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### **Providing of course „Ecological expertise” for bachelors in environmental NUBiP Ukraine**

Along with important environmental control regulations of environmental protection in agricultural sphere is the environmental assessment – a function of the state environmental policy and management of a balanced ecology nature safe. Ecological expertise ensures ecological safety of production potential of society, environmental quality and human health. It is mandatory system of decision-making on socio-economic development, territory or economic entity, implementation of which will have a significant impact on the environment of the territory or natural and anthropogenic altered ecosystems in general, to develop expert conclusion about possible environmental effects of implementing these decisions.

According to Article 1 of Law of Ukraine „On ecological expertise” ecological expertise – the kind of scientific and practical activities specifically authorized by government agencies, environmental expert formations and associations, based on interdisciplinary environmental research, analysis and evaluation before the project, design and other materials and objects, realization, or activity which may adversely affect the state of the environment and human health, and directed the activity, or the norms and requirements of legislation on environmental, functional use and reproduction of natural resources, environmental safety [Ridey, Makarenko, Palamarchuk 2009].

Discipline „Environmental Survey” forms of knowledge: environmental quality, environmental protection and balanced, rational nature; environmental parameters that determine the quality of life, regardless of the state system and borders; environmental kvalitolohiyi how complex the science of determining quality indicators and components of the environment, quality management systems produce goods and services for the implementation of environmental management policy. Provides the ability for an integrated impact assessment in natural resources, human health and environmental quality of different innovations (projects of enterprises, structures, buildings, technologies, inventions, standards, materials, products, materials, transform the nature of projects etc.) across a selected area , region, state. Provides skills: preliminary check the compliance of the requirements of environmental protection of society and the environment, guarantee import of environmentally sound products and technologies, research

and management of human impacts on the environment for technology assessment and environmental risk parameters to determine the integrated quality and safety of the environment, human life indicators; establish the effectiveness of economic and social superior, sustainable development indicators based on equity, economic affordability, social wealth and the orientation of the spiritual, ecological values of civilization in the period of globalization, the definition of criteria of quality of life, use of normative support of scientific and methodological basis of quality criteria for environ This course is taught at four-year Undergraduate and ecologists are: ESTS 5 credits, course work, research workshop, a form of control – exam.

During the research practices in the priority research NUBiP Ukraine student examines environmental review and facility control, namely: – acts, regulations and technical and methodological documents, and integrated development of targeted programs, schemes of development activities in agriculture, population and natural resources in the territories by a constant, which is a university – feasibility studies and construction projects, developing and implementing new technologies, reconstruction, modernization or elimination of production enterprises – international agreements, research and practical projects and activities – materials justification for the use of natural resources (contracts, licenses) introduced activities that affect the environmental situation in rural areas or the environment in general – the new documentation equipment, technology, materials, substances, products and raw materials and services – documentation of materials protected areas and territories with different activities on the ecological situation, other documents on the environment.

The subject of environmental review are:

- Rationale for their economic activities and way of 5yiyi, rational use of resources;
- The establishment of factors of influence and degree of ecological disaster, impacts of economic activities on the environment;
- Assessing the level of environmental safety products and wastes;
- Analysis of environmental, socio-economic consequences of energy activities;
- Completeness measures for compliance with environmental laws, predictions, prevention of emergency situations, eliminating possible environmental consequences;
- Evaluation methods for monitoring environmental safety and economic activity and environmental quality.

Object design or manufacturing operation in the agricultural sphere falls into the category, which adversely affect the environment, if there is:

- source of negative influence of various kinds of physical, chemical, biological, radiation, noise, vibration emissions, discharges of sewage, waste of different nature;

- need for construction of wastewater treatment facilities, gas and smoke, particulate emissions, drive slag, sites for accommodation, storage of waste and implementation of adequate technical support systems of machines and plants for their utilization and processing;
- need for disqualification of 10 hectares of arable land or forests of the first group;
- statistically proven correlational dependence on the incidence of workers or residents in the agricultural sphere.

A focused list of diploma to bachelors. Preparation of graduating bachelor of dealing with „ecological expertise” for the agricultural sphere as a whole, and agricultural areas directly NUBiP Ukraine should be structured and consist of sections:

1. The theoretical justification of the study – Literature review.
  - 1.1. The need for environmental impact assessment of objects and areas agricultural sphere.
  - 1.2. Domestic and global approaches to environmental monitoring environmental quality in the agricultural sphere and the biosphere.
  - 1.3. Analysis of environmental impact assessment and the impact of agricultural production on the environment (of natural resources, technology, engineering).
  - 1.4. Legal aspects of the application of environmental assessment and monitoring environmental quality.
2. Place terms of research and general description of an object that is studied (the object of examination and control).
  - 2.1. Characteristics of that review and (dates).
  - 2.2. List the name and materials expertise.
  - 2.3. Data organization that developed the materials for project or facility examination.
  - 2.4. The cost of design or construction work (a production process in general and her own).
  - 2.5. Information about the customer or the authority who approves the documentation, subject to environmental review and quality control environment.
3. Object (Examination and Control), subject (expert studies of the production area or production activities, technology etc.) and methods of environmental review or quality control environment.
  - 3.1. Overview of environmental content materials expertise.
  - 3.2. Functional-spatial-planning and structural organization of the territory, which is scheduled to introduce the project (or construction, technology, or system of machines) in the agro-ecosystem (or ecosystems).
  - 3.3. Characteristics of technological, economic, energy, sanitation, innovative regulations.

