

UDC 37

## Structural features of training for greening activities

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### Abstract

Professional education is a set of knowledge, practical skills and abilities to perform work in a particular area of employment. Professional education should be aimed at ensuring the professional self-realization of the individual, the formation of its qualification level, the creation of socially active, moral and physically healthy national production potential, the introduction into practice of science and technology. Professional training is obtaining a qualification in the relevant field of training or specialty. The analysis of different works makes it possible to reveal the essence of the concept of environmental training as the formation of students' system of environmental knowledge (scientific concepts, ideas, facts), skills and practical skills, the development of environmental thinking and consciousness, the formation of environmental culture and ecological behavior in the environment. The author notices that future environmental technician should be able to assess the historical and modern processes and problems in the life of the country, trends in educational development, have high morals, have organizational and professional skills, be able to professionally solve problems taking into account their social consequences, be fluent in the state language, professionally use one of the foreign languages. The main production functions, which should have a future ecologist include prognostic, technical and technological functions.

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### Keywords

Greening, education, pedagogy, school, formation.

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## Introduction

Environmental training of future technicians and ecologists should be carried out as an integrated multistage system, which will ensure the assimilation of environmental knowledge, turning them into environmental activities, the development of ecological thinking, continuity of ecological education and interdisciplinary connections, the integrity of the theoretical, practical and scientific work, writing and research work, the result is the development of creative potential, moral views and beliefs, inclinations of each individual, volitional traits and character. They are one of the sources of human inclinations and interests, a condition for the development of abilities and talents.

Ecologists in the process of learning acquire general cultural training, special skills, enough to implement production functions certain level of professional activity that are provided for the respective posts in a particular industry of agriculture.

According to the normative part of educational content, which is determined by the state standard and as a required component of the implementation of educational and vocational programs, the cycle of disciplines of humanitarian and socio-economic training includes the study of following disciplines: history of the country, domestic language for professional direction, cultural studies, bases of philosophical knowledge, sociology, the foundations of law foreign language of the professional direction, economic theory, physical education.

### **The main structural features of training for greening activities**

As noted above, one of the principles of the formation of environmental culture is the greening of the educational process, which consists in the introduction of the relevant academic disciplines of issues related to environmental issues. The study of cultural studies, the foundations of philosophical knowledge, sociology provides answers to such questions as global problems of our time, it is primarily a problem of spiritual and moral; their solution is possible only through internal reorientation of social and moral attitudes of each person. By being responsible to nature, man is responsible to himself. Moral principles play an essential role. In activities with complex systems of reference points there is not only knowledge, but also moral principles, which are prohibitions on dangerous actions for man and nature [Danilova, 2018]. The answer to the question of how a person should relate to nature, is proposed by A. Schweitzer, the concept of reverence for life, which combines humility, and life affirmation, ethics as interrelated results of thinking. According to M. Moiseeva, regulated coevolution of human society and the biosphere the basis for improving the current environmental situation should be.

V. Vernadsky noted that "the influence of man on the surrounding nature is growing so rapidly that the time is not far off when it will turn into the main force. We will have to take responsibility for the future development of nature. The development of the environment and society will become inseparable. The biosphere will pass into the sphere of mind – the noosphere." Sustainable development of society is possible only on the condition that it, relying on his mind, will be able to "include" its technological activities in the natural cycle of substances. This requires a restructuring of human consciousness and activity, which will be aimed at harmonizing relations with nature by restructuring technology so that they cease to be dangerous.

The content of the discipline "Culturology" contributes to the formation of knowledge about culture, its types, forms, functions; the role of culture in the development of society; the rules governing the relationship of man to the environment.

"Sociology" provides the study of the current state and features of the formation of the environment

in connection with the historical development and structure of nature management; predicts the development of the environment with the future of mankind; contributes to the formation of future environmental technicians ecological consciousness, ecological style of thinking, environmentally significant behavior in nature.

"Fundamentals of philosophical knowledge" provide knowledge about the basic laws of development of nature and society, value orientations of the individual as a product of its socialization, global problems of mankind: ecological and moral imperatives of survival of mankind. The study of this discipline is also aimed at the formation of scientific worldview, creative thinking and general culture of the technician-ecologist [Zashchirinskaya, Turchaninov, 2017].

