

**Federal State Autonomous Educational Institution for Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA (RUDN University)**

Institute of Ecology

COURSE SYLLABUS SUMMARY

**Educational program
44.04.02 "Psychological and pedagogical education"
Master's program "Environmental Pedagogy"**

Course title	Environmental Education
Number of credits (hours)	3 (108)
course content	
course modules	theme
1. General concepts of environmental education	The concept of environmental education. The main goal of environmental education. The relevance of environmental education in the context of the global environmental crisis. The main categories and concepts of environmental education from psychological and pedagogical positions.
2. Formation of environmental education	History of environmental education. Modern research in the field of environmental education as research at the intersection of philosophy, ecology, psychology and pedagogy. Environmental education in the analysis of general strategies for its formation and development in Russia.
3. Environmental education as a leading factor in the implementation of the concept of sustainable development	Environmental education as a leading factor in the implementation of the concept of sustainable development. Socio-ecological aspects of environmental education and the formation of environmental consciousness. Goals, objectives, content and main forms of organization of environmental education. Pedagogical and psychological approaches to environmental education, their relationship.
4. Education by nature: methodological aspects of environmental education	Historiogenesis of nature-oriented activity of students. The essential characteristic of the concept of "nature-oriented activity of students". The structure of nature-oriented activity of students as a condition for the formation of environmental consciousness. Typology and main forms of nature-oriented activity of students. Peculiarities of students' assimilation of environmentally oriented values as the semantic core of the emerging ecological consciousness. Developing environmental educational environment as a set of conditions for the implementation of nature-oriented activities by students, its structure, requirements for its theoretical design and practical implementation. The essence of the methodological model of environmental education "Education by nature". Traditional forms and methods of assessing and evaluating knowledge, skills, and activity skills, characterizing the formation stages of competencies.

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PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA (RUDN University)

Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational program

44.04.02 "Psychological and pedagogical education"

Master's program "Environmental Pedagogy"

Course title	Research Methods of Environmental Pedagogy and Psychology
Number of credits (hours)	3 (108)
course content	
course modules	theme
1. Research Methods of Environmental Pedagogy	Functions of methodological knowledge. Modern pedagogical concepts, scientific approaches to the study of problems of environmental education. Methodological foundations of pedagogical scientific research. Theoretical research methods. Empirical research methods. Methodology for the organization of the experiment. Organization of ascertaining, forming and control experiment. Approbation of the research results. Implementation of research results into practice
2. Research Methods of Environmental Psychology	Theoretical and empirical knowledge in psychology. Methodology of experimental psychological research. Classification of research methods in psychology. Theory of psychological experiment. Design of the experiment and control of variables. Quasi-experiments. Systematization and specifics of experimental research in various fields of psychology. Correlation approach in testing psychological hypotheses. Measurement in psychology. Analysis and presentation of the results of psychological research.

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Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational program

44.04.02 “Psychological and pedagogical education”

Master's program "Environmental Pedagogy"

Course title	Environmental Culture: Genesis and Modern Issues
Number of credits (hours)	3 (108)
course content	
course modules	theme
1. Introduction to ecological culture.	Introduction to the problem of ecological culture. History of development and formation of ecological culture. Theoretical foundations of ecological culture.
2. The concept of sustainable development as the basis for the formation of modern ecological culture.	Biosphere from the standpoint of ecological culture. Environmental dimension of sustainable development. Global environmental challenges and environmental problems in socio-cultural, political and economic contexts.
3. Mechanisms and factors of ecological culture formation.	International agreements in the field of environmental protection. Ecological policy of the state: mechanisms and factors of ecological culture formation. Participation of youth in making environmentally significant decisions and methods for resolving environmental conflicts.
4. Formation of ecological culture.	Formation of ecological culture of youth and priorities of Russian environmental policy. Ecological culture of business activity. Regional and municipal programs of ecological education and enlightenment.

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COURSE SYLLABUS SUMMARY

Educational program

44.04.02 “Psychological and pedagogical education”

Master's program "Environmental Pedagogy"

