PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA NAMED AFTER PATRICE LUMUMBA

Institute of Environmental Engineering

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

COURSE SYLLABUS

ENVIRONMENTAL NORMS FOR SUSTAINABILITY

(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 course goal is the formation of competencies in accordance with the state educational standard in the direction of 05.04.06, including:

- formation of students' systemic ideas about the theoretical and methodological foundations of environmental regulation;
- formation of ideas about the role of environmental regulation as the main instrument of environmental protection;
- informing students about current trends in the development of the environmental regulatory framework and its implementation, the role of environmental regulation as a basis for effective environmental management and the formation of a sustainable economy;
- informing students about approaches to the harmonization of standards and current trends in the development of domestic environmental standards;
- development of skills in the development of environmental standards and assessments of the sustainability of natural systems, skills in the application of environmental standards in organizational, management and design and production activities.

To achieve this goal in the course of teaching the course, the following tasks are solved:

- formation of ideas about the stability of natural systems;
- creation of a systematic understanding of the structure of environmental regulation in the Russian Federation;
- informing about foreign experience in environmental regulation and harmonization of standards in the field of environmental management;
- analysis of the current system of environmental regulation for various areas of nature management;
- formation of ideas about environmental regulation as a basis for economic regulation of nature management.

2. LEARNING OUTCOMES

The mastering of the discipline "Environmental norms for sustainability" 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)
GC-1	Able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions.	**GC-1.1** able to analyze a problem situation as a system, identifying its components and the connections between them
GPC -3	Able to apply environmental research	**GPC -3.1** Knows the principles and methods of environmental monitoring of environmental components

	methods to solve research and applied problems of professional activity.	**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
GPC-3	Able to apply ecological research methods to solve research and applied problems of professional activity	**GPC-3.1** Able to identify and possess the skills to solve problems, tasks of scientific research in the field of urban geography, environmental problems of cities;
PC-3	masters the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computing systems	**PC-3.2** Able to formulate recommendations and proposals for preventing and reducing adverse consequences;
PC-6	able to diagnose environmental protection problems, develop practical recommendations for its protection and ensure sustainable development	PC-6.2 Able to analyze and evaluate available resources and conditions necessary for the implementation of research;

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline "Environmental norms for sustainability" 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 norms for sustainability".

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

Code	**Competence**	Previous Disciplines (Modules)	Subsequent Disciplines (Modules)
GC-1	Able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions.	Modern technologies for nature protection;Methodology of Scientific Creation; Work Experience Internship; Research Work;	Pre-graduation Practical Training;
GPC -3	Able to apply environmental research methods to solve research and applied problems of professional activity.	Environmental Impact Assessment (EIA) of SWM objects; Methodology of Scientific Creation; Work Experience Internship; Research Work;	Pre-graduation Practical Training;

PC-3	masters the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computing systems	Regional & Municipal MSW Management Systems;Work Experience Internship; Research Work;	Pre-graduation Practical Training;
PC-6	able to diagnose environmental protection problems, develop practical recommendations for its protection and ensure sustainable development	Research Work;Regional & Municipal MSW Management Systems;*Basics of Circular Economics***; *Green Economy and Tools for Enterprises Sustainable Development***;	Pre-graduation Practical Training;

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

Workload of the course «Environmental norms for sustainability» is 3 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		*34*			*34*	
Incl.:						
Lectures		17			17	
Lab work						
Seminars		17			17	
Self-study		23			23	
Evaluation and assessment		15			15	
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	Modern problems of nature management. Environmental norms and standards as a base for the efficient nature management	L, S
Environmental norms and regulations for the atmosphere protection	Factors of the pollution and self-purification of the atmosphere. Main models of the atmosphere pollution. Norms of the atmospheric quality: approaches to the setting of norms and examples. Regulation of the atmospheric pollution	L, S
Environmental norms and regulations for the protection of water quality	Factors of the pollution and self-purification of the water bodies. Basic models of the pollution of water flows: the Russian experience. Norms of water quality	L, S

Environmental norms and regulations for the protection of soil	Soil quality standards: approaches to justification of norms, types of norms, examples	L, S
Environmental norms and regulations in the waste management	Pyramid of the waste management. Waste as the "secondary resources": recycling and "waste to energy" technologies. Norms for the assessment of the waste danger. Norms of the waste formation, accumulation, storage and processing	L, S

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, 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:

1. Khaustov A. P., Redina M. M. Environmental standards and norms. – 2020. URL: https://izd-mn.com/PDF/47MNNPU20.pdf

Additional sources:

1. DEVELOPMENT AND INTERNATIONAL ECONOMIC CO-OPERATION: ENVIRONMENT. Report of the World Commission on Environment and Development. URL: http://upload.wikimedia.org/wikisource/en/d/d7/Our-common-future.pdf

2. REPORT OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (Rio de Janeiro, 3-14 June 1992). URL: https://www.un.org/documents/ga/conf151/aconf15126-3annex3.htm

3. Shaker, R.R. (2015). The spatial distribution of development in Europe and its underlying sustainability correlations. Applied Geography, 63, 304-314.

4. SUSTAINABLE DEVELOPMENT KNOWLEDGE PLATFORM. URL:

https://sustainabledevelopment.un.org *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 norms for sustainability".

* - 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 norms for sustainability" 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:

Professor-consultant		**Khaustov A.P.**
Position, Department	Signature	Name

HEAD OF THE DEPARTMENT:

Head of the Department of

Savenkova E.V.

Department	Signature	Name

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