The study of the cycle of disciplines of humanitarian and socio-economic training contributes to the formation of a common culture of the individual, as environmental culture is part of it; the formation takes place in parallel. Having studied disciplines of this cycle, the future ecologist should be able to carry out professional activity in all its types, relying on knowledge of social, legal, economic aspects of existence of society, using knowledge of the state and foreign language.

Specialist should have knowledge of the cycle of disciplines of natural-science training, which involves the study of normative disciplines, as well as selective academic disciplines that are using the capabilities and traditions of the educational institution: higher mathematics, physics, general biology, meteorology and climatology, General chemistry, analytical chemistry, physico-chemical analysis, general ecology, informatics, safety.

In formation of ecological culture of students the important place is occupied by a course of discipline "General ecology" which provides formation of basic ecological knowledge, the modern ecological outlook and its information support, bases of ecological thinking of the professional expert capable not only competently, to use nature reasonably, but also to protect it, to make a significant contribution to the formation of mass environmental literacy of the population, to acquire the necessary skills to make the right decisions.

The curriculum of the discipline "Meteorology and climatology" involves the formation of skills to carry out meteorological observations in the monitoring system of air quality; to identify the impact of anthropogenic factors on the microclimate of populated areas.

The material of chemical disciplines is aimed at studying the role of phenols, gasoline, alcohols, gases and other chemicals in environmental pollution.

After studying the discipline "Higher mathematics" students should know the basic numerical methods and be able to apply them in the study of professional disciplines, solving environmental problems, in the process of writing coursework.

"Physics" contributes to the formation of a set of knowledge that allow environmental technicians to find out the nature of biophysical phenomena and processes that accompany the growth and development of plants and use this knowledge to improve the efficiency of agricultural production.

The content of the discipline "Life safety" provides for the acquisition of knowledge, skills and abilities to solve professional problems to ensure the safety of personnel and protection of the population in dangerous and emergency situations. Students study the concepts of "danger", "emergency", "risk", types of hazards, classification of emergency situations.

"General biology" contributes to the knowledge of the laws of development of plants and vegetation as the most important bioenergetic component of the biosphere, the classification of environmental factors that significantly affect the development of plants and plant communities.

Having studied the disciplines of this cycle, students should know the legal and regulatory framework for life safety, the impact of harmful factors on human health, the diversity of organisms

and their dependence on the environment at different stages of the life cycle, the role of man in the biosphere and its impact on nature.

The cycle of disciplines of professional and practical training is based on a complex balanced combination of natural, technological, economic, legal and socio-cultural approaches. It includes the study of such disciplines: balanced nature management, environmental protection, nature conservation, environmental monitoring, landscape ecology, the basics of metrology and standardization, geology with the basics of geomorphology, hydrology with the basics of hydrogeology, soil science, environmental geochemistry, methods of measuring environmental indicators, environmental legislation, environmental expertise, the basics of labor protection, labor protection in the industry, computer processing of environmental information [Tonkikh, Danilova, 2019].

The cycle of disciplines of professional and practical training provides the formation of knowledge about the typical algorithms of the organization of examination of projects and economic objects with the definition of the main groups of experts, their functions and subordination; gives knowledge about the basics of environmental regulation in the field of environmental protection and rational use of natural resources; the legislative basis of environmental; geochemical parameters of the cycle of chemicals; the concept of development of the biosphere, the noosphere; the environment and methods of its protection from contamination; chemical and physical methods of control of environmental quality; basic allowable concentration content of the investigated substances in food products; theoretical and experimental fundamentals and techniques of food analysis; methods of calculation of air pollution taking into account the harmful effect of several substances and background concentrations; organization of labor protection and safety requirements when working with chemicals and various mechanisms that are used in this case; legislative and regulatory documents on labor protection (state and international).

During the study the subjects of this cycle students acquire skills to conduct environmental review of the status of agricultural land and products that are produced, to make passport, to determine the types of economic losses from pollution by companies for justification of measures for their reduction, the choice of technology and environmental equipment, conduct laboratory tests analytical and physical-chemical methods to use PC for statistical processing of data environmental research, to monitor the quality of agricultural products.

Using the acquired knowledge, the future ecologist should form skills of the organization of professional activity, be marked by high morals, ecological consciousness and literacy, to have organizational and professional skills, the intellectual level, ability to system thinking is necessary, be able to assess the historical and modern processes and problems in the life of the country, professionally solve the problem in order to obtain the best final results.