Course title	Environmental Ethics
Number of credits (hours)	3 (108)
course content	
course modules	theme
1. Concepts and elements of environmental ethics.	The moral aspect of the relationship between man, society and nature. Nature as a value. Non-violence as a form of attitude towards nature and as a moral principle. The problem of non-violent interaction between man, society and nature in various religious concepts (Jainism, Buddhism, Hinduism, Taoism, Islam, Christianity).
2. Environmental ethics as a science.	Ethics is biological, ecological and medical. The subject and tasks of environmental ethics. The relevance of environmental ethics and its problematic field. Definition of environmental ethics as a science. Normative aspect of environmental ethics: environmental imperative. Approaches to the problems of environmental ethics: anthropocentrism, biocentrism, ecocentrism. Principles of priority in resolving conflict situations (according to P. Taylor).
3. Environmental ethics.	Animal rights: history and modernity. Ethics of scientific research using animals. The problem of keeping pets. The problem of homeless animals. Biodiversity. The reason for the popularity of the concept. Biodiversity levels and ethical issues. Wildlife values. Tree or house: the choice of a metropolis (ecological and ethical analysis of the problems of a big city). Weekdays of one ordinary landfill. Ecological act and small deeds. The Ethics of Ecological Catastrophes: The Globalization of Responsibility. environmental movement.
4. Biological ethics.	Ethics is biological, ecological and medical. Ethics of genetic identity. Moral and ethical problems of conducting tests and experiments on humans and animals. Ethical aspects of demographic problems. Multidimensional concept of quality of life: psychological, social, physical and spiritual well-being.

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Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational program

**44.04.02 "Psychological and pedagogical education"
Master's program "Environmental Pedagogy"**

Course title	Concept of Environmental Pedagogy
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Setting the scene.	Concern for the environment. Environmental pedagogy: international development and progress. Threads of a theme: principles and structure. The National Curriculum.
2. The essence, content and strategy of environmental education in modern Russia.	The general concept of environmental education. The main goal of environmental education. The relevance of environmental education in the context of the global environmental crisis. The formation of environmental education. Modern research in the field of environmental education as research at the intersection of philosophy, human ecology, psychology and pedagogy. Environmental education as a leading factor in the implementation of the concept of sustainable development. Philosophical foundations of the formation of modern ecological outlook... Socio-ecological aspects of ecological education and formation of ecological consciousness. Environmental education in the analysis of general strategies for its formation and development in Russia. Goals, objectives, content and main forms of organization of environmental education. Pedagogical and psychological approaches to environmental education, their relationship. Traditional approach. The main categories and concepts of environmental education from psychological and pedagogical positions.
3. Pedagogical foundations of environmental education	Structure and content of environmental education. Principles, methods and means of environmental education. Organizational and methodological foundations of environmental education.
4. Environmental education in schools.	Planning and practice at the primary level. Primary to secondary: a time of transition. Planning and practice at the secondary level. The out-of-school (field work) approach.

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COURSE SYLLABUS SUMMARY

Educational program

44.04.02 “Psychological and pedagogical education”

Master's program "Environmental Pedagogy"

Course title	Concept of Environmental Psychology
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Environmental Psychology: History, Scope, and Methods.	The concept of the object, the subject of environmental psychology. The generality of the object and the difference in the subject in various areas of environmental psychology. System relations "individual-environment", "man-environment" and "man-nature" Psychological ecology. Subject, methodological features and main categories of psychological ecology. Features of interaction in the "individual-environment" system. The idea of an ecologically unfavorable environment. Influence of psychogenic environmental factors on the mental state and development of the human psyche. Origins and causes of the ecological approach in psychology (K. Levin, J. Gibson). The psychology of global change as a direction of environmental psychology, focused on the study of the characteristics of perception and comprehension,
2. Environmental influences on human behavior and well-being.	Environmental risk perception. Climate Change as a Unique Environmental Problem. Scenic Beauty: Visual Landscape Assessment and Human Landscape Perception. Health Benefits of Nature. Restorative Environments. Ambivalence Towards Nature and Natural Landscapes. Human Dimensions of Wildlife. Children and the Natural Environment. Appraising and Designing Built Environments that Promote Well-Being and Healthy Behavior. Urban Environmental Quality. Environment and Quality of Life. Place attachment. Environmental Issues in Low- and Middle-Income Countries.

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Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational program

**44.04.02 “Psychological and pedagogical education”
Master's program "Environmental Pedagogy"**

Course title	Environmental Didactics
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Sources of formation of the theory and methods of teaching ecology.	Theory and methods of teaching ecology: its place and significance in education. History of environmental education. The system of environmental education. Goals of environmental education. Education in ecology.
2. Requirements for the professional activities of an environmental teacher	Features of the professional activity of the teacher-ecologist. Qualification characteristic of the teacher-ecologist. Professional functions of the teacher-ecologist. The educational function of the teacher-ecologist. Requirements for the personality of the teacher.
3. Ecology teaching methods.	Ecology teaching methods. Methods of formation and development of ecological concepts. Methods of formation of skills. Pedagogical technologies in teaching ecology.
4. Forms of teaching ecology.	The system of forms of teaching ecology. General characteristics of the forms of teaching ecology. The lesson as the main and very first form of education in the history of the school. Excursion as an extracurricular form of environmental education.
5. Material base of teaching ecology.	Material base of teaching ecology. An office, a living corner, an educational and experimental site with an environmental department. Methodology for monitoring plant communities, monitoring the air environment.

