FORMS AND METHODS OF TEACHING DISCIPLINE "ECOLOGICAL EXPERTISE" FOR STUDENTS ECOLOGISTS

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Abstract

The article deals with the forms and methods, the analysis of the content of the subject "Environmental assessment" for student environmentalists highlighted the main criteria of knowledge and skills in the study of the course. Submitted characteristics and structure of discipline and learning activities.

Key words: ecological expertise, skill analysis, the structure of discipline, training activities.

FORMY A METODY VÝUKY DISCIPLÍNY “EKOLOGICKÁ ODBORNOST” U STUDENTŮ EKOLOGIE

Resumé

Článek se zabývá formami a metodami, analýza obsahu předmětu "Environmentální hodnocení" pro studenty ekologů zdůraznil hlavní kritéria, znalostí a dovedností ve studiu kurzu. Předložené vlastnosti a struktura disciplíny a studijní činnost.

Klíčová slova: ekologické znalosti, dovednost analýza, struktura disciplíny a vzdělávacích aktivit.

At the present stage of human development have become increasingly conspicuous problem of environmental pollution, depletion and environmental degradation of natural ecosystems and the biosphere of the earth in general. Last rapidly loses its reproduction, restoration and assimilation capabilities, it disturbed the ecological balance and deteriorating quality parameters. This greatly undermines the fundamental natural basis of existence of a healthy and safe development of human civilization and threaten the life of society and its prospects for sustainable socio-economic development (1). The Law of Ukraine "On Ecological Expertise" are the definition: "Environmental assessment in Ukraine" - a kind of scientific activities specially authorized state agencies, environmental and peer groups and associations, based on inter-industrial environmental research, analysis and evaluation of predesign and other materials or objects, implementation and action which may adversely affect or influence the condition of the environment, and aims to prepare findings of compliance with planned or ongoing activities norms and requirements of the legislation on environmental protection, rational use and reproduction of natural resources, environmental safety (2). The aim of our work was to develop basic methodological aspects of the course "Environmental assessment" for bachelors environmentalists. The main objectives were to analyze the content of the discipline "environmental assessment" criteria of knowledge, skills, skills necessary for mastering her bachelors ecologists, present structure and characteristics of the discipline of learning activities and training sessions, to formulate a tentative list of course work under direction and control of environmental review environmental quality. Our mission discipline. The aim of the course "Environmental assessment" for bachelors students to study methods of environmental assessment, its legal framework, regulatory framework (rules and regulations of natural resources and environmental pollution components), and the

environmental impact assessment that provides preventive highly estimates the anthropogenic impact on environment and development measures to prevent and eliminate possible negative consequences.

Key issues and research in environmental assessments such as environmental issues and conflicts, regulatory and legal framework for conducting environmental assessments, environmental management, agri-environmental assessment, implementation of acquired knowledge in the educational process discussed in the scientific works of our scientists such as Andreytseva V.I. (3), Makarenko N.A. (4). In the study course "Environmental Expertise" bachelor student should know: the basic principles of pre-examination, project materials, documentation of the implementation of new technologies materials, substances and products that might lead to violations of environmental regulations, especially the characteristics of environmental situations that have developed in some areas and regions of the world and Ukraine, and as existing facilities and complexes that may have a significant impact on the environment and human health, the foundation of environmental regulation in the field of environmental protection and rational use natural resources, system standards environment, legal framework environmental assessment, namely the definition of concepts such as expert status, rights and obligations of customers ecological expertise on the order of environmental assessments, funding environmental assessment, responsibility for violation of legislation on environmental assessment, government regulation and control in environmental assessment, and more.

The student should be able to: use national and international standards, to determine the degree of environmental risk and safety of planned or ongoing activities, to establish the correspondence of objects examination requirements of environmental legislation, health standards, building codes, evaluate the impact of environmental review sites on state of environment, health and quality of natural resources to establish efficacy, completeness, reasonableness and adequacy of measures to protect the environment and health, prepare objective, comprehensive substantiated findings of environmental assessment. In studying this discipline students gain skills to use scientific methods for environmental impact assessment, the use and regulation of regulatory and legal documentation of key institutions in Ukraine environmental review. Knowledge and skills acquired in the study course "Ecological expertise" required to complete course work and future professional activity bachelors-environmentalists. This course is taught at four year bachelor of environmental studies in 8 semester, the duration of the semester 13 weeks (8 hours a week of load) and is: 5 credits ESTS: Lectures - 52, laboratory classes - 52, course work - 3 (for 1 student), independent work of students - 59, independent work under the guidance of a teacher - 22 hours, a form of control - the exam.

