# МИНОБРНАУКИ РОССИИ

# Федеральное государственное автономное образовательное учреждение высшего образования "Пермский государственный национальный исследовательский университет"

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Программа производственной практики

# PROFESSIONAL INTERNSHIP AIMED AT ACQUIRING PROFESSIONAL SKILLS AND EXPERIENCE IN THE VOCATIONAL SPHERE

Код УМК 97181

Утверждено Протокол №8 от «17» мая 2021 г.

# 1. Вид практики, способ и форма проведения практики

Вид практики производственная

Тип практики профессиональная — практика, направленная на приобретение профессиональных умений и опыта профессиональной деятельности

Способ проведения практики стационарная, выездная

Форма (формы) проведения практики дискретная

# 2. Место практики в структуре образовательной программы

Производственная практика « Professional internship aimed at acquiring professional skills and experience in the vocational sphere » входит в обязательную часть Блока « Б.2 » образовательной программы по направлениям подготовки (специальностям):

Направление: **05.03.06** Экология и природопользование направленность Экологическая инженерия и новая энергетика

# Цель практики:

Consolidation of students knowledge gained in the course of training; formation of their skills and development of skills for work in the field of nature management, nature protection and ecology, in accordance with the requirements of the SUOS for the level of training of students of the profile "Environmental Engineering and new Energy".

# Задачи практики:

- 1. Introduction to the enterprise (organization) as an object of production activity.
- 2. Consolidation, deepening and development of knowledge gained in the course of theoretical training in the previous period of training.
- 3. Acquisition of experience in research and practical work in organizations.
- 4. Acquisition of skills and development of skills for working in the conditions of the enterprise (organization).
- 5. Collection and synthesis of the necessary data for course projects and materials for the implementation of the student's research work and preparation of the final qualification work at the final stage of training.

# 3. Перечень планируемых результатов обучения

В результате прохождения практики **Professional internship aimed at acquiring professional skills and experience in the vocational sphere** у обучающегося должны быть сформированы следующие компетенции:

- **05.03.06** Экология и природопользование (направленность : Экологическая инженерия и новая энергетика)
- **ПК.1** Способен осуществлять выполнение экспериментов и оформление результатов исследований и разработок

# Индикаторы

- **ПК.1.1** Постановка, планирование и решение научно-исследовательских задач по закрепленной тематике
- **ПК.1.2** Использует в профессиональной деятельности экспериментальные и полевые методы научного исследования
- **ПК.1.3** Анализирует, интерпретирует, обобщает полученные научные данные, представляет в виде отчетов, обзоров, научных работ
- **ПК.10** Способен разрабатывать и внедрять мероприятия, направленные на выполнение требований в области охраны окружающей среды, внедрению системы экологического менеджмента, разработке и функционировании системы экологического мониторинга, предупреждения возникновения чрезвычайных ситуаций природного и техногенного характера

# Индикаторы

- **ПК.10.1** Разрабатывает план мероприятий по управлению и усовершенствованию природопользования, направленных на выполнение требований нормативных правовых актов в области охраны окружающей среды с учетом передового опыта отечественных и зарубежных компаний по повышению экологической безопасности
- **ПК.10.2** Внедряет систему экологического менеджмента, экологического мониторинга, разрабатывает план мероприятий по предупреждению возникновения чрезвычайных ситуаций природного и техногенного характера
- **ПК.5** Способен разрабатывать проекты и осуществлять контроль загрязнения атмосферного воздуха, водных объектов и образования отходов на предприятии

#### Индикаторы

- **ПК.5.1** Разрабатывает проекты в области нормирования загрязнения атмосферного воздуха, водных объектов и образования отходов
- **ПК.5.2** Осуществляет контроль в области нормирования загрязнения атмосферного воздуха, водных объектов и образования отходов и оценивает степень ущерба и деградации природной среды от хозяйственной деятельности
- **ПК.6** Способен создавать, внедрять и осуществлять контроль системы производственного экологического контроля на предприятии

#### Индикаторы

- **ПК.6.1** Контролирует состояние окружающей среды в районе расположения хозяйственных объектов и разрабатывает программу производственного экологического мониторинга
- **ПК.6.2** Разрабатывает документацию для соблюдения или достижения нормативов допустимого воздействия на окружающую среду
- **ПК.6.3** Участвует в контрольно-ревизионной деятельности и в экологическом аудите, разрабатывает проекты повышения экологической эффективности в организации
- **ПК.6.4** Разрабатывает план мероприятий по охране окружающей среды и контролирует его реализацию на предприятии

**ПК.7** Способен оценивать состояние окружающей среды для различных целей (экологический мониторинг, оценка состояния отдельных компонентов природной среды, проведение инженерно-экологических изысканий, ОВОС) и на основе полученных данных разрабатывать рекомендации по использованию природных ресурсов, сохранению и восстановлению окружающей и природной среды

# Индикаторы

- **ПК.7.1** Планирует, организует и проводит работы по экологическому мониторингу, оценке состояния природной среды, проведению инженерно-экологических изысканий и OBOC
- **ПК.7.2** Оценивает состояние отдельных компонентов природной среды: атмосферного воздуха, подземных и поверхностных вод, почв и недр, растительного и животного мира
- **ПК.7.3** Разрабатывает практические рекомендации по использованию природных ресурсов, сохранению и восстановлению окружающей и природной среды
- **ПК.8** Способен разрабатывать экологическую документацию организации в соответствии с установленными требованиями в области охраны окружающей среды, в том числе нормативы предельно допустимого воздействия

# Индикаторы

- **ПК.8.1** Разрабатывает проекты нормативов предельно допустимого воздействия на окружающую среду с целью обеспечения экологической безопасности с учетом специфики работы организации
- **ПК.8.2** Готовит экологическую документацию и отчетность по результатам производственного экологического контроля, определяет наилучшие доступные технологии, проектирует и проводит мероприятия по охране окружающей и природной среды
- **ПК.8.3** Выявляет источники, виды и масштабы техногенного воздействия, планирует мероприятия по профилактике и ликвидации последствий негативного воздействия, в том числе чрезвычайных ситуаций
- **ПК.9** Способен проектировать и создавать особо охраняемые природные территории, экологическое обустройство, экологические тропы, экологические сети и каркасы

# Индикаторы

- ПК.9.1 Разрабатывает проекты по созданию особо охраняемых природных территорий
- **ПК.9.2** Разрабатывает проекты по экологическому обустройству, созданию экологических троп, экологических сетей и каркасов
  - УК.12 Способен формировать нетерпимое отношение к коррупционному поведению

#### Индикаторы

**УК.12.3** Осуществляет взаимодействие на основе нетерпимого отношения к коррупционному поведению в социальной и профессиональной сферах

# 4. Содержание и объем практики, формы отчетности

The practical training is carried out in accordance with the requirements of the independently established educational standard of higher education at PSNIU and the undergraduate curriculum 05.03.06 "Ecology and Nature Management", profile "Environmental Engineering and New Energy", the Regulation on the practice of students at PSNIU.

