PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA NAMED AFTER PATRICE LUMUMBA

Institute of Environmental Engineering

(наименование основного учебного подразделения (ОУП)-разработчика ОП ВО)

COURSE SYLLABUS

ENVIRONMENTAL-ECONOMIC ASPECTS OF ENVIRONMENTAL PROJECTS

(наименование дисциплины/модуля)

Recommended by the Methodological Council for the Education Field:

05.04.06 Ecology and nature management

(код и наименование направления подготовки/специальности)

The discipline is mastered within the framework of the main professional higher education program:

Economics of natural resources management

(наименование (профиль/специализация) ОП ВО)

2025

1. COURSE GOALS

The purpose of the discipline is to get acquainted with basics of environmental and economic justification of a project cycle and reduction of environmental risk on all stages of project activities.

2. LEARNING OUTCOMES

The mastering of the discipline "Environmental-economic aspects of environmental projects" is aimed at the formation of the following competencies (parts of competencies) in students:

Table 2.1. List of competencies formed by students during the development of the discipline (LEARNING OUTCOMES)

Code	Competence	Indicators of competence achievement (within the framework of this discipline)
GPC-2	Able to use special and new sections of ecology, geoecology and nature management in solving research and applied problems of professional activity.	**GPC -2.1** Knows the basics of ecology, geoecology, environmental economics and circular economy, as well as environmental management
		GPC -2.2 Able to use environmental, economic and other special knowledge and algorithms to solve professional problems
		GPC -2.3 Able to find, analyze and competently use the latest information and modern techniques in the performance of research and applied tasks
GPC-3	Able to apply environmental research methods to solve research and applied problems of professional activity	**GPC -3.1** Knows the principles and methods of environmental monitoring of environmental components
		GPC -3.2 Owns analytical methods for monitoring pollutants and physical impacts and processing the information received
		GPC -3.3 Able to develop systems for environmental monitoring and control in production and solve applied problems in professional activities
SPC-5	Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	SPC-5.1 Able to develop and plan the implementation of standard environmental measures, taking into account international practice and the requirements of national legislation
		SPC-5.2. Has the skills to assess the impact of planned structures or other forms of economic activity on the environment
		SPC-5.3 Knows the requirements for the preparation and implementation of programs for the environmental modernization of enterprises, the introduction of BAT, the organization of environmental monitoring, accounting and reporting

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline " Environmental-economic aspects of environmental projects" refers to Compulsory Disciplines of the Higher Education Program.

Within the framework of the higher education program, students also master other disciplines and/or practices that contribute to expected learning outcomes of the discipline "Environmental-economic aspects of environmental projects".

Table 3.1. List of Higher Education Program components that contribute to expected learning outcomes

Code	**Competence**	Previous Disciplines (Modules)	Subsequent Disciplines (Modules)
GPC -2	Able to use special and new sections of ecology, geoecology and nature management in solving research and applied problems of professional activity..	Estimations of natural resources / Оценки природных ресурсов Methodology of scientific creation / Методология научного творчества Economic aspects of natural resources management / Экономические аспекты природопользования History and methology of ecology and natural resources management / История и методология экологии и природопользования Iternational collaboration / Международное сотрудничество Engineering ecology / Инженерная экология Monitoring of environmental impacts / Мониторинг экологических воздействий Industrial safety / Промышленная безопасность Simulation and prevention of accidents / Моделирование и предупреждение аварий Учебная практика / Educational practice Научно-исследовательская работа / Research work	Environmental norms for sustainability / Экологические нормы для устойчивого развития Management of water resources / Управление водными ресурсами Environmental standards and nature management / Экологические стандарты и природопользование Modern remediation technologies / Современные технологии ремедиации Modern technologies for nature protection / Современные технологии защиты окружающей среды Производственная практика / Production practice НИР / Research work Преддипломная практика / Pre-graduate practice
GPC-3	Able to apply environmental research methods to solve research and applied problems of professional activity	Estimations of natural resources / Оценки природных ресурсов Economic aspects of natural resources management / Экономические аспекты природопользования Occupational safety and HSE-audit / Охрана труда и HSE-аудит Wastes: Landfills, Processing and Recycling / Отходы:	Standards of environmental management and occupational safety / Стандарты экологического менеджмента и охраны труда Management of energy resources / Менеджмент ресурсов энергетики Modern technologies for nature protection / Современные технологии защиты окружающей среды