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COURSE SYLLABUS SUMMARY

Educational program

**44.04.02 "Psychological and pedagogical education"
Master's program "Environmental Pedagogy"**

Course title	Humanitarian Ecology
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Fundamentals of humanitarian ecology.	The history of ideas about humanitarian ecology. The structure of humanitarian ecology in the context of global problems of mankind. Methods of humanitarian ecology. International conceptual solutions in the field of humanitarian ecology.
2. Humanitarian ecology in the system of natural and human sciences.	"Russian cosmism" as a theoretical basis for humanitarian ecology. Environmental ethics. Ecological outlook. noospheric paradigm. Humanitarian aspects of interaction between society and nature. Philosophical problems of ecology and other life sciences. Modern trends and prospects for global processes and possible solutions to global problems of our time. Ecological aesthetics and its role in solving environmental problems.

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Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational program

44.04.02 "Psychological and pedagogical education" Master's program "Environmental Pedagogy"

Course title	Environmental Philosophy
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Philosophy of Science	Philosophy and science in the system of culture, in the history of knowledge and practice. The specifics of the philosophical problems of science. Philosophy, science and technology in the system of culture and in the history of knowledge and practice. The main directions and problems of modern philosophy of science. Types of scientific rationality. Gnoseological and methodological foundations of scientific knowledge. The structure of scientific knowledge. empirical and theoretical knowledge. Mathematization of science. The problem of truth in science. Methodology of scientific knowledge. System methods in science. Mechanisms and socio-cultural aspects of the development of science and technology.
2. Environmental philosophy	Philosophical problems of ecology and other life sciences. Philosophical problems of biology: modern theory of evolution, evolutionary and forest genetics. Philosophical problems of social ecology. Ecological ethics and ethics of scientific and technical activity. Philosophical problems of forest sciences. Modern trends and prospects for global processes and possible solutions to global problems of our time. Philosophical problems of landscape architecture and gardening art. Ecological aesthetics and its role in solving environmental problems. Methodological problems of ecosystem modeling and environmental design.

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COURSE SYLLABUS SUMMARY

Educational program

44.04.02 “Psychological and pedagogical education”

Master's program "Environmental Pedagogy"

Course title	Psychology of Environmental Behavior
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Measuring Environmental Behavior	Environmental behavior. environmental impact. Multidimensional Measures of Environmental Behavior. A Unidimensional Measure of Environmental Behavior.
2. Symbolic Aspects of Environmental Behavior	Identity. Environmental Self-Identity and Behavior. Factors Influencing Identity. impression management.
3. Theories to Explain Environmental Behavior	Theory of Planned Behaviour. Protection Motivation Theory. The Norm Activation Model. The Value-Belief-Norm Theory of Environmentalism. Goal-Framing Theory.
4. Group Processes in Environmental Issues, Attitudes, and Behaviors.	The Role of Group Processes in Environmental Issues, Attitudes, and Behaviors. Social Dilemmas: Motivational, Individual, and Structural Aspects Influencing Cooperation. Types of Social Dilemmas. Motives in Social Dilemmas. Factors Promoting Cooperation. Group Norms guiding Environmental Attitudes and Behaviors. Group Members Influencing Environmental Attitudes and Behaviors. Group Identification Influencing Environmental Attitudes and Behaviors.

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COURSE SYLLABUS SUMMARY

**Educational program
44.04.02 "Psychological and pedagogical education"
Master's program "Environmental Pedagogy"**

Course title	Psychology of Environmental Consciousness
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Fundamentals of the psychology of environmental consciousness.	Psychology of ecological consciousness. Definition and structure of ecological consciousness. Attitude to nature as a subject of psychological research. Archaic, anthropocentric, ecocentric and nature-centric types of ecological consciousness. Sociogenesis and ontogenesis of ecological consciousness.
2. Methods of diagnostics, formation and correction of ecological consciousness	Basic methods for diagnosing types of ecological consciousness. Methods for diagnosing a subjective attitude to nature. Methods of correction of ecological consciousness. The structure of ecological and psychological training. Designing an ecological and social educational environment.
3. The content of the pedagogical process of the formation of the ecological consciousness of the individual	Content of environmental education in the sphere of formation of ecological ideas of the individual. The content of environmental education in the sphere of formation of the individual's attitude to the natural world. The content of environmental education in the field of formation of strategies and technologies for interaction with the natural world.