Industrial practice occupies a key place in the structure of the educational program. In production practice, students are given the opportunity to practically use the knowledge already gained during lecture and practical classes in classrooms. In addition, the practice provides for continued training in the field. Students in industrial practice learn to perform the functions of environmental engineer in design, survey, research, production, marketing, consulting, economic, legal, expert departments, firms, companies.

Направления подготовки	05.03.06 Экология и природопользование (направленность:		
	Экологическая инженерия и новая энергетика)		
форма обучения	очная		
№№ триместров,	9,10		
выделенных для			
прохождения практики			
Объем практики (з.е.)	9		
Объем практики (ак.час.)	324		
Форма отчетности	Экзамен (10 триместр)		

Примерный график прохождения практики

		примерный график прохождения практики			
Количество часов	Содержание работ	Место проведения			
Production 1	practice				
324	Production practice is designed to consolidate and expand the theoretical knowledge gained; to get acquainted with the features of the future specialty; to get a general idea of a specific organization and organizational structure of management; to get acquainted with the technology of production processes and the equipment used; to acquire professional competencies by students in the workplace as part of production units under the guidance of highly qualified specialists in coordination with the head of practice from the department.  The forms of practical training for persons with disabilities are determined taking into account the peculiarities of psychophysiological development, individual capabilities and the state of health of students.  There may be changes in the time frame for passing the current interim certification, namely, an increase in the time for preparing and submitting the practice report is provided.	The place of industrial practice may be a production enterprise, a cultural and service institution, environmental firms, protected areas, research organizations, departments and departments of government bodies at the local, regional and federal levels of government, etc., engaged in research, design, management or production activities related to knowledge and skills in the following areas:: - environmental design; - environmental management and audit; - nature protection and			

Количество часов	Содержание работ	Место проведения
		rational use of natural resources; - control of the impact on environmental components; - environmental monitoring and production control; - design and operation of protected areas; - assessment of the state of protected areas; - other areas related to the direction " Ecology and nature management" PSU Faculty of Geography Department of Biogeocenology and Nature Protection. For students with disabilities and disabilities, alternative places of practice are provided, individually provided, taking into account the recommendations of the psychological, medical and pedagogical commission or the ITU.
	reparatory stage of the practice	
10	<ol> <li>A student who has entered the practice gets acquainted with the structure and activities of the selected institution (enterprise), enters the designated department.</li> <li>Together with the head of the practice, he specifies the forms, types and deadlines for completing the work in accordance with the individual plan (task) of the course.</li> <li>It is determined by the sources of environmental information that it needs to find to perform the tasks of the practice, the methods of its processing and analysis.</li> </ol>	The place of industrial practice may be a production enterprise, a cultural and service institution, environmental firms, protected areas, research organizations, departments and departments of government bodies at the local, regional and federal levels of government, etc., engaged in research, design, management or production activities related to knowledge and skills in the following areas::  - environmental design; - environmental management

Соличество часов	Содержание работ	Место проведения
часов		and audit; - nature protection and rational use of natural resources; - control of the impact on environmental components - environmental monitoring and production control; - design and operation of protected areas; - assessment of the state of protected areas; - other areas related to the direction " Ecology and nature management" PSU Faculty of Geography Department of
		Biogeocenology and Nature Protection.
	age of completing the tasks of the individual practice program	
	As part of the main stage of the practice, the student performs the tasks proposed to him by the supervisor and approved in the individual plan (task) of the practice. Tasks include tasks for collecting, analyzing primary environmental information, systematizing it, and performing basic analytical work, i.e. tasks necessary for high-quality performance of the first and partially second chapters of the final qualification work. Also, the task of the practice at its first stage is associated with the consolidation and use of theoretical knowledge in the field of ecology and nature management, processes and phenomena related to this area, the use of general scientific and special scientific methods to solve certain scientific and applied problems that are important for the work of the organization - the place of practice.	,
		<ul> <li>environmental design;</li> <li>environmental manageme and audit;</li> <li>nature protection and rational use of natural</li> </ul>

resources;

- control of the impact on environmental components; - environmental monitoring

Количество часов	Содержание работ	Место проведения
		and production control; - design and operation of protected areas; - assessment of the state of protected areas; - other areas related to the direction of "Ecology and nature management". PSU Faculty of Geography Department of Biogeocenology and Nature Protection.
3. Final s	stage (execution of the practice report)	Flotection.
32	The student draws up a report on the production practice in accordance with the rules and requirements approved by the department. There is a systematization and processing of the received materials. The main conclusions are made and the results of the study are presented. Subject to successful completion of the internship, with the help of the supervisor, students determine further forms of research work, specify the direction of scientific research, and make a decision to clarify the topic of the final qualifying work.	It is carried out at the Department of Biogeocenology and Nature Protection of the Geographical Faculty of PSU
	ding the Practice report	
4	The defense is held at a meeting of the commission, consisting of 2-3 members of the Department of Biogeocenology and Nature Protection, in the terms established by the schedule of the educational process and by appointment of the meeting of the departments. During the defense, the student must submit a report and a presentation based on its main provisions, as well as answer all questions that arise from the commission and the audience. The main task of the stage is to assess the formation of a part of the competencies provided for by this stage of production practice.	It is carried out at the Department of Biogeocenology and Nature Protection of the Geographical Faculty of PSU

# 5. Перечень учебной литературы, необходимой для проведения практики

#### Основная

- 1. Robert C. Brears. Natural Resource Management and the Circular Economy. Palgrave Macmillan, Cham, 2018. ISBN 978-3-319-71888-0 [Электронный ресурс] https://link.springer.com/book/10.1007/978-3-319-71888-0
- 2. Tanay Sidki Uyar. Towards 100% Renewable Energy. Techniques, Costs and Regional Case-Studies. Springer International Publishing Switzerland 2017. Online ISBN 978-3-319-45659-1. Текст электронный: // https://link.springer.com/book/10.1007/978-3-319-45659-1 https://link.springer.com/book/10.1007/978-3-319-45659-1

#### Дополнительная

- 1. Davide Geneletti, Chiara Cortinovis, Linda Zardo, Blal Adem Esmail: "Planning for Ecosystem Services in Cities", 2020, ISBN 978-3-030-20024-4. [Электронный ресурс]. https://link.springer.com/book/10.1007/978-3-030-20024-4
- 2. Yoram Krozer. Theory and Practices on Innovating for Sustainable Development. Springer International Publishing Switzerland 2016. Online ISBN 978-3-319-18636-8. Текст электронный: // https://link.springer.com/book/10.1007/978-3-319-18636-8 https://link.springer.com/book/10.1007/978-3-319-18636-8
- 3. Zhaoqing Yang, Andrea Copping. Marine Renewable Energy. Resource Characterization and Physical Effects. Springer International Publishing AG 2017. Online ISBN 978-3-319-53536-4. Текст электронный: // https://link.springer.com/book/10.1007/978-3-319-53536-4 https://link.springer.com/book/10.1007/978-3-319-53536-4
- 4. David Elliott, Terence Cook. Renewable Energy. From Europe to Africa. The Editor(s) (if applicable) and The Author(s) 2018. Online ISBN 978-3-319-74787-3. Текст электронный: // https://link.springer.com/book/10.1007/978-3-319-74787-3 https://link.springer.com/book/10.1007/978-3-319-74787-3

