RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Ecologic-economical aspects of environmental projects
Number of credits (hours)	6 (216)
Content of the discipline	
Units of the discipline	Summary of units
Introduction	Projects. Environmental design concept. Stages of development and implementation of the project / Feasibility study of projects. The composition of the feasibility study. Requirements for the content of sections of the feasibility study. Environmental justification of investment projects. The concept of environmental support of economic activities
Economic efficiency of investment projects	Methods for assessing the economic efficiency of investment projects. Performance indicators. Taking into account the time factor. The concept of project sustainability and its role in investment decisions
Environmental support of economic activities at the pre-project stage	Environmental support of economic activities at the pre-project stage. Basic documentation. Expertise of projects and ecological justification of projects. The concept of EIA as part of project documentation
Environmental support during the construction phase	Environmental support during the construction phase of the facility. Environmental impacts during construction of facilities and environmental optimization
Environmental support on the stages of operation and liquidation	The stage of operation of facilities and the stage of liquidation (completion of the project): the main types of environmental impact. Procedures and documentation for environmental support of economic activities.

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of management"

Name of the discipline	Economic aspects of natural resources management
Number of credits (hours)	2 (72)
Content of the discipline	
Units of the discipline	Summary of units
Introduction	Introduction. Methods for assessing natural resources. Natural resource potential: economic assessment methods.
Economic assessment of non-renewable resources	Economic assessment of non-renewable resources: main features. Approaches to the economic assessment. Practical examples
Economic assessment of renewable resources	Economic assessment of renewable resources: main features. Approaches to the economic assessment. Practical examples.
The resource base of enterprises, methods of its assessment and analysis of the effectiveness of use	The resource base of enterprises, methods of its assessment and analysis of the efficiency of use. The concept of the natural intensity of technological processes. Possibilities of regulating the natural intensity. Environmental and economic damages as "negative resources": assessment methods. The principles of the "green economy" and the possibilities of their practical implementation at enterprises.
Multifunctional resources and the specifics of their assessment in projects	Alternative estimates of natural resources. Multifunctionality of resources and problems of ensuring the efficiency of natural resources use.

Developers:

Prof., department of Applied ecology — Khaustov A.P.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

Федеральное государственное автономное образовательное учреждение высшего образования «Российский университет дружбы народов»

Экологический факультет

АННОТАЦИЯ УЧЕБНОЙ ДИСЦИПЛИНЫ

Образовательная программа
05.04.06 Экология и природопользование
Программа магистратуры «Economics of natural resources management»

Наименование дисциплины	Environmental statistics
Объём дисциплины	3 ЗЕ (108 час.)
Краткое содержание дисциплины	
Название разделов (тем) дисциплины	Краткое содержание разделов (тем) дисциплины
1. Введение.	Окружающая среда как объект статистического наблюдения. Источники статистических данных в области охраны окружающей среды, экологической безопасности и управления природопользованием
2. Государственное статистическое наблюдение	Государственное статистическое наблюдение. Системы учета и отчетности. Теоретические основы статистики окружающей среды. Характеристика природных ресурсов как части национального богатства. Система показателей статистики природных ресурсов. Статистика окружающей среды и природных ресурсов
3. Экологическая статистика предприятий и компаний	Статистическое наблюдение в области природопользования и устойчивого развития на уровне предприятий и компаний. Форматы отчетности. Использование результатов наблюдений
4. Методы статистической обработки и анализа данных	Методы статистической обработки и анализа данных. Корреляционно-регрессионный анализ. Основные понятия корреляционного и регрессионного анализа. Основные задачи и предпосылки применения корреляционно-регрессионного метода. Корреляционно-регрессионный анализ природных ресурсов РФ
5. Прикладной анализ данных	Статистические методы и анализ данных для обработки результатов мониторинга окружающей среды. Классификации в экологической геохимии. Анализ данных в экономике природопользования

Разработчики:

Зав. кафедрой прикладной экологии — Редина М.М.
должность, название кафедры — подпись — инициалы, фамилия

Заведующий кафедрой прикладной экологии — Редина М.М.
название кафедры — подпись — инициалы, фамилия

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Environmental statistics
Number of credits (hours)	3 (108)
Content of the discipline	
Units of the discipline	Summary of units
1. Introduction	The environment as an object of statistical observation. Sources of statistical data in the field of environmental protection, ecological safety and environmental management
2. State statistical observation	State statistical observation. Accounting and reporting systems. Theoretical foundations of environmental statistics. Characterization of natural resources as part of the national wealth. System of indicators for statistics of natural resources. Environment and natural resources statistics
3. Environmental statistics of enterprises and companies	Statistical observation in the field of environmental management and sustainable development at the level of enterprises and companies. Reporting formats. Using observation results
4. Methods of statistical processing and data analysis	Methods of statistical processing and data analysis. Correlation and regression analysis. Basic concepts of correlation and regression analysis. The main tasks and prerequisites for the application of the correlation-regression method. Correlation-regression analysis of natural resources of the Russian Federation
5. Applied data analysis	Statistical methods and data analysis for processing the results of environmental monitoring. Classifications in environmental geochemistry. Data analysis in environmental economics.

