policy, structure and elements of the hydroinformation system.
PHD_Z029	<u>EIA methods in landscape engineering</u>	The EIA / SEA process as a tool of sustainable development. Overview and classification of methods used for determining the impact (SWOT analysis, multi-criteria analysis, matrix of causes and effects, methods using GIS, etc.) and procedures of environmental impact assessment EIA/SEA. Assessment methods of environmental components vulnerability (vulnerability factors, vulnerability factor weight), classification and the resulting review. Procedure of ecological carrying capacity determination of the disturbed area.
PHD_Z033	<u>Protection and formation of environment in agriculture</u>	Basic problems of the environment in the agricultural land, in its ecological foundations, in the natural resources - particularly in soil, water, air and biota. Problems in the land as an environment element, in the nature and landscape protection. The issue of waste, hazardous elements in the environment, sustainable development, environmental impact assessment, environmental management, environmental monitoring and environmental law, including environmental law of EU.