- 3.4. Optimization of environmental protection, rational ways, economically, sustainable use and conservation, water sources, forests, air, biological resources etc.
4. Assessment of basic measures to protect the environment and natural resources with consideration of environmental effects (risks and risks of the project or the work of manufacturing activity).
  5. Recommendations for project approval or continuation of the work of expert work in applying environmental measures and environment-oriented solutions.  
Tentative list of topics undergraduate work.
    1. Regulation of social relations in the field of environmental assessment for the environmental safety of agricultural sphere.
    2. Analysis of protection of environmental rights and interests of individuals involved or living in agricultural territories.
    3. Environmental management expertise and constant regeneration of natural resources land and water users in specific sections and regions.
    4. Public ecological expertise of legislative and other legal acts in the industrial and social spheres.
    5. Independent environmental assessment of pre-project materials and agricultural sphere enterprises (agricultural production, or food processing enterprises and sewage in agriculture).
    6. Environmental assessment of new technologies, techniques, systems of machinery in agricultural sphere (agribusiness, biotechnology, energy, environmental innovation).
    7. Environmental assessment of modern materials (resource-, energy-economically biomaterials).
    8. Examination of ecological situations, developed in separate paragraphs and regions. (Under the influence of agro-industrial sectors, techno, urbo-).
    9. Examination of ecological situations, developed in separate paragraphs and regions. (Under the influence of agro-industrial sectors, techno, urbo-).
    10. Ecological expertise in agriculture: current productions, installations, warehouses, private farms for waste disposal.
    11. Environmental impact assessment of military, defense facilities in agricultural areas.
    12. Analysis of alternative technologies decrease (inhibition, removal, predicting) the negative impacts of objects of expertise in the agricultural sphere of the environment.
    13. Ecological examination facilities and quality control of environmental business.
    14. Comprehensive Assessment of environmental and socio-economic performance or implementation of national economic objects functioning in agricultural areas.

15. Analysis of the impact of new technologies resource saving to prevent negative environmental impact.
16. Expert ecological assessment and quality control or production of natural (water, land, biological and recreational) resources of a certain territory, region.  
Algorithm of an expert on environmental responsibility and operation of inspection that is designed or has the sections:
  1. Feasibility Study (FS) project or facility.
    - 1.1. Rationale resource and energy saving implementation, low-waste technological processes (technology, appliances, machines) in agriculture (in agriculture).
    - 1.2. Rationale placement, processing, efficiency and waste management in the agricultural sphere.
    - 1.3. Data on agricultural products and raw materials and resources for their production.
    - 1.4. Process maps of agricultural production.
    - 1.5. Map, the plan of nature (earth, water, forestry, cartographic, binding scheme with a mark of future or existing sources of pollution – for waste, emissions, discharges) (scale 1:25000).
    - 1.6. Plan of settlement within the economic activities (agricultural, industrial etc.).
  2. Integrated ecological-economic impact assessment of planned or actual agricultural, environmental activities on the environment and human health.
    - 2.1. Data of the research parameters for the environment (atmosphere, soil, surface and groundwater, flora and fauna, health and others), including historical and cultural monuments, conservation and protected structures within or which are scheduled to place at objects.
    - 2.2. Data characteristics of the main natural resources used or operated in the territory (water, soil, biological, fossil and recreational resources, etc.).
    - 2.3. Designing or valid indicators of emissions and discharges of pollutants into the air and water.
    - 2.4. Resource saving, cost-benefits arrangements to facilitate the effective treatment of wastewater and polluting emissions or guarantee isolation processes and efficiency of water supply and clean air protection.
    - 2.5. Measures to ensure conservation, protection of biodiversity and biological resources play area, nature reserve and historical and cultural foundations.
    - 2.6. Ensuring the protection and the environment from harmful effects of anthropogenic, physical, chemical and biological factors.
    - 2.7. Assessment of existing and potential social consequences and characteristics of ecological, economic, energy losses from the project or activities existing technologies introduction of new substances equipment, materials, and expert assessment of risk to the population and living environment.

At low environmental processing in the design or lack or insufficiency of environmental innovation processes in enterprises or industries Agriculture comments and suggestions should be formulated with the expert conclusion of substantive content necessary changes, additions and mentioning refining and supply materials for a second environmental review.

Conclusions, proposals and recommendations after approval by management are required for project developers, as customers and performers.

For diagnosis implementation of the environmental assessment may be imposed repeatedly.

Graduates of the Bachelor-environmentalists can continue their studies in Master of the basic direction of Ecology: 0708 specialty 8.070801 „Ecology and Environment”, as well as magistrates analytical expert direction directly control specific category code: 1501 specialty. 8.000001 „quality, standardization and certification” program „Environmental examination and quality control environment”.

## **Literature**

Ridey N., Makarenko N., Palamarchuk S., Makarenko V. (2009), *Scientific guidelines for environmental impact assessment areas agricultural sphere*, edited by. candidate. Agricultural Sciences Assoc. N. Ridey. – K.: Information and Publishing Division part of work, – 112 pp.

## **Abstract**

Along with important environmental control regulations of environmental protection in agricultural sphere is the environmental assessment – a function of the state environmental policy and management of a balanced ecology nature safe. Ecological expertise ensures ecological safety of production potential of society, environmental quality and human health.

**Key words:** bachelors studies, ecology education, ecological safety.

## **Kurs wprowadzający „Ekologiczna wiedza specjalistyczna” dla studiów licencjackich z ekologii na NUBiP Ukraina**

### **Streszczenie**

Jednym z najważniejszych założeń ochrony środowiskowej w sferze produkcji rolnej jest oszacowanie stanu polityki środowiskowej i zrównoważonego rozwoju w zakresie ochrony przyrody. Ekologiczna wiedza specjalistyczna zapewnia bezpieczeństwo społeczne i wysoką środowiskową (ekologiczną) jakość życia i zdrowia ludzi.

**Słowa kluczowe:** studia licencjackie, edukacja ekologiczna, ochrona ekologiczna.