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	ESTIMATIONS OF NATURAL RESOURCES
Number of credits (hours)	2 (72)
Content of the discipline	
Units of the discipline	Summary of units
Introduction	Natural resources in the nature management. Classifications of natural resources
Qualitative and quantitative evaluations of mineral resources	Qualitative and quantitative evaluations of mineral resources, main criteria, indicators, approaches, problems and practice in the countries of the world
Qualitative and quantitative evaluations of water resources	Qualitative and quantitative evaluations of water resources, main criteria, indicators, approaches, problems and practice in the countries of the world
Qualitative and quantitative evaluations of biological resources	Qualitative and quantitative evaluations of biological resources, main criteria, indicators, approaches, problems and practice in the countries of the world
Qualitative and quantitative evaluations of energy resources	Qualitative and quantitative evaluations of energy resources, main criteria, indicators, approaches, problems and practice in the countries of the world

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Industrial nature management and economics
Number of credits (hours)	2 (72)
Content of the discipline	
Units of the discipline	Summary of units
1. Introduction to the industrial nature management	Concept of nature management. Evolution and features of the industrial nature management. Modern problems of nature management in the industrial sector of the economy. Modern tendencies
2. Sectoral problems of industrial nature management	Problems of industrial nature management in mining industry Problems of industrial nature management in fuel and energy complex Problems of industrial nature management in chemical industry Problems of industrial nature management in the transport industry
3. Environmental and economic consequences of sectoral problems of industrial nature management	Concept of the environmental damage. Approaches to the calculation of damages in different sectors of economy. Evaluation of natural environmental damage and its economic equivalents. Environmental damage calculation as a base for the evaluation of economic efficiency of nature protection
4. Best available technologies in the industrial nature management	Concept of BATs. Development of the system of regulation in the industrial nature management. Actual European experience and national features of BAT standardization
5. Economic efficiency of environmental protection projects	Basics of economic assessment of the efficiency of environmental protection projects. Components of the environmental and economic efficiency and their calculation.

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Industrial safety
Number of credits (hours)	2 (72)
Content of the discipline	
Units of the discipline	Summary of units
1. Introduction to Industrial Safety. Hazardous production facilities. Threats to industrial safety: accidents and emergencies.	Industrial safety concept. Russian legislation in the field of industrial safety. Relevance of industrial safety issues. Understanding of hazardous production facilities, their functioning and identification methods. Regulation of hazardous production facilities. International cooperation and foreign experience in industrial safety management. International documents in the field of industrial safety management. International organizations. Russia's commitments
2. State regulation in the field of industrial safety. Critical objects of the economy. International cooperation and foreign experience in industrial safety management	State bodies for ensuring industrial safety. Their functions and powers. Industrial safety management methods. Critical objects of the economy: methods of their identification and methods of ensuring their functioning. Normative base. Security techniques
3. Industrial safety risks. Emergency events and procedures for their investigation Software for risk analysis at hazardous production facilit	Understanding the risks and dangers. Risk identification and management methods. Industrial safety insurance. Software for risk analysis at hazardous production facilities. Information Systems. Software complexes. Domestic and foreign practice
4. Planning and prevention of emergency situations at chemically hazardous facilities Planning and prevention of emergencies with oil spills	Planning and prevention of emergency situations at chemically hazardous facilities in Russia. PLAS formation: main sections, the order of their filling; procedures for approval and implementation of the plan. Russian and foreign practice. Planning and prevention of emergencies with oil spills. Formation of OSRP: main sections, the order of their filling; procedures for approval and implementation of the plan. Major planning mistakes. Russian and foreign practice
5. Industrial safety declaration and examination of hazardous industrial facilities	Industrial safety declaration for hazardous industrial facilities. Industrial safety expertise. Normative base. Emergency events and procedures for their investigation. Normative base. Practical examples of accident investigation procedures

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Ecologic-economical aspects of environmental projects
Number of credits (hours)	3 (108)
Content of the discipline	
Units of the discipline	Summary of units
Introduction. Application of computer technologies in the work of an ecologist	Computational methods for assessing environmental impact, risk assessment, etc. Application of computer tools (Excel) for economic and environmental calculations. Specialized programs for complex calculations for environmental impact assessment, risk analysis. Graphics processing software
Primary processing of statistical data in Excel	Distribution characteristics, their interpretation and methods of finding them in a given sample. Compilation of interval series and determination of characteristics for a series. Visualization of statistical data
Assessment of the characteristics of the general population. Observation errors	Observation errors and confidence intervals for characteristics of large and small samples. Determination of the required sample size
Testing statistical hypotheses	Statistical hypotheses and their application to solving real problems. Parametric criteria and conditions for their application. Testing the hypothesis about the distribution law. Comparison of two samples by mean value and comparison of variances of two samples using parametric tests. Nonparametric tests. Computing consistent ranks. Comparison of two samples by the mean and comparison of variances of two samples using nonparametric tests. Data consistency assessment.
ANOVA	Comparison of averages in more than two objects. Analysis of variance. Nonparametric ANOVA
Correlation-regression analysis	Statistical connection and methods of its study. Correlation coefficient: graphical assessment, Pearson, Spearman, Kendall coefficients. Linear regression analysis. Pairwise linear regression. Multiple Linear Regression. Non-linear regression models. Correlation ratio

