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Информация о владельце:  
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Должность: Ректор  
Дата подписания: 18.05.2026 10:19:17  
Уникальный программный ключ:  
ca953a0120d891083f939673078ef1a989dae18e

**PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA**  
**NAMED AFTER PATRICE LUMUMBA**  
**Institute of Environmental Engineering**

educational division (faculty/institute/academy) as higher education programme developer

## **COURSE SYLLABUS**

### **Standards of environmental management and occupational safety**

(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:**

**УПРАВЛЕНИЕ ПРИРОДОПОЛЬЗОВАНИЕМ / NATURE MANAGEMENT**

(наименование (профиль/специализация) ОП ВО)

## 1. COURSE GOALS

The purpose of the discipline is to get acquainted with modern international standards on environmental management, first of all the ISO 14000 group. In the course there will be considered stages of the development and implementation of standards, practical steps on the support of the regulatory system in the organization in order to achieve environmental improvements and regulate the environmental protection issues.

## 2. LEARNING OUTCOMES

The mastering of the discipline "Standards of environmental management and occupational safety" 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	Able to apply environmental research methods to solve research and applied problems of professional activity	<b>GPC -3.1</b> Knows the principles and methods of environmental monitoring of environmental components
		<b>GPC -3.2</b> Owns analytical methods for monitoring pollutants and physical impacts and processing the information received
		<b>GPC -3.3</b> Able to develop systems for environmental monitoring and control in production and solve applied problems in professional activities
SPC-4	Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	<b>SPC-4.1</b> Able to apply modern methods of processing and interpreting environmental information when conducting industrial research
		<b>SPC-4.2</b> Able to interpret the results of studies in terms of compliance with safety and performance indicators
		<b>SPC-4.3</b> Has the skills to conduct control and supervisory activities based on modern methods of processing environmental information
SPC-6	Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	<b>SPC-6.1</b> Capable of detecting inconsistencies in the state of environmental components with the requirements of national and international standards
		<b>SPC-6.2</b> Able to develop programs for monitoring natural complexes under conditions of technogenic loads and programs for environmental rehabilitation of territories

## 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline "Standards of environmental management and occupational safety" 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 "Standards of environmental management and occupational safety".

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

<b>Code</b>	<b>Competence</b>	<b>Previous Disciplines (Modules)</b>	<b>Subsequent Disciplines (Modules)</b>
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 Научно-исследовательская работа / Research work	Modern technologies for nature protection / Современные технологии защиты окружающей среды Management of energy resources / Менеджмент ресурсов энергетики Management of water resources / Управление водными ресурсами Environmental-economic aspects of environmental projects / Эколого-экономические аспекты экологических проектов Environmental norms for sustainability / Экологические нормы для устойчивого развития Standards of environmental management and occupational safety / Стандарты экологического менеджмента и охраны труда Occupational safety and HSE-audit / Охрана труда и HSE-аудит Wastes: Landfills, Processing and Recycling / Отходы: хранение, захоронение, рециклинг Surface water quality: modeling and management / Качество поверхностных вод: моделирование и менеджмент Учебная практика / Educational practice Производственная практика / Production practice НИР / Research work

Code	Competence	Previous Disciplines (Modules)	Subsequent Disciplines (Modules)
			Преддипломная практика / Pre-graduate practice
SPC-4	Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	Estimations of natural resources / Оценки природных ресурсов Management of environmental-economic risks / Управление эколого-экономическими рисками	Management of water resources / Управление водными ресурсами Environmental-economic aspects of environmental projects / Эколого-экономические аспекты экологических проектов Environmental statistics / Экологическая статистика Environmental accounting and reporting / Экологический учет и отчетность Wastes: Landfills, Processing and Recycling / Отходы: хранение, захоронение, рециклинг Surface water quality: modeling and management / Качество поверхностных вод: моделирование и менеджмент Учебная практика / Educational practice Научно-исследовательская работа / Research work Производственная практика / Production practice НИР / Research work Преддипломная практика / Pre-graduate practice
SPC-6	Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	Management of natural resources / Менеджмент природных ресурсов Modern technologies for nature protection / Современные технологии защиты окружающей среды Industrial nature management and economics / Промышленное природопользование и экономика Economic aspects of natural resources management /	Management of energy resources / Менеджмент ресурсов энергетики Environmental norms for sustainability / Экологические нормы для устойчивого развития Environmental statistics / Экологическая статистика Environmental accounting and reporting / Экологический учет и отчетность Wastes: Landfills, Processing and Recycling / Отходы:

Code	Competence	Previous Disciplines (Modules)	Subsequent Disciplines (Modules)
		Экономические аспекты природопользования Standards of environmental management and occupational safety / Стандарты экологического менеджмента и охраны труда Occupational safety and HSE-audit / Охрана труда и HSE-аудит	хранение, захоронение, рециклинг Surface water quality: modeling and management / Качество поверхностных вод: моделирование и менеджмент Industrial safety / Промышленная безопасность Simulation and prevention of accidents / Моделирование и предупреждение аварий Учебная практика / Educational practice 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 «Standards of environmental management and occupational safety» 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
<i>Contact academic hours</i>	34	34			
Incl.:					
Lectures	17	17			
Lab work					
Seminars	17	17			
<i>Self-study</i>	47	47			
<i>Evaluation and assessment</i>	27	27			
<b>Total workload</b>	Ac.hours	<b>108</b>	<b>108</b>		
	ECTS	<b>3</b>	<b>3</b>		

#### 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*
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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	Lectures, Seminars
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	Lectures, Seminars
Regulatory and methodological base of labor protection at enterprises and organizations.	Development of an audit plan. Drawing up checklists.	Lectures, Seminars
Creation of professional safety management systems	Evaluation of the effectiveness of the management system based on the requirements of ISO 14031	Lectures, 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
Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	-
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:*

NEBOSH Support Materials. URL: <https://www.nebosh.org.uk/course-materials/>

*Additional sources:*

1. Ledashcheva T. N., Pinaev V. E. Environmental support of projects in Russia—modern practices. – 2019..
2. Ледащева Т. Н., Пинаев В. Е. Environmental impact fee calculation in Russia for EIA—modern practices. – 2019.
3. Carpi M., Bruschini M., Burla F. HSE Management Standards and burnout dimensions among rehabilitation professionals //Occupational Medicine. – 2021. – Т. 71. – №. 4-5. – С. 204-210.
4. Falahati M. et al. Model of the selection KPI for assessing the performance of the urban HSE management system //Iran Occupational Health. – 2019. – Т. 16. – №. 1. – С. 60-71.
5. Hooshmand H. A review of HSE management in construction industry & reduction of work-related accidents //Civil and Project Journal. – 2020. – Т. 2. – №. 6. – С. 11-28.

*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](http://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 "Standards of environmental management and occupational safety".

\* - 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 "Standards

of environmental management and occupational safety" 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).

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Position, Department

**Pinaev V.E.**

Signature

Name

**HEAD OF THE DEPARTMENT:**

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Signature

Name