

Global Environmental Problems and Urbanization

Course Workload		Assessment form (examination/ graded test/ ungraded test)
ECTS	Hours	
3	108	Exam

In the course of this discipline, students will become familiar with the basic laws and concepts in the field of ecology, study the structure of the biosphere and ecosystems, the relationship of the organism and the environment. Students will learn how to model and predict changes in the state of the ecosystem, taking into account social and economic consequences of global environmental problems and urbanization. Besides, students will get acquainted with bases of economy of the nature management, the engineering and organizational actions directed on decrease in anthropogenic loading on environment.

Course structure:

1. The causes of the ecological crisis

- 1.1. Transformation of the biosphere into the technosphere
- 1.2. Violation of the basic principles and laws of ecology, and biogeochemical cycles
- 1.3. Pollution of the atmosphere, hydrosphere, lithosphere

2. Global environmental problems: causes, threats, solutions

- 2.1. Transboundary transport of air pollution (acid precipitation)
- 2.2. Destruction of the ozone layer
- 2.3. Global climate change
- 2.4. Desertification and soil degradation
- 2.5. Pollution of the World Ocean
- 2.6. Loss of biodiversity
- 2.7. Human population growth

3. Urbanization. Ways out of the ecological crisis

- 3.1. Urbanization-causes, problems, solutions
 - 3.2. Scenarios for overcoming the ecological crisis
 - 3.3. Sustainable development
-