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**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)

1. COURSE GOALS

The discipline "Environmental Regulation for Sustainable Development" is part of the Master's program "Integrated Municipal Solid Waste Management" in the field of study 05.04.06 "Ecology and Environmental Management" and is studied in the 3rd semester of the 2nd year. The discipline is delivered by the Department of Environmental Safety and Product Quality Management.

The discipline consists of 5 sections and 5 topics and is aimed at developing 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.

• 2. REQUIREMENTS FOR 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)
GPC -3	Capable of employing ecological research methods for addressing scientific-research and applied problems within professional practice.	GPC -3.1 Capable of identifying problems and research tasks in the field of urban geography and urban ecological issues, and possesses mastery of skills for their resolution.
PC-3	Mastery of the basics of project planning, expert-analytical work, and conduct of research employing contemporary approaches and methodologies, instrumentation, and computing facilities	PC-3.2 Capable of formulating recommendations and proposals aimed at preventing and mitigating adverse consequences

PC-6	Capability to diagnose issues related to nature conservation, formulate practical recommendations for environmental protection, and ensure sustainable development	PC-6.2 Capable of performing analysis and evaluation of available resources and conditions required for the conduct of research.
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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)
GPC -3	Capable of employing ecological research methods for addressing scientific-research and applied problems within professional practice.	Environmental Impact Assessment (EIA) of SWM objects; Research Work; Work Experience Internship;	Pre-Graduation Practice;
PC-3	Mastery of the basics of project planning, expert-analytical work, and conduct of research employing contemporary approaches and methodologies, instrumentation, and computing facilities	Regional & Municipal MSW Management Systems; Research Work; Work Experience Internship;	Pre-Graduation Practice;
PC-6	Capability to diagnose issues related to nature conservation, formulate practical recommendations for environmental 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 Practice;

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		54			54	
Incl.:						
Lectures		18			18	
Lab work						
Seminars		36			36	
Self-study		42			42	
Evaluation and assessment		12			12	
Total workload	Ac.hours	108			108	
	ECTS	3			3	

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
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Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype.
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	Microsoft Windows 7 corporate. License No. 5190227, date of issue March 16, 2010 MS Office 2007 Prof , License # 6842818, date of issue 09/07/2009
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>

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/> -
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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
Environmental Safety and
Product Quality Management

Savenkova E.V.

Department

Signature

Name

HAED OF THE HIGHER EDUCATION PROGRAM:

Associate Professor of the
Department of Nature Management

Kapralova D.O.

Position, Department

Signature

Name