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COURSE SYLLABUS SUMMARY

Educational program

44.04.02 "Psychological and pedagogical education"

Master's program "Environmental Pedagogy"

Course title	Psychology of Environmental Perception and Emotions
Number of credits (hours)	4 (144)
course content	
course modules	theme
1.Environmental risk perception	Subjective Risk Judgments. Risk, Values, and Morality. Morality and Ethics. Emotional Reactions to Environmental Risks.
2. Environmental stress	Conceptualizations of Stress. Effects of Environmental Stress. noise. Crowding. Poor Housing. Poor Neighborhood Quality. traffic congestion.

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COURSE SYLLABUS SUMMARY

Educational program

**44.04.02 “Psychological and pedagogical education”
Master's program "Environmental Pedagogy"**

Course title	Psychology of Pro-Environmental Behavior
Number of credits (hours)	4 (144)
course content	
course modules	theme
1. Informational Strategies to Promote Pro-Environmental Behavior: Changing Knowledge, Awareness, and Attitudes	Interventions: From Research to Implementation. informational strategies. Provision of information. Goal setting. Commitment. Prompting. feedback. intervention research.
2. Encouraging Pro-Environmental Behavior with Rewards and Penalties.	Analysis of Consequences. Natural Versus Extra Consequences. Negative Versus Positive Consequences. Monetary Versus Non-Monetary Consequences.
3. Persuasive Technology to Promote Pro-Environmental Behavior	Technology and Behaviour. Persuasive Technology. Approaches to Applying Persuasive Technology. Social Influence through Smart Systems. The Role of Social Cues. reaction. Providing Persuasive Experiences. Persuasive Technology as a Tool to Promote Behavior Change. Ambient Persuasion. group interventions.

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Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational program

44.04.02 "Psychological and pedagogical education"

Master's program "Environmental Pedagogy"

Course title	Fundamentals of Biodiversity
Number of credits (hours)	4 /144
Brief Course Content	
course modules	theme
1. Key terms and concepts	The concept of "biodiversity" and the history of its origin. Basic terms and concepts related to biological diversity: gene, genome, genotype, population, line, gene pool, variety, breed, strain, race, species, community, ecosystem, biosphere.
2. Measurement and evaluation of biological diversity	The levels and classification of biodiversity. Alpha-, beta-, gamma- and Epsilon-diversity. The basic parameters of biological diversity are species richness, abundance, species composition.
3. The diversity of life forms of living organisms	Life forms of plants and animals in the assessment of biological diversity. The concept of "life form". System of life forms of plants Raunchier K. and IG Serebryakov. Other approaches to distinguishing life forms in plants. functional types. life forms of animals.
4. Alien, adventive species and biological invasions	Alien species and biological invasions. The impact of the introduction and unintentional introduction into the change of biodiversity. The concept of "alien or adventive species", "species", "aggressive exotic species"
5. The biodiversity conservation strategy	General idea of national and international measures for the conservation of biological diversity. The basic normative documents.

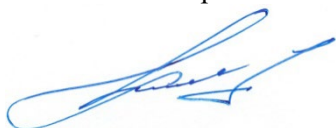
DEVELOPER:

Associate Professor of the Department of Rational Nature Management Galina Vyacheslavovna Polynova



Head of the Department:

Director of the Department of Rational Nature Management Kucher Dmitry Evgenievich



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**Federal State Autonomous Educational Institution for Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA (RUDN University)**

Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational programme

**44.04.02 "Psychological and pedagogical education"
Master's programme "Environmental Pedagogy"**

Course title	Green Economy and Sustainability Assessment Tools
Number of credits (hours)	4 /144
Brief Course Content	
course modules	theme
1. Sustainability and circular economy	Basic principles of the circular economy. Circular economy model. Infrastructure of the circular economy. Theoretical foundations of the circular economy. Formation of the subject area, concept and features. The concept of "cradle to cradle". The model of the circular economy and the stages of its formation. Indicators of sustainable development in the field of waste management. Basic principles of the circular economy in the field of waste management.
2. Climate-neutral resource management	Contribution of the waste management sector to the Earth's climate. Water resources and climate change. Adaptation and mitigation strategies.
3. Cleaner production	Drinking Water treatment. Water properties, water treatment stages.
4. Green technologies in wastewater treatment	Basic characteristics of wastewater. Oil and grease. Other important wastewater characteristics. Aerobic, anoxic, anaerobic biological treatment. Aerobic biological treatment. Anoxic biological treatment. Anaerobic biological treatment. Microorganisms in wastewater. Biological cells. Ecology of biological wastewater treatment. Reaction kinetics.

