

ECOLOGY AND ENVIRONMENTAL STUDIES *

Bachelor Programme “**Ecology and Environmental Studies**” educates high qualification specialists of ecology who have fundamental knowledge on ecology and have mastered principles of endurance of continental ecosystems, who are able to practically apply knowledge related to usage of resources of interior waters and terrestrial ecosystems, capacities of ecological communities to adapt to changing climate and environment conditions as well as the decrease of the impact of major branches of economy on environment, to implement innovations in professional performance.

Degree awarded: Bachelor’s degree of Ecology (BS).

Study duration: 4 year full-time.

LEARNING OUTCOMES:

Knowledge and its application:

- ✓ Knowing regularities of physical and chemical processes in biological systems, will be able to analyse flows of energy and materials among various levels of the system as well as to select and apply methods to protect or restore homeostasis of animate systems.
- ✓ Understanding the spatial organisation of life predetermined by interactions of biological diversity, will be able to act in the field of ecology ensuring sustainable evolution of ecosystems and use of resources as well as to integrate obtained knowledge in solution of complex problems in the professional activities field.
- ✓ Having perceived laws of ecology and principles of sustainable development, graduates will be able to be interested in advancement of sciences and to apply it under various circumstances, thus keeping up professional competence throughout lifelong learning.

Ability to carry out research.

- ✓ Having obtained experience in application of modern research methods dealing with natural and anthropogenic systems will be able to creatively choose a proper methodological strategy to solve ecological tasks.
- ✓ Using achievements in fundamental and applied scientific research and innovations of information and communication technologies will be able to record and collect data in nature and laboratory, to process it aiming to solve practical and important scientific problems in the field of ecology.

Special skills

- ✓ Having understood the principles of sustainable evolution in natural and anthropogenic systems, graduates will be able to use broad interdisciplinary knowledge to critically assess the human impact on environment and to professionally manage, retaining the quality of society’s life.
- ✓ Identifying changes of social environment and advancement of natural sciences as well as comparing results of activities, will be able to organise ecologist’s work in natural and anthropogenic systems as well as to timely correct environmental research methods to achieve aims of performance.

Social skills

- ✓ Having assessed global and local conditions, will be able to reasonably interpret professional data and present results of ecological research to other learners and specialists.

Personal skills

- ✓ Having obtained knowledge and abilities needed for critical perception of scientific theories, to obtain general erudition, graduates will be able to critically assess the unity of competences required for a specialist working in the field of ecology and environmental sciences as well as to foresee possibilities for their development during Bachelor's studies and continuous lifelong learning.
- ✓ Carrying out activities of an ecologist attributed with diversity of tasks and their content will be able to assess quality of one's own and subordinates' performance and to assume moral responsibility for the impact of work results on social, economical, cultural development, welfare and environment.

ALLOCATION OF PROGRAM SUBJECTS IN SEMESTERS

Semester	Code	Course Title	Credits	No. of Academic Hours
I	P170B106	Information Management in Natural Sciences Studies	3	32
		Foreign Language for Specific Purposes (optional)	6	64
	B001B120	Microbiology and Mycology	6	96
	B001B115	Molecular Biology of Cell	5	78
	P130B112	Mathematics and its Application in Ecology	6	96
	B100B102	Theory of Evolution	4	64
II	S260B125	Environmental Psychology	3	32
	H120B511	Problems of Science Philosophy	5	48
	P002B104	Physics	6	96
	P390B102	Organic Chemistry	6	96
	B001B116	Physiology of Plants and Animals	5	78
	P005B106	Hydrology	5	78
III	H590B117	Occupational Lithuanian Language	4	48
	P005B107	Fundamentals of Geology and Hydrogeology	5	78
	P305B101	Environmental Chemistry	6	96
	P004B104	Biochemistry	3	48
	B003B126	Landscape Ecology	3	48
	B320B101	Animal Systematics and Ecology	6	96
	B001B121	Soil and the Rational it Use	3	48
IV	S180B130	Environmental Economics	6	96
	P005B102	Geographic Information Systems	6	96
	B003B113	Ecology of Ecosystems	6	96
	B004B107	Plant Systematics and Ecology	6	96
	B001B117	Integrated Educational Practice 1	3	
		<i>Subjects scope for fee choice</i>	3	32
V	P510B119	Meteorology and Climatology	6	96
	B001B011	Environmental Monitoring and Research Methods	6	96

	S120B001	Environmental Policy and Law	6	96
	B001B118	Integrated Educational Practice 2	3	
	<i>Alternative 1</i>			
	B003B137	<i>Natural Recreation</i>	6	96
	B430B108	<i>Forestry</i>		
	B003B131	<i>Modern Palynology</i>		
	<i>Subjects scope for fee choice</i>		3	32
VI	B003B129	Environmental Risk Assessment	6	96
	B001B119	Course Work	3	
	P510B129	Biometeorology	6	96
	B003B132	Environmental Protection Practice	3	
	<i>Alternative 2</i>			
	T270B113	<i>Environmental Engineering</i>	3	48
	B003B164	<i>Landscape Visualization</i>		
	H005B001	<i>Cultural Heritage Conservation</i>		
	<i>Alternative 3</i>			
	B003B133	<i>Practice of Protected Areas</i>	6	
	B003B130	<i>Risk Assessment Practice</i>		
<i>Subjects scope for fee choice</i>		3	32	
VII	B003B136	Global ecology	3	48
	B003B115	Socio-Ecological Assessment	6	96
	B003B121	Enterprise Practice	6	
	<i>Alternative 4</i>			
	T500B804	<i>Imitation of Extreme Situations</i>	6	96
	B003B139	<i>Modelling of Natural Processes</i>		
	B003B135	<i>Population Management and Models</i>		
	<i>Alternative 5</i>			
	B003B122	<i>Management of Environment Protection</i>	6	96
	B700B102	<i>Problems of Urbanised Environment</i>		
	B700B103	<i>Anthropogenic Load of Environment</i>		
<i>Subjects scope for fee choice</i>		3	32	
VIII	B003B120	Environment and Sustainable Development	6	96
	B003B116	Applied Ecology	9	144
	B001B114	Final Bachelor's Thesis	15	

* The content of the study programme may change.