During practical training on the discipline "Environmental monitoring" students have the opportunity to independently establish the hazard categories of the enterprise and specify sanitary protection zones; observe and control the pollution of atmospheric air, soil, water bodies; make and draw up maps of soil contamination; take samples of soil, water and prepare them for analysis; give an environmental assessment of the results of the state of the environment and summarize them [Zashchirinskaya, 2010].

The content of the discipline "Environmental expertise" contributes to the formation of skills to analyze and assess the state of the environment, to carry out industrial environmental control, to take part in the examination of projects and technologies. Environmental knowledge gained during the study of this discipline; contributes to the formation of professional skills and skills to solve environmental problems; responsible attitude to nature and their health; the ability to predict possible negative long-

term consequences of natural activity of man.

During the study of the discipline "Regulation of anthropogenic load" students study standards and standards of environmental quality; methods of calculation of maximum permissible discharges into rivers, lakes and reservoirs; standards of emissions into the atmosphere; classification of air pollution sources.

Full aspects of the formation of environmental knowledge, value attitude to nature, environmental behavior, rational use and reproduction of natural resources are considered in the discipline "Environmental protection". Having studied this discipline, students acquire knowledge about the structural components of the environment; natural and anthropogenic pollution; the main global problems of mankind; the environmental situation in the world; the basic regulatory framework in the field of environmental protection; sources of pollution and the main pollutants of the atmosphere; actions for protection of atmospheric air; the general characteristic of land resources, their evaluation, sources of pollution; the complex of measures on protection of soils; radionuclide pollution, sources of pollution, influence of radiation on the environment; general characteristics of water resources, sources of water pollution and methods of control; measures for the protection of components of the biosphere; the structure of natural reserve fund; important documents of international environmental relations [Chernigovskaya et al., 2016].

Disciplines of the cycle of professional and practical training contribute to the formation of environmental technicians' skills, ecological style of thinking, rules of environmental behavior and responsibility, the acquisition of skills and experience in solving environmental problems, mastering the basics of balanced environmental management, awareness of the consequences of negative impact on the environment.

Realization of the purpose and main tasks of formation of ecological culture in colleges is based on the principles of interrelation of theoretical knowledge with practical activity of students; inclusion of ecological aspects in structure of subject, special generalizing themes; combination of classroom occupations with activity in the nature (excursions, field camps, tourist campaigns); use of problem methods of training (role-playing games, ecological clubs, research activity, experiments, supervision); combination of classroom and extracurricular nature protection work.

## Conclusion

The future environmental technician should be able to assess the historical and modern processes and problems in the life of the country, trends in educational development, have high morals, have organizational and professional skills, be able to professionally solve problems taking into account their social consequences, be fluent in the state language, professionally use one of the foreign languages.

The main production functions, which a future ecologist should have, include: prognostic, which involves awareness of environmental situations, the ability to solve them, the preparation of laboratory instruments, utensils, reagents for chemical analysis; technical – the ability to assess the pollution of the hydrosphere, atmosphere, biosphere; technological – the ability to take samples and analyze agricultural products, make practical decisions to reduce environmental pollution.

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## Структурные особенности обучения экологизации деятельности

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### Аннотация

Профессиональное образование представляет собой совокупность знаний, практических умений и навыков, необходимых для выполнения работы в определенной сфере. Профессиональное образование должно быть направлено на обеспечение профессиональной самореализации личности, формирование ее квалификационного уровня, создание социально активного, нравственно и физически здорового национального производственного потенциала, внедрение в практику науки и техники. Профессиональная подготовка – это

получение квалификации в соответствующей области подготовки или специальности. Анализ различных работ позволяет раскрыть сущность понятия экологического обучения как формирование у студентов системы экологических знаний (научных понятий, идей, фактов), умений и практических навыков, развитие экологического мышления и сознания, формирование экологической культуры и экологического поведения в окружающей среде. Автор отмечает, что будущий эколог должен уметь оценивать исторические и современные процессы и проблемы в жизни страны, тенденции развития образования, обладать высокими нравственными качествами, организаторскими и профессиональными навыками, уметь профессионально решать проблемы с учетом их социальных последствий, свободно владеть государственным языком, профессионально владеть одним из иностранных языков. К основным производственным функциям, которыми должен обладать будущий эколог, относятся прогностическая, техническая и технологическая функции.

#### **Для цитирования в научных исследованиях**

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#### **Ключевые слова**

Экологизация, обучение, педагогика, школа, формирование.

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