# 6. Перечень ресурсов сети «Интернет», требуемых для проведения практики

При прохождении практики требуется использование следующих ресурсов сети «Интернет» : https://priroda.permkrai.ru Ministry of Natural Resources, Forestry and Ecology of the Perm Region www.forestforum.ru Federal Forestry Agency

# 7. Перечень информационных технологий, используемых при проведении практики

Образовательный процесс по практике Professional internship aimed at acquiring professional skills and experience in the vocational sphere предполагает использование следующего программного обеспечения и информационных справочных систем:

Presentation materials (slides on the topics of lectures and practical classes); on-line access to the Electronic Library System (ELS); access to the electronic information and educational environment of the university Internet services and electronic resources (search engines, e-mail, professional thematic chats and forums, audio and video conference systems, online encyclopedias, etc.)

Office application package "LibreOffice". Programs, demonstrations of video materials (player). Software for the laptop: OS "Alt Education" (Contract No. DS 003-2020).

The discipline does not provide for the use of special software.

При освоении материала и выполнения заданий по дисциплине рекомендуется использование материалов, размещенных в Личных кабинетах обучающихся ЕТИС ПГНИУ (student.psu.ru).

При организации дистанционной работы и проведении занятий в режиме онлайн могут использоваться:

система видеоконференцсвязи на основе платформы BigBlueButton (https://bigbluebutton.org/). система LMS Moodle (http://e-learn.psu.ru/), которая поддерживает возможность использования текстовых материалов и презентаций, аудио- и видеоконтент, а так же тесты, проверяемые задания, задания для совместной работы.

система тестирования Indigo (https://indigotech.ru/).

# 8. Описание материально-технической базы, необходимой для проведения практики

Audience for group and individual consultations, for intermediate certification-an audience equipped with presentation equipment (projector, screen, laptop) with appropriate software; chalk or marker board.

Independent work: An audience for independent work, equipped with computer equipment with the ability to connect to the Internet, provided with access to the electronic information and educational environment of the university.

Premises of the Scientific Library of PSU.

For field practices - equipment provided by the organization.

Помещения научной библиотеки ПГНИУ для обеспечения самостоятельной работы обучающихся:

- 1. Научно-библиографический отдел, корп.1, ауд. 142. Оборудован 3 персональными компьютера с доступом к локальной и глобальной компьютерным сетям.
- 2. Читальный зал гуманитарной литературы, корп. 2, ауд. 418. Оборудован 7 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.
- 3. Читальный зал естественной литературы, корп.6, ауд. 107а. Оборудован 5 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

- 4. Отдел иностранной литературы, корп.2 ауд. 207. Оборудован 1 персональным компьютером с доступом к локальной и глобальной компьютерным сетям.
- 5. Библиотека юридического факультета, корп.9, ауд. 4. Оборудована 11 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.
- 6. Читальный зал географического факультета, корп.8, ауд. 419. Оборудован 6 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

Все компьютеры, установленные в помещениях научной библиотеки, оснащены следующим программным обеспечением:

Операционная система ALT Linux;

Офисный пакет Libreoffice.

Справочно-правовая система «КонсультантПлюс»

#### 9. Методические указания для обучающихся по освоению дисциплины

The organization of the practice includes: the presence of an individual plan (task) of the practice, which specifies the purpose and objectives of the practice, its main activities, the need for a certain result. The practice is carried out on the basis of a signed contract between the PSU and the organization-the place of practice.

Organizations (places of practice) have environmental specialization, for example, the Ministry of Natural Resources, Forestry and Ecology of the Perm Region, Uralkali, "Kama Basin Water Management", etc. While in practice at the place of practice (organization), the intern needs to become more familiar with the principles, forms, types and methods of work in the field of ecology and nature management, as well as try to use the environmental knowledge gained during the training to analyze and diagnose the organization's activities.

The initiative research or project should correspond to the subject of the organization's activity-the place of practice, be part of its scientific or practical programs, and/or be important for improving its activities. The author's development should also be closely related to the focus of the bachelor's program and, ultimately, contribute to a deeper study of a particular problem of regional development. The student should be able to show their research and design skills in formulating directions for correcting the current situation in one of the aspects of the organization's activities.

The student prepares a report on the production practice in accordance with the rules and requirements approved by the department. There is a systematization and processing of the received materials. The main conclusions are made and the results of the study are presented.

During the defense, the student must disclose the purpose and objectives of the practice, the results obtained, and their possible application in the final qualifying work. In addition, the student must be able to justify, prove and explain the results of their activities during the practice. The performance should not exceed 7 minutes.

# Фонды оценочных средств для проведения промежуточной аттестации

# Планируемые результаты обучения по дисциплине для формирования компетенции. Индикаторы и критерии их оценивания

ПК.1 Способен осуществлять выполнение экспериментов и оформление результатов исследований и разработок

Компетенция	Планируемые результаты	Критерии оценивания результатов
	обучения	обучения
ПК.1.3 Анализирует, интерпретирует, обобщает полученные научные данные, представляет в виде отчетов, обзоров, научных работ	KNOW the basics of working with scientific data and their presentation.  BE ABLE to analyze, interpret and summarize the received scientific data.  POSSESS the skills of presenting scientific data in the form of reports, reviews, scientific papers.	Неудовлетворительно Does not know the basics of working with scientific data and their presentation. Does not know how to analyze, interpret and generalize the received scientific data. Does not have the skills to present scientific data in the form of reports, reviews, scientific papers.  Удовлетворительно Superficially knows the basics of working with scientific data and their presentation. He/she is able to analyze, interpret and generalize the received scientific data, but makes gross mistakes. Uncertainly has the skills to present scientific data in the form of reports, reviews, scientific papers.  Хорошо Клоws the basics of working with scientific data and their presentation. He/she is able to analyze, interpret and summarize the received scientific data, but admits inaccuracies. Has the skills to present scientific data in the form of reports, reviews, scientific papers.  Отлично
		Knows the basics of working with scientific data and their presentation.  He/she is able to analyze, interpret and
		summarize the received scientific data.  Has the skills to present scientific data in the form of reports, reviews, scientific papers.
ПК.1.2	KNOW the features of	Неудовлетворительно
Использует в	experimental and field research in	
профессиональной	the field of ecology and nature	field research in the field of ecology and nature
деятельности	management.	management.
экспериментальные и	BE ABLE to apply various	Does not know how to apply various methods of