Time series analysis	Dynamic (time) series, their classification, structure, tasks and conditions of study. Indicators of the analysis of the series of dynamics. Time series trend analysis. Making forecasts. Revealing seasonal irregularities in time series

Developers:

Assoc. prof.,
the department of Applied ecology — Ledascheva T.N.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Management of natural resources
Number of credits (hours)	5 (180)
Content of the discipline	
Units of the discipline	Summary of units
Introduction to natural resources management	Theoretical basics of natural resources management.
Assessment of the resource base of nature management	Systems of nature use and management: structure, descriptions. management
State management of natural resources	State regulation of natural resources management. International practice. Efficiency and problems of the state regulation
Methods of natural resources management	Administrative, economic and informational approaches and their combination. International practice.
"Green economy" and tools for its regulation	Concept of “green economy”. Modern problems of the waste in industry and household and their regulation in the “Green economy” strategy

Developers:

Prof., department of Applied ecology — Khaustov A.P.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	NATURAL AND INDUSTRIAL EMERGENCY SITUATIONS AND ACCIDENTS
Number of credits (hours)	2 (72)
Content of the discipline	
Units of the discipline	Summary of units
Natural risks: types, sources	Natural disasters and their consequences
Technogenic risks: sources, types	Technogenic disasters and their consequences
Methodology of risk evaluation	Methodology of risk evaluation: regulations, estimation approaches
Risk management approaches	Main principles of risk management for the regulation of natural and technogenic risks:
Praxis of risk management	Practical examples of risk management approaches

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

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Экологический факультет

АННОТАЦИЯ УЧЕБНОЙ ДИСЦИПЛИНЫ

PHILOSOPHICAL PROBLEMS OF NATURE SCIENCES

Образовательная программа

05.04.06 «Economics of natural resources management»
(наименование образовательной программы (профиль, специализация)

Наименование дисциплины	**PHILOSOPHICAL PROBLEMS OF NATURE SCIENCES**
Объём дисциплины	**2 ЗЕ (72 час.)**
Краткое содержание дисциплины	
Название разделов (тем) дисциплины	**Краткое содержание разделов (тем) дисциплины:**
Features of philosophical problems	The crisis of metaphysics. Philosophical problems of technology. Philosophical problems of modern science Philosophical problems of physics and cosmology
Skepticism in modern philosophy	The problem of rationality The induction problem
Linguistic turn in philosophy	The problem of truth. The problem of consciousness. Communicative program by J. Habermas

Заведующий кафедрой
Прикладной экологии _____ Редина М.М.
название кафедры подпись инициалы, фамилия

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Management of environmental-economic risks
Number of credits (hours)	4 (144)
Content of the discipline	
Units of the discipline	Summary of units
Introduction	The concept of environmental risks. Enterprise risks and their assessment. Project risks, their minimization and the need to take into account in the analysis of the sustainability of investment projects
Analysis and assessment of risk	Environmental and economic risks and methods of their analysis and assessment. Risk identification. Risk factors. Economic characteristics of environmental risks
Environmental risk and environmental projects	Environmental and industrial safety risks in investment projects. Climatic risks.
Management of risks in nature management	Management of risks. Environmental insurance. Minimization of environmental risks for the sustainable operation of enterprises
Minimization of environmental risks	Minimization of environmental risks and implementation of environmental management systems

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.

RUDN University

Faculty of Ecology

SUMMARY OF THE DISCIPLINE

Educational program

05.04.06 Ecology and nature management
Master's program "Economics of natural resources management"

Name of the discipline	Standards of environmental management and occupational safety
Number of credits (hours)	2 (72)
Content of the discipline	
Units of the discipline	Summary of units
Management Basics	Product and technology life cycle. The strategic goals of the firm. Company mission Building a SWOT analysis matrix Analysis of the system of environmental management standards
Introduction to the subject. Professional risks and methods of their management	Study of the structure and content of the OHSAS 18001 standard. Development of an enterprise policy. Assessing the significance of aspects
Regulatory and methodological base of labor protection at enterprises and organizations.	Development of an audit plan. Drawing up checklists.
Creation of professional safety management systems	Evaluation of the effectiveness of the management system based on the requirements of ISO 14031
Occupational safety management systems as part of integrated management systems	Integrated management systems. Regulation of occupational safety and occupational risks within the framework of the IMS.

Developers:

Head of the department of Applied ecology — Redina M.M.
должность, название кафедры — подпись — инициалы, фамилия

Head of the Department of Applied ecology — Redina M.M.