Table 1. Methods of impact assessment on the environment (5)

Methods of AofEI	he method
Identification and development of natural processes and impacts on them	
- Checklists - Matrix - Flow chart	- Contains a list of natural processes and indicators of impact on them; - List of influences human actions and indicators aftereffect; - Vektornist impact, determine the relationship processes - consequences
Prediction of natural processes:	
- analysis - synthesis	- Based on the real environmental situation, in fact, the territory under research;

- surveillance - measurement - comparison - calculation	- Thinking or practical division of whole into parts, combining previously separate parts into a whole; - Knowledge of reality based on direct perception processes, events, objects with the senses, without interference in their life explorer; - The physical process of determining numerical values of a certain size by comparing it with the standard; - Identify differences and finding common objects between the material world through the senses or special equipment; - Finding a number that determines the proportion of similar objects or parameters that characterize certain properties.
Interpretation of effects:	
- Display display-nykiv impacts - Ranking (selection) alternative options tive project within the categories of impact	- Grouping of indicators and establishment of dominant performance impacts; - Establishing the most appropriate conservation-oriented variant without environmental damages and the most favorable influence on most of the environmental

* AofEI – assessment of environmental impact

Be asked in teaching this course for bachelors have a choice of application methods for assessing the environmental impact of economic activities of enterprises and methods for conducting environmental assessments in the study of this discipline.

Domestic and foreign experience shows that when choosing a method of evaluation of environmental impact assessment and development areas should take into account the criteria of selectivity, universality, excluding dubbing, ability to establish confidence limits for prediction accuracy, objectivity, the ability to provide linkages to systems that are studied with different anthropogenic (Table 1).

Of great importance in assessing the impact on the investigated area with methods of communication when you make the findings and assessment results. We recommend using one method or a combination thereof (Table 2). To conduct environmental assessments bachelors, better to use methods of the independent public environmental review for data collection and analysis as students can not participate in independent, public environmental review which is conducted by having the right to do so, due to the lack of professional qualifications.

Table 2. Methods independent public examination (5)

Methods of examination	The method
Questionnaire (poll workers working village, local people)	survey in writing via questionnaires
Interviewing (poll officials, experts, representatives of regional government, local government, scientists, educators)	oral questioning in the form of conversation, interview
Brain storm (a group of students and advisers from among teachers and scientists without critical expressions of ideas, solutions)	group discussion to obtaining new ideas, options and solutions to problems, generating ideas and creative exploration of fundamentally new solutions

Discussion (discussion by all parties examination procedure with critical remarks)	open brainstorm problems, their solutions, comprehensive analysis of all factors of positive and negative effects, setting the interests and positions of participants
Delphi method (poll officials, managers at various levels)	multi-procedure survey processing and report the results of each stage of the experts who work incognito
The method of predictive scenarios analysis all participants the possibility of project activities	Installing the logical sequence events and positive and as negative consequences of a possible project or problem.

Implementation of course work in discipline "Ecological expertise" consists of 5 consecutive stages: the rationale for conducting environmental review of the project, the existing facilities or systems, the environmental situation in studied and the analysis of data on physical and geographical, climatic conditions and terrain, land use conditions, the availability of industrial, protected areas, potential or actual impact of economic activity in key indicators of environmental, technological and social environment, the implementation of a comprehensive assessment of impacts of projected activities on the environment, taking into account the partial ratings under the implementation of measures to ensure the regulatory environment, are the conclusions of environmental impact assessment.

A tentative list of topics for term papers bachelors of environmental:

- environmental study of the rational use and reproduction of natural resources, regular users of land in some areas and regions;
- analysis of legal documentation in the use and protection of waters and reproduction of water resources;
- public environmental impact assessment of legislative and other legal acts in the industrial and social spheres;
- an independent environmental study and preliminary design material enterprises agrosphere (agricultural production).
- environmental impact assessment and quality control facilities business environment;
- analysis of the impact of new resource saving technologies to prevent negative environmental impact;
- analysis of regulatory and legal framework of public environmental review in the context of public examinations;
- examination of environmental situations that have developed in some areas and regions (under the influence of industrial agro-sectors, urbo-).

When working on a story by the authors described the content of the discipline "Environmental assessment" is represented by characteristic structure and discipline of educational activities, training sessions and their contents, developed a list of topics focused course work in structural and logical sequence represented areas of environmental expertise.

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