полевые методы	methods of scientific research to	Неудовлетворительно
научного исследования	solve professional problems.	scientific research to solve professional
	MASTER the methods of primary	problems.
	processing of experimental and	Does not know the methods of primary
	field research in the professional	processing of experimental and field research in
	field.	the professional field. Удовлетворительно
		Knows some features of experimental and field
		research in the field of ecology and nature
		management.
		He/she is able to apply various methods of
		scientific research to solve professional
		problems, but makes gross mistakes.
		Partially owns the methods of primary
		processing of experimental and field research in
		the professional field.
		<b>Хорошо</b> Knows the peculiarities of experimental and
		field research in the field of ecology and nature
		management.
		He/she is able to apply various methods of
		scientific research to solve professional
		problems.
		He/she knows the methods of primary
		processing of experimental and field research in
		the professional field, but makes mistakes.  Отлично
		Knows the peculiarities of experimental and
		field research in the field of ecology and nature
		management.
		He/she is able to apply various methods of scientific research to solve professional
		problems.
		He/she is proficient in the methods of primary
		processing of experimental and field research in
		the professional field.
ПК.1.1	KNOW the basics of setting and	Неудовлетворительно
Постановка,	planning research tasks.	Does not know the basics of setting and
планирование и	BE ABLE to set, plan and solve	planning research tasks.
решение научно-	research tasks on a fixed topic.	Does not know how to set, plan and solve
исследовательских	POSSESS critical thinking skills	research tasks on a fixed topic.
задач по закрепленной тематике	in planning and solving professional research tasks.	Does not possess critical thinking skills in planning and solving professional research
ICMAINKC	professional research tasks.	tasks.
		Удовлетворительно
		Knows the basics of setting and planning
		research tasks

research tasks.

Knows how to set, plan and solve research tasks

Удовлетворительно
on a fixed topic, but makes gross mistakes
Uncertainly possesses critical thinking skills in
planning and solving professional research
tasks.
Хорошо
Knows the basics of setting and planning research tasks.
He/she is able to set, plan and solve research
tasks on a fixed topic, but admits inaccuracies.
Possesses critical thinking skills in planning and
solving professional research tasks, but has
minor difficulties.
Отлично
Knows the basics of setting and planning
research tasks.
He/she is able to set, plan and solve research
tasks on a fixed topic.
Possesses critical thinking skills in planning and
solving professional research tasks.

ПК.6 Способен создавать, внедрять и осуществлять контроль системы производственного экологического контроля на предприятии

Компетенция	Планируемые результаты обучения	Критерии оценивания результатов
	, and the second	обучения
ПК.6.1	TO KNOW the peculiarities of the	
Контролирует	influence of certain economic	Does not know the specifics of the influence of
состояние окружающей	objects on the components of the	certain economic objects on the components of
среды в районе	environment.	the environment.
расположения	BE ABLE to control the state of	Does not know how to control the state of the
хозяйственных	the environment in the area of the	environment in the area of the location of
объектов и	location of economic facilities.	economic objects.
разрабатывает	HAVE the skills to develop	Does not have the skills to develop industrial
программу	industrial environmental	environmental monitoring programs.
производственного	monitoring programs.	Удовлетворительно
экологического		Partially knows the peculiarities of the influence
мониторинга		of certain economic objects on the components
		of the environment.
		He/she is able to control the state of the
		environment in the area of the location of
		economic facilities, but makes mistakes.
		Uncertainly has the skills to develop industrial
		environmental monitoring programs.
		Хорошо
		He/she knows the main features of the influence
		of certain economic objects on the components
		of the environment.

# Хорошо

Is able to control the state of the environment in the area of the location of economic objects. Has the skills to develop industrial environmental monitoring programs, but admits inaccuracies.

#### Отлично

He/she knows the peculiarities of the influence of certain economic objects on the components of the environment.

Is able to control the state of the environment in the area of the location of economic objects. Has the skills to develop industrial environmental monitoring programs.

# ПК.6.2

Разрабатывает документацию для соблюдения или достижения нормативов допустимого воздействия на окружающую среду

KNOW what the documentation is for compliance with/achievement of acceptable environmental impact standards. BE ABLE to understand and apply laws and other regulatory legal acts when developing documentation. HAVE the skills to develop

documentation to comply with or achieve the standards of permissible environmental impact.

# Неудовлетворительно

Does not know what the documentation is for compliance/achievement of acceptable environmental impact standards.

Does not know how to understand and apply laws and other regulatory legal acts when developing documentation.

Does not have the skills to develop documentation to comply with or achieve acceptable environmental impact standards.

#### **У**довлетворительно

Knows what the documentation is for compliance/achievement of acceptable environmental impact standards, but makes mistakes.

Knows how to understand and apply laws and other regulatory legal acts when developing documentation, but admits inaccuracies. Uncertainly has the skills to develop documentation to comply with or achieve acceptable environmental impact standards.

#### Хорошо

Knows what the documentation is for compliance/achievement of acceptable environmental impact standards.

He/she is able to understand and apply laws and other regulatory legal acts when developing documentation, but has some difficulties.

Has basic skills in developing documentation to comply with or achieve acceptable environmental impact standards.

# Отлично

Knows what the documentation is for compliance/achievement of acceptable

		Отлично
		environmental impact standards.
		Is able to understand and apply laws and other
		regulatory legal acts when developing
		documentation.
		Confidently has the skills to develop
		documentation to comply with or achieve the
	Who will be a second	standards of permissible environmental impact.
ПК.6.4	KNOW the basics of	Неудовлетворительно
Разрабатывает план	environmental management and	Does not know the basics of environmental
мероприятий по охране	audit.	management and audit.
окружающей среды и	BE ABLE to develop an action	Does not know how to develop an action plan
контролирует его	plan for environmental protection	for environmental protection at the enterprise.
реализацию на	at the enterprise.	Does not have the skills to control the
предприятии	HAVE the skills to control the	implementation of the environmental action
	implementation of the	plan at the enterprise.
	environmental action plan at the	Удовлетворительно
	enterprise.	Knows some basics of environmental
		management and audit.
		He/she is able to develop an action plan for
		environmental protection at the enterprise, but
		makes gross mistakes.
		Superficially has the skills to control the
		implementation of the environmental action
		plan at the enterprise.
		Хорошо
		Knows the basics of environmental management
		and audit.
		He/she is able to develop an action plan for
		environmental protection at the enterprise, but
		admits inaccuracies.
		He/she has the skills to control the
		implementation of the environmental action
		plan at the enterprise, but is experiencing some
		difficulties.
		Отлично
		Knows the basics of environmental management
		and audit.
		He/she is able to develop an action plan for
		environmental protection at the enterprise.
		Has the skills to control the implementation of
		the environmental action plan at the enterprise.
ПК.6.3	KNOW the basics of	Неудовлетворительно
Участвует в	environmental audit.	Does not know the basics of environmental
контрольно-		audit.
_	BE ABLE to develop projects to	
ревизионной	improve environmental efficiency	Does not know how to develop projects to
деятельности и в	in the organization.	improve environmental efficiency in the
экологическом аудите,	POSSESS practical skills related	organization.