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**Federal State Autonomous Educational Institution for Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA (RUDN University)**

Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational programme

**44.04.02 "Psychological and pedagogical education"
Master's programme "Environmental Pedagogy"**

Course title	Computer technologies in education
Number of credits (hours)	4 /144
Brief Course Content	
course modules	theme
1. The role of information in society	The concept of information. Types of information. Information and its properties. Search for information The role of information activity in modern society: economic, social, cultural, educational spheres
2. The concept of informatization and information culture	Informatization of society Information potential of society Fundamentals of information culture
3. Information technologies and their evolution	The concept of information technology Information technologies classification Stages of the evolution of information technology
4. The concept of information and educational environment	Information and educational environment of an educational institution Components of the information and educational environment of an educational institution. Network resources for the formation of an electronic educational environment.
5. Multimedia and electronic educational resources	The concept of multimedia educational resources. Classification of multimedia educational resources. Advantages and disadvantages of using multimedia in education. Requirements for electronic educational resources.
6. Digital Security	The main components of information security Information security tools Personal information protection

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Institute of Ecology

COURSE SYLLABUS SUMMARY

Educational programme

**44.04.02 "Psychological and pedagogical education"
Master's programme "Environmental Pedagogy"**

Course title	<i>Fundamentals of Environmental Science</i>
Number of credits (hours)	4 (144)
Course content	
Course modules	Theme
Module	Content
1. Introduction to General Ecology	Definition, purpose, tasks of ecology. Position in the system of sciences, structure.
2. Autecology	Ecology of organisms. Factorial ecology, concept of limiting factor, tolerance, optimum. The main abiotic and biotic factors of the environment and the adaptation of organisms to them. The concept of an ecological niche. Basic living environments.
3. Population Ecology	The nature of the distribution of organisms in space. Properties of a population group. Main characteristics of populations. Population structure of the species. Sex, age, spatial and ethological structures of populations. The concept of the dynamics and homeostasis of populations. General patterns of population regulation, modifying and regulating factors, main types of population dynamics
4. Synecology	Biocenosis and ecology of communities. Community as a set of interacting populations. Types of interaction between two species. The concept of an ecosystem. Functional diagram, structure and methods for studying ecosystems. The main components of ecosystems are autotrophs, heterotrophs and decomposers. Classification of ecosystems and their main types. Energy in ecosystems. Biosphere as the highest level of organization of living matter. biogeochemical cycles. Ecological succession as a process of ecosystem development. Development of ecosystems in space and time. Primary and secondary succession of ecosystems.
5. Anthropogenic impacts on the environment	Modern global environmental problems. Problems of exhaustion of natural resources and environmental pollution. City ecology. Environmental protection and rational use of natural resources.

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COURSE SYLLABUS SUMMARY

**Educational program
44.04.02 "Psychological and pedagogical education"
Master's program "Environmental Pedagogy"**

Course title	Environmental Education
Number of credits (hours)	3 (108)
course content	
course modules	theme
1. General concepts of environmental education	The concept of environmental education. The main goal of environmental education. The relevance of environmental education in the context of the global environmental crisis. The main categories and concepts of environmental education from psychological and pedagogical positions.
2. Formation of environmental education	History of environmental education. Modern research in the field of environmental education as research at the intersection of philosophy, ecology, psychology and pedagogy. Environmental education in the analysis of general strategies for its formation and development in Russia.
3.Environmental education as a leading factor in the implementation of the concept of sustainable development	Environmental education as a leading factor in the implementation of the concept of sustainable development. Socio-ecological aspects of environmental education and the formation of environmental consciousness. Goals, objectives, content and main forms of organization of environmental education. Pedagogical and psychological approaches to environmental education, their relationship.
4. Education by nature: methodological aspects of environmental education	Historiogenesis of nature-oriented activity of students. The essential characteristic of the concept of "nature-oriented activity of students". The structure of nature-oriented activity of students as a condition for the formation of environmental consciousness. Typology and main forms of nature-oriented activity of students. Peculiarities of students' assimilation of environmentally oriented values as the semantic core of the emerging ecological consciousness. Developing environmental educational environment as a set of conditions for the implementation of nature-oriented activities by students, its structure, requirements for its theoretical design and practical implementation. The essence of the methodological model of environmental education "Education by nature". Traditional forms and methods of assessing and evaluating knowledge, skills, and activity skills, characterizing the formation stages of competencies.

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