Code	Competence	Previous Disciplines (Modules)	Subsequent Disciplines (Modules)
		хранение, захоронение, рециклинг Surface water quality: modeling and management / Качество поверхностных вод: моделирование и менеджмент Учебная практика / Educational practice	Modern remediation technologies / Современные технологии ремедиации Environmental noms for sustainability / Экологические нормы для устойчивого развития Производственная практика / Production practice Научно-исследовательская работа / Research work НИР / Research work Преддипломная практика / Pre-graduate practice
SPC-5	Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	Estimations of natural resources / Оценки природных ресурсов Management of environmental-economic risks / Управление эколого-экономическими рисками Environmental statistics / Экологическая статистика Environmental accounting and reporting / Экологический учет и отчетность Wastes: Landfills, Processing and Recycling / Отходы: хранение, захоронение, рециклинг Учебная практика / Educational practice	Environmental standards and nature management / Экологические стандарты и природопользование Modern remediation technologies / Современные технологии ремедиации Surface water quality: modeling and management / Качество поверхностных вод: моделирование и менеджмент Производственная практика / Production practice Научно-исследовательская работа / Research work НИР / Research work Преддипломная практика / Pre-graduate practice

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

Workload of the course « Environmental-economic aspects of environmental projects » is 2 ECTS.

Table 4.1. Types of academic activities during the period of the HE program mastering

Вид учебной работы	TOTAL	Semesters			
		1	2	3	4
Contact academic hours	*18*		*18*		
Incl.:					
Lectures					
Lab work					
Seminars	18		18		
Self-study	*33*		*33*		

Вид учебной работы		TOTAL	Semesters			
			1	2	3	4
Evaluation and assessment		*12*		*12*		
Total workload	Ac.hours	**72**		**72**		
	ECTS	**2**		**2**		

5. COURSE CONTENTS

Table 5.1. The content of the discipline (module) by type of academic work

Name of the discipline section	Content of the section (topics)	Type of academic activity*
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	Seminars
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	Seminars
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	Seminars
Environmental support during the construction phase	Environmental support during the construction phase of the facility. Environmental impacts during construction of facilities and environmental optimization	Seminars
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.	Seminars

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Classroom for Academic Activity Type	CLASSROOM EQUIPMENT	Specialized learning, laboratory equipment, software and materials for the mastering the course
Seminars	Classroom, equipped with a set of specialized furniture; whiteboard; a set of devices includes portable multimedia projector, laptop, projection screen, Stable wireless Internet connection. Software: Microsoft Windows,	-

Classroom for Academic Activity Type	CLASSROOM EQUIPMENT	Specialized learning, laboratory equipment, software and materials for the mastering the course
	MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype	
Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to an electronic information and educational environment.	-

7. RECOMMENDED SOURCES FOR COURSE STUDIES

Main reading:

Ledashcheva T. N., Pinaev V. E. Environmental support of projects in Russia–modern practices. – 2019.

Additional sources:

1. Ledashcheva T. N., Pinaev V. E. Environmental baseline assessment-changes 2022 //RUDN Journal of Ecology and Life Safety. – 2021. – Т. 29. – №. 4. – С. 381-385.
2. Ledashcheva T., Pinaev V. Prospects of implementation of the practice of “green office” or “sustainable office” in Russia //Green Design and Sustainable Architecture. https://doi. org/10.5593/sgem2018V/6.4 S. – 2019. – Т. 10. – С. 091.

Internet-sources:

1. Electronic library system of the RUDN and third-party electronic library systems, to which university students have access on the basis of concluded contracts:

- electronic library system of the RUDN University http://lib.rudn.ru/MegaPro/Web
- electronic library system «Университетская библиотека онлайн» http://www.biblioclub.ru
- electronic library system Юрайт http://www.biblio-online.ru
- electronic library system «Консультант студента» www.studentlibrary.ru
- electronic library system «Лань» http://e.lanbook.com/
- electronic library system «Троицкий мост»

2. Databases and search engines:

- electronic fund of legal and regulatory and technical documentation http://docs.cntd.ru/
- Yandex search engine https://www.yandex.ru/
- Google search engine https://www.google.ru/
- abstract database SCOPUS http://www.elsevierscience.ru/products/scopus/
- ……..

*Educational and methodological materials for independent work of students during the development of the discipline/ module *:*

1. A course of lectures on the discipline "Environmental-economic aspects of environmental projects".

* - all educational and methodological materials for independent work of students are placed in accordance with the current procedure on the discipline page in the Telecommunication educational and Information System!

8. MID-TERM ASSESSMENT AND EVALUATION TOOLKIT

Evaluation materials and a point-rating system* for assessing the level of competence formation (part of competencies) based on the results of mastering the discipline "Environmental-economic aspects of environmental projects" are presented in the Appendix to this Work Program of the discipline.

* - evaluation toolkit and ranking system are formed on the basis of the requirements of the relevant local regulatory act of the RUDN (regulations / order).

DEVELOPER:

Assoc. Professort of the ESandPQM Department		**Pinaev V.E.**
Position, Department	Signature	Name

HEAD OF THE DEPARTMENT:

Head of the Department of Environmental Safety and Product Quality Management		**Savenkova E.V.**
Department	Signature	Name

HAED OF THE HIGHER EDUCATION PROGRAM:

Professor of the Department of Environmental Safety and Product Quality Management		**Redina M.M.**
Position, Department	Signature	Name