разрабатывает проекты	to the conduct of control and audit	Неудовлетворительно
повышения	activities.	Does not possess practical skills related to the
экологической		conduct of control and audit activities.
эффективности в		Удовлетворительно
организации		Knows some basics of environmental audit.
		Knows how to develop projects to improve
		environmental efficiency in the organization, but
		makes gross mistakes.
		Uncertainly has practical skills related to the
		conduct of control and audit activities.
		Хорошо
		Knows the basics of environmental audit.
		Knows how to develop projects to improve
		environmental efficiency in the organization, but
		admits inaccuracies.
		Has practical skills related to the conduct of
		control and audit activities.
		Отлично
		Knows the basics of environmental audit.
		He/she is able to develop projects to improve
		environmental efficiency in the organization.
		Has practical skills related to the conduct of
		control and audit activities.

# ПК.7

Способен оценивать состояние окружающей среды для различных целей (экологический мониторинг, оценка состояния отдельных компонентов природной среды, проведение инженерно-экологических изысканий, ОВОС) и на основе полученных данных разрабатывать рекомендации по использованию природных ресурсов, сохранению и восстановлению окружающей и природной среды

Компетенция	Планируемые результаты	Критерии оценивания результатов
	обучения	обучения
ПК.7.2	KNOW the criteria for assessing	Неудовлетворительно
Оценивает состояние	the state of individual components	Does not know the criteria for assessing the
отдельных компонентов	of the natural environment.	state of individual components of the natural
природной среды:	BE ABLE to assess the state of	environment.
атмосферного воздуха,	atmospheric air, underground and	Does not know how to assess the state of
подземных и	surface waters, soils and subsoil,	atmospheric air, underground and surface
поверхностных вод,	flora and fauna.	waters, soils and subsoil, flora and fauna.
почв и недр,	POSSESS various methods of	Does not know the methods of assessing the
растительного и	assessing the state of the	state of the components of the natural
животного мира	components of the natural	environment.
	environment.	Удовлетворительно
		Knows some criteria for assessing the state of
		individual components of the natural
		environment.
		He/she is able to assess the state of atmospheric

#### Удовлетворительно

air, underground and surface waters, soils and subsoil, flora and fauna, but makes significant mistakes.

He/she knows the methods of assessing the state of the components of the natural environment superficially.

## Хорошо

Knows the criteria for assessing the state of individual components of the natural environment.

He/she is able to assess the state of atmospheric air, underground and surface waters, soils and subsoil, flora and fauna, but admits some inaccuracies.

Owns various methods of assessing the state of the components of the natural environment, but admits some inaccuracies.

#### Отлично

Knows the criteria for assessing the state of individual components of the natural environment.

He/she is able to assess the state of atmospheric air, underground and surface waters, soils and subsoil, flora and fauna.

Owns various methods of assessing the state of the components of the natural environment.

# ПК.7.1

Планирует, организует и проводит работы по экологическому мониторингу, оценке состояния природной среды, проведению инженерно-экологических изысканий и OBOC

KNOW the basic requirements for environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA.

BE ABLE to plan field, laboratory and desk work within the framework of environmental monitoring, environmental assessment, engineering and environmental surveys and EIA. POSSESS the skills of organizing work on environmental monitoring, assessment of the state of the natural environment, conducting engineering and environmental surveys and EIA.

# Неудовлетворительно

Does not know the basic requirements for environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA.

Does not know how to plan field, laboratory and desk work within the framework of environmental monitoring, environmental assessment, engineering and environmental surveys and EIA.

Does not have the skills to organize work on environmental monitoring, assessment of the state of the natural environment, conducting engineering and environmental surveys and EIA.

# **Удовлетворительно**

He/she knows only some of the requirements for environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA.

He/she is able to plan field, laboratory and desk work within the framework of environmental

# **Удовлетворительно**

monitoring, environmental assessment, engineering and environmental surveys and EIA but makes gross mistakes.

He/she is unsure of the skills of organizing work on environmental monitoring, assessing the state of the natural environment, conducting engineering and environmental surveys and EIA

# Хорошо

Knows the basic requirements for environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA, but admits inaccuracies.

He/she is able to plan field, laboratory and desk work within the framework of environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA. He/she has basic skills in organizing work on environmental monitoring, assessment of the state of the natural environment, conducting engineering and environmental surveys and EIA

#### Отлично

Knows the basic requirements for environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA. He/she is able to plan field, laboratory and desk work within the framework of environmental monitoring, assessment of the state of the natural environment, engineering and environmental surveys and EIA. Confidently possesses the skills of organizing work on environmental monitoring, assessment of the state of the natural environment, conducting engineering and environmental surveys and EIA.

#### ПК.7.3

Разрабатывает практические рекомендации по использованию природных ресурсов, сохранению и восстановлению окружающей и природной среды

KNOW the basic principles of rational use of natural resources, natural environment. BE ABLE to develop practical recommendations for the rational use of natural resources. HAVE the skills to make recommendations for the

# Неудовлетворительно

Does not know the basic principles of rational conservation and restoration of the use of natural resources, conservation and restoration of the natural environment. Does not know how to develop practical recommendations for the rational use of natural resources.

Does not have the skills to make recommendations for the preservation and preservation and restoration of the restoration of the natural environment.

resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but makes significant mistakes. Uncertainly has the skills to make recommendations for the preservation and restoration of the natural environment.  **Xopomo**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  **OTJUHIO**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the rational use of natural resources.	natural environment.	Удовлетворительно
natural environment. He/she is able to develop practical recommendations on the rational use of natural resources, but makes significant mistakes. Uncertainly has the skills to make recommendations for the preservation and restoration of the natural environment.  **Xopomo**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  **Othuhho**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the recommendations for the rational use of natural resources.		Knows some principles of rational use of natural
He/she is able to develop practical recommendations on the rational use of natural resources, but makes significant mistakes. Uncertainly has the skills to make recommendations for the preservation and restoration of the natural environment.  **Xopomo**  **Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  **Othwho**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		resources, conservation and restoration of the
recommendations on the rational use of natural resources, but makes significant mistakes. Uncertainly has the skills to make recommendations for the preservation and restoration of the natural environment.  **Xopomo**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  **OTJUHHO**  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the rational use of natural resources.		natural environment.
resources, but makes significant mistakes. Uncertainly has the skills to make recommendations for the preservation and restoration of the natural environment.  Xopomo  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment. He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies. Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment. He/she is able to develop practical recommendations for the rational use of natural resources. Has the skills to make recommendations for the		He/she is able to develop practical
Uncertainly has the skills to make recommendations for the preservation and restoration of the natural environment.  Xopomo  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  OTJUHHO  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		recommendations on the rational use of natural
recommendations for the preservation and restoration of the natural environment.  Хорошо  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		resources, but makes significant mistakes.
restoration of the natural environment.  Хорошо  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		Uncertainly has the skills to make
Xopomo Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment. He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies. Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment. He/she is able to develop practical recommendations for the rational use of natural resources. Has the skills to make recommendations for the		recommendations for the preservation and
Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		restoration of the natural environment.
natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		Хорошо
of the natural environment. He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies. Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment. He/she is able to develop practical recommendations for the rational use of natural resources. Has the skills to make recommendations for the		Knows the basic principles of rational use of
He/she is able to develop practical recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		natural resources, conservation and restoration
recommendations on the rational use of natural resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		of the natural environment.
resources, but admits inaccuracies.  Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		He/she is able to develop practical
Has the skills to make recommendations for the preservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Клоws the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		recommendations on the rational use of natural
ргеservation and restoration of the natural environment, but admits inaccuracies.  Отлично  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		resources, but admits inaccuracies.
environment, but admits inaccuracies.  Отлично  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		Has the skills to make recommendations for the
Отлично  Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		preservation and restoration of the natural
Knows the basic principles of rational use of natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		environment, but admits inaccuracies.
natural resources, conservation and restoration of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		Отлично
of the natural environment.  He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		Knows the basic principles of rational use of
He/she is able to develop practical recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		natural resources, conservation and restoration
recommendations for the rational use of natural resources.  Has the skills to make recommendations for the		of the natural environment.
resources. Has the skills to make recommendations for the		
Has the skills to make recommendations for the		recommendations for the rational use of natural
		resources.
nreservation and restoration of the natural		Has the skills to make recommendations for the
preservation and restoration of the natural		preservation and restoration of the natural
environment.		environment.

ПК.5 Способен разрабатывать проекты и осуществлять контроль загрязнения атмосферного воздуха, водных объектов и образования отходов на предприятии

Компетенция	Планируемые результаты обучения	Критерии оценивания результатов обучения	
ПК.5.2	KNOW regulatory legal acts that	Неудовлетворительно	
Осуществляет контроль	establish requirements for the	Does not know regulatory legal acts that	
в области	quality control of atmospheric air,	establish requirements for quality control of	
нормирования	water bodies and waste	atmospheric air, water bodies and waste	
загрязнения	generation.	generation.	
атмосферного воздуха,	BE ABLE to assess the degree of	Does not know how to assess the degree of	
водных объектов и	damage and degradation of the	damage and degradation of the natural	
образования отходов и	natural environment from	environment from economic activity.	
оценивает степень	economic activity.	Does not have the skills to develop control	
ущерба и деградации	HAVE the skills to develop	programs for environmental components.	
природной среды от	control programs for	Удовлетворительно	

хозяйственной	environmental components.	Удовлетворительно
деятельности	environmentar components.	Knows some regulatory legal acts that establish
Деятельности		requirements for the quality control of
		atmospheric air, water bodies and waste
		generation.
		He/she is able to assess the degree of damage
		and degradation of the natural environment from
		economic activity, but makes gross mistakes.
		Uncertainly has the skills to develop control
		programs for environmental components.
		<b>Хорошо</b> Knows the main regulatory legal acts that
		establish requirements for the quality control of
		atmospheric air, water bodies and waste
		generation.
		He/she is able to assess the degree of damage
		and degradation of the natural environment from economic activity, but admits inaccuracies.
		Has basic skills in developing control programs
		for environmental components.  Отлично
		Knows regulatory legal acts that establish
		requirements for the quality control of
		atmospheric air, water bodies and waste
		generation.
		He/she is able to assess the degree of damage
		and degradation of the natural environment from
		economic activity.
		Confidently has the skills to develop control
ПК.5.1	KNOW the basic documents in	programs for environmental components.
Разрабатывает проекты		<b>Неудовлетворительно</b> Does not know the basic documents in the field
•	the field of regulation of air	
в области	pollution, water bodies, waste	of regulation of air pollution, water bodies, waste generation.
нормирования	generation.	Does not know how to develop projects in the
загрязнения атмосферного воздуха,	BE ABLE to develop projects in	field of regulation of air pollution, water bodies
водных объектов и	the field of regulation of air	and waste generation.
	pollution, water bodies and waste	Does not know the procedure for rationing and
образования отходов	generation.	controlling emissions, discharges and waste
	OWN the procedure for rationing	generation.
	and controlling emissions, discharges and waste generation.	
	discharges and waste generation.	<b>Удовлетворительно</b> Superficially knows the basic documents in the
		field of regulation of air pollution, water bodies,
		waste generation.
		He/she is able to develop projects in the field of
		regulation of atmospheric air pollution, water
		bodies and waste generation, but makes gross
		mistakes.
		mistakes.

Удовлетворительно
Owns the procedure for rationing and
controlling emissions, discharges and waste
generation, but admits inaccuracies.
Хорошо
Knows the main documents in the field of
regulation of air pollution, water bodies, waste
generation.
He/she is able to develop projects in the field of
regulation of air pollution, water bodies and
waste generation, but has some difficulties.
Owns the procedure for rationing and
controlling emissions, discharges and waste
generation, but admits inaccuracies.
Отлично
Knows the main documents in the field of
regulation of air pollution, water bodies, waste
generation.
He/she is able to develop projects in the field of
regulation of atmospheric air pollution, water
bodies and waste generation.
Owns the procedure for rationing and
controlling emissions, discharges and waste
generation.

ПК.10

Способен разрабатывать и внедрять мероприятия, направленные на выполнение требований в области охраны окружающей среды, внедрению системы экологического менеджмента, разработке и функционировании системы экологического мониторинга, предупреждения возникновения чрезвычайных ситуаций природного и техногенного характера

Компетенция	Планируемые результаты обучения	Критерии оценивания результатов обучения
ПК.10.2	KNOW the terminology of	Неудовлетворительно
Внедряет систему	environmental management,	Does not know the terminology of
экологического	environmental monitoring, have	environmental management, environmental
менеджмента,	an idea of natural and man-made	monitoring, has no idea about natural and man-
экологического	emergencies.	made emergencies.
мониторинга,	BE ABLE to implement an	Does not know how to implement an
разрабатывает план	environmental management	environmental management system,
мероприятий по	system, environmental	environmental monitoring.
предупреждению	monitoring.	Does not have the skills to develop an action
возникновения	HAVE the skills to develop an	plan to prevent the occurrence of natural and
чрезвычайных ситуаций	action plan to prevent the	man-made emergencies.
природного и	occurrence of natural and man-	Удовлетворительно
техногенного характера	made emergencies.	Partially knows the terminological apparatus of
		environmental management, environmental

# Удовлетворительно

monitoring, has an idea of natural and manmade emergencies.

Knows how to implement an environmental management system, environmental monitoring, but makes gross mistakes.

Uncertainly has the skills to develop an action plan to prevent the occurrence of natural and man-made emergencies.

# Хорошо

Knows the terminological apparatus of environmental management, environmental monitoring, has an idea of natural and manmade emergencies.

Knows how to implement an environmental management system, environmental monitoring, but admits inaccuracies.

Has some skills in developing an action plan to prevent the occurrence of natural and man-made emergencies.

#### Отлично

Knows the terminological apparatus of environmental management, environmental monitoring, has an idea of natural and manmade emergencies.

Knows how to implement an environmental management system, environmental monitoring. Has the skills to develop an action plan to prevent the occurrence of natural and man-made emergencies.

#### ПК.10.1

Разрабатывает план мероприятий по управлению и усовершенствованию природопользования, направленных на выполнение требований нормативных правовых актов в области охраны окружающей среды с учетом передового опыта отечественных и зарубежных компаний по повышению экологической безопасности

KNOW the best practices of domestic and foreign companies to improve environmental safety. BE ABLE to develop an action plan for the management and improvement of environmental management.

POSSESS the requirements of regulatory legal acts in the field of environmental protection.

# Неудовлетворительно

Does not know the best practices of domestic and foreign companies to improve environmental safety.

Does not know how to develop an action plan for the management and improvement of environmental management.

Does not know the requirements of regulatory legal acts in the field of environmental protection.

#### **Удовлетворительно**

Superficially knows the best practices of domestic and foreign companies to improve environmental safety.

He/she is able to develop an action plan for the management and improvement of environmental management, but makes gross mistakes.

Partially owns the requirements of regulatory

Удовлетворительно
legal acts in the field of environmental
protection.
Хорошо
Knows the best practices of domestic and
foreign companies to improve environmental
safety.
Knows how to develop an action plan for the
management and improvement of environmental
management, but makes mistakes.
Owns the requirements of regulatory legal acts
in the field of environmental protection.
Отлично
Knows the best practices of domestic and
foreign companies to improve environmental
safety.
Is able to develop an action plan for the
management and improvement of environmental
management.
Owns the requirements of regulatory legal acts
in the field of environmental protection.

ПК.8

Способен разрабатывать экологическую документацию организации в соответствии с установленными требованиями в области охраны окружающей среды, в том числе нормативы предельно допустимого воздействия

Компетенция	Планируемые результаты	Критерии оценивания результатов
	обучения	обучения
ПК.8.3	KNOW the basics of planning	Неудовлетворительно
Выявляет источники,	measures for the prevention and	Does not know the basics of planning measures
виды и масштабы	elimination of the consequences	for the prevention and elimination of the
техногенного	of negative impacts.	consequences of negative impacts.
воздействия, планирует	BE ABLE to identify the sources,	Does not know how to identify the sources,
мероприятия по	types, and scale of man-made	types, and scale of man-made impacts.
профилактике и	impacts.	Does not have the skills to develop preventive
ликвидации	HAVE the skills to develop	measures to reduce the level of hazards of
последствий	preventive measures to reduce the	various types, as well as the development of
негативного	level of hazards of various types,	measures to eliminate the consequences of
воздействия, в том	as well as the development of	negative impacts, including emergencies.
числе чрезвычайных	measures to eliminate the	Удовлетворительно
ситуаций	consequences of negative impacts,	
	including emergencies.	prevention and elimination of the consequences
		of negative impacts, but makes gross mistakes.
		He/she is able to identify the sources, types, and
		scale of man-made impacts, but admits
		inaccuracies.
		Uncertainly has the skills to develop preventive

# **Удовлетворительно**

measures to reduce the level of hazards of various types, as well as the development of measures to eliminate the consequences of negative impacts, including emergencies.

#### Хорошо

Knows the basics of planning measures to prevent and eliminate the consequences of negative impacts, but admits inaccuracies. It is able to identify the sources, types, and scale of man-made impacts.

Has the skills to develop preventive measures to reduce the level of hazards of various types, as well as the development of measures to eliminate the consequences of negative impacts, including emergencies, but has some difficulties.

#### Отлично

Knows the basics of planning measures to prevent and eliminate the consequences of negative impacts.

It is able to identify the sources, types, and scale of man-made impacts.

Has the skills to develop preventive measures to reduce the level of hazards of various types, as well as the development of measures to eliminate the consequences of negative impacts, including emergencies.

#### ПК.8.2

Готовит экологическую документацию и отчетность по результатам производственного экологического контроля, определяет наилучшие доступные технологии, проектирует и проводит мероприятия по охране окружающей и природной среды

KNOW the specifics of preparing environmental documentation and reporting on the results of industrial environmental control. BE ABLE to identify the best available technologies that can be used in different industries. POSSESS the skills of designing and carrying out measures to protect the environment and the natural environment.

# Неудовлетворительно

Does not know the specifics of preparing environmental documentation and reporting on the results of industrial environmental control. Does not know how to determine the best available technologies that can be used in different industries.

Does not possess the skills of designing and carrying out measures to protect the environment and the natural environment.

#### **Удовлетворительно**

Knows some features of the preparation of environmental documentation and reporting on the results of industrial environmental control. He/she is able to determine the best available technologies that can be used in various industries, but makes gross mistakes. Superficially has the skills of designing and carrying out measures to protect the environment and the natural environment.

# Хорошо

Knows the specifics of preparing environmental documentation and reporting on the results of industrial environmental control.

He/she is able to determine the best available technologies that can be used in various industries, but admits inaccuracies.
Has basic skills in designing and conducting environmental and environmental protection activities.

#### Отлично

Knows the specifics of preparing environmental documentation and reporting on the results of industrial environmental control.

He/she is able to determine the best available technologies that can be used in various industries.

Confidently possesses the skills of designing and carrying out measures to protect the environment and the natural environment.

#### ПК.8.1

Разрабатывает проекты нормативов предельно допустимого воздействия на окружающую среду с целью обеспечения экологической безопасности с учетом специфики работы организации

KNOW the specifics of the organization's work when developing draft standards for maximum permissible exposure. BE ABLE to apply knowledge of environmental legislation when developing projects. HAVE the skills to develop draft standards of maximum

permissible environmental impact.

# Неудовлетворительно

Does not know the specifics of the organization's work when developing draft standards for maximum permissible exposure. Does not know how to apply knowledge of environmental legislation in the development of projects.

Does not have the skills to develop draft standards for maximum permissible environmental impact.

# **Удовлетворительно**

Knows the specifics of the organization's work when developing draft standards for maximum permissible exposure, but admits inaccuracies. He/she is able to apply the knowledge of environmental legislation in the development of projects, but makes gross mistakes. Superficially has the skills to develop draft standards of maximum permissible environmental impact.

#### Хорошо

Knows the specifics of the organization's work when developing draft standards for maximum permissible exposure.

Knows how to apply knowledge of environmental legislation in the development of projects, but admits inaccuracies. Has basic skills in developing draft standards of

Хорошо
maximum permissible environmental impact.
Отлично
Knows the specifics of the organization's work
when developing draft standards for maximum
permissible exposure.
He/she is able to apply knowledge of
environmental legislation in the development of
projects.
Confidently has the skills to develop draft
standards of maximum permissible
environmental impact.

ПК.9 Способен проектировать и создавать особо охраняемые природные территории, экологическое обустройство, экологические тропы, экологические сети и каркасы

Компетенция	Планируемые результаты обучения	Критерии оценивания результатов обучения
ПК.9.1 Разрабатывает проекты по созданию особо охраняемых природных территорий	KNOW the theoretical foundations of conservation work. BE ABLE to collect and process information necessary for the development of a protected area project. POSSESS the skills of using modern software in the design of protected areas and their systems.	Неудовлетворительно Does not know the theoretical foundations of the conservation business. Does not know how to collect and process information necessary for the development of a protected area project. Does not have the skills to use modern software in the design of protected areas and their systems.  Удовлетворительно Не/she knows only part of the theoretical foundations of the conservation business. Is able to collect, but is not able to process the information necessary for the development of a protected area project. He/she has only some skills of using modern software in the design of protected areas and their systems.  Хорошо Клоws most of the theoretical foundations of the conservation business. He/she is able to collect and process information necessary for the development of a protected
		area project, making some mistakes.  He/she has the basic skills of using modern software in the design of protected areas and their systems.
		<b>Отлично</b> Knows the theoretical foundations of the conservation business.

#### Отлично Is able to collect and process information necessary for the development of a protected area project. Has basic and special skills of using modern software in the design of protected areas and their systems. ПК.9.2 KNOW the theoretical Неудовлетворительно Does not know the theoretical foundations of Разрабатывает проекты foundations of designing по экологическому ecological paths, ecological territorial nature protection and recreational networks and frames. geography. обустройству, созданию Not able to collect and process information экологических троп, BE ABLE to collect and process necessary for the development of a project for экологических сетей и information necessary for the development of an ecological an ecological path, ecological network and каркасов paths project, an ecological frames. network and a frames. Does not possess the skills of direct field research, spatial analysis, identification of POSSESS the skills of direct field economic, social, legal aspects. research, spatial analysis, identification of economic, social, **Удовлетворительно** Knows only a part of the theoretical foundations legal aspects. of the design of ecological paths, ecological networks and frames. Knows how to collect, but does not know how to process the information necessary for the development of a project for an ecological path, ecological network and frames. Possesses only some skills of direct field research, spatial analysis, identification of economic, social, legal aspects. Хорошо Knows most of the theoretical foundations for the design of ecological paths, ecological networks and frames. He/she is able to collect and process the information necessary for the development of a project of an ecological path, ecological network and frames, making some mistakes. Possesses the basic skills of direct field research, spatial analysis, identification of economic, social, legal aspects. Отлично

Knows the theoretical foundations of the design of ecological paths, ecological networks and frames.

He/she is able to collect and process information necessary for the development of a project for an ecological path, ecological network and frames.

Отлично
Possesses the skills of direct field research,
spatial analysis, identification of economic,
social, legal aspects.

УК.12 Способен формировать нетерпимое отношение к коррупционному поведению

Компетенция	Планируемые результаты обучения	Критерии оценивания результатов обучения
УК.12.3 Осуществляет взаимодействие на основе нетерпимого отношения к коррупционному поведению в	KNOW the basics of current legislation in the field of preventing corruption in society. BE ABLE to identify corrupt behavior and contribute to its suppression in order to prevent corruption in the social and	<b>Неудовлетворительно</b> Does not know the basics of current legislation in the field of preventing corruption in society. Does not know how to identify corrupt behavior and contribute to its suppression in order to prevent corruption in the social and professional spheres.
социальной и профессиональной сферах	professional spheres. POSSESS the skills to identify and evaluate corrupt behavior and contribute to its suppression.	Does not have the skills to identify and evaluate corrupt behavior and to help prevent it.  Удовлетворительно Superficially knows the basics of current legislation in the field of preventing corruption in society.  He/she is able to identify corrupt behavior and contribute to its suppression in order to prevent corruption in the social and professional spheres, but has some difficulties.  Uncertainly has the skills to identify and
		evaluate corrupt behavior and help to curb it.  Xopomo  Knows the basics of current legislation in the field of preventing corruption in society.  He/she is able to identify corrupt behavior and contribute to its suppression in order to prevent corruption in the social and professional spheres, but admits inaccuracies.  Has the skills to identify and evaluate corrupt behavior and to help prevent it.
		Клоws the basics of current legislation in the field of preventing corruption in society. He/she is able to identify corrupt behavior and contribute to its suppression in order to prevent corruption in the social and professional spheres. Confidently has the skills to identify and evaluate corrupt behavior and contribute to its suppression.

# Оценочные средства

Вид мероприятия промежуточной аттестации: Экзамен

Способ проведения мероприятия промежуточной аттестации: Защищаемое контрольное

мероприятие

Продолжительность проведения мероприятия промежуточной аттестации:

время отводимое на доклад 4

# Показатели оценивания

Does not demonstrate professional knowledge and skills in the field of ecology and nature management; does not know how to use general scientific, special scientific research methods to collect primary information necessary for solving professional research or project tasks; does not have the skills of collective work, presenting their own opinion on a particular problem in the professional field; has insurmountable difficulties in implementing practice tasks, writing reports and during its defense.	Неудовлетворительно
Demonstrates individual formed professional knowledge and skills in the field of ecology and nature management; is able to use general scientific, special scientific research methods to collect primary information necessary for solving professional research or project tasks; in the course of this activity, experiences objective difficulties, does not always use special scientific terminology, characterizes the essence of a particular theoretical construction; he has the skills of collective work, but can not present his own opinion on a particular problem in the field of ecology and nature management; he has some problems in the course of performing practical tasks, writing a report and defending it.	Удовлетворительно
Demonstrates sufficient professional knowledge and skills in the field of ecology and nature management; is able to use general scientific, special scientific research methods to collect primary information necessary for solving professional research or project tasks; at the same time makes individual mistakes that can be corrected independently; has the skills of collective work, presenting their own opinion on a particular problem in the field of ecology and nature management in the course of performing practical tasks, preparing a report and defending it; at the same time, it does not do this quite confidently, and allows certain inaccuracies in the design of the practice report, which nevertheless do not affect the final result of the work.	Хорошо
Demonstrates fully formed professional knowledge and skills in the field of ecology and nature management; is able to use various general scientific, special scientific research methods to collect primary information necessary for solving professional research or project tasks; has all the necessary skills of collective work, presenting their own opinion on a particular problem in the field of ecology and nature management in the course of performing practical tasks, preparing a report and defending it.	Отлично