

**Syllabus  
educational component**

**Environmental management**

Назва дисципліни:	<b>Environmental management</b>
Рівень вищої освіти:	<b>the third (educational and scientific)</b>
Освітньо-наукова програма:	<b>Ecological safety</b>
Сторінка курсу в Moodle:	<a href="https://dl.khadi.kharkov.ua/course/view.php?id=2129">https://dl.khadi.kharkov.ua/course/view.php?id=2129</a>
The scope of the educational component	<b>4 credits (120 hours)</b>
Final control form	<b>Test</b>
Consultations:	<b>on schedule</b>
Name of the department:	<b>Department of Ecology</b>
Teaching language:	<b>English</b>
Course leader:	<b>Svitlana Anisimova</b>
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**Brief content of the educational component:**

**The goal** is the formation of the acquirers of theoretical knowledge and practical skills regarding the system of environmental management at different hierarchical levels of the enterprise and the mechanism of coordination of environmental interests of various subjects of environmental protection activities; advanced conceptual and methodological foundations of natural sciences; modern technologies in scientific and environmental activities; innovative complex scientific projects in the field of ecology, environmental protection and optimization of nature use.

**Subject:** specific activity in the field of environmental management at different hierarchical levels (national, regional, local, local).

**The main tasks of studying an academic discipline are:**

- study of theoretical and methodological approaches to the formation of the environmental management system in Ukraine;
- analysis of scientific and methodological approaches to defining the content of the concepts "ecological management" and "ecological management";
- research on the peculiarities of ecological and economic programming as a tool for improving the ecological tool at different hierarchical levels;
- systematization of the effectiveness of environmental management systems at an industrial enterprise, as the main element in the construction of a territorial system of environmental management;
- definition of the main principles and areas of improvement of the territorial system of nature management;
- study of the scientific and methodological principles of improving the methods of financial support of nature protection activities with the aim of harmonizing the interests of environmental management subjects at different hierarchical levels.

**Prerequisites for studying the educational component:**

History and philosophy of engineering and technology; Environmental safety of scientific developments (by industry).

**Competencies acquired by the acquirer:**

The ability to perform original research, achieve scientific results that create new knowledge in the field of ecology, environmental protection and optimization of nature use and related interdisciplinary areas and can be published in leading scientific publications in ecology, environmental protection and nature use and related fields.

The ability to orally and in writing present and discuss the results of scientific research and/or innovative developments in Ukrainian and English, a deep understanding of English-language scientific texts in the field of research.

Ability to use modern information technologies, databases and other electronic resources, specialized software in scientific and educational activities.

The ability to use modern methods and tools of systematic analysis of the quality of the environment, necessary for conducting scientific research aimed at solving significant problems in the field of ecology, environmental protection and balanced nature management.

**Learning outcomes according to the educational program:**

Plan and carry out experimental and/or theoretical research in ecology, environmental protection and optimization of nature use and related interdisciplinary areas using modern tools, critically analyze the results of own research and the results of other researchers in the context of the entire complex of modern knowledge regarding the problem under study.

Develop and implement scientific and/or innovative engineering projects that provide an opportunity to rethink the existing and create new holistic knowledge and/or professional practice and to solve significant scientific and technological problems of environmental protection and optimal use of nature, taking into account social, economic, ecological and legal aspects .

To solve significant scientific and technological problems of environmental protection and optimal use of nature with the application in scientific research of theoretical and methodological aspects of system analysis of environmental quality, modeling and forecasting of changes in the constituent ecosystems.

**Thematic plan**

№ of topic	Name of topics (LC, LW, PW, SC, IW)	Number of hours
		intramural
1	LC Integration of aspects of environmental management into the world economy	4
	PW Types of environmental policy: global, state, regional, at the local level, at the enterprise level	2
	IW 1. Integration of environmental management aspects into the strategies of economic entities	12
	2. The current level of disruption of the ecological balance on Earth, characteristic signs of the current ecological crisis	12
2	LC Formation of the environmental management system in Ukraine	4
	PW Methodical approaches to the application of general systems theory in nature management	2
	IW 1. Environmental protection legislation of Ukraine, international conventions and agreements	12
	2. System of management of environmental protection activities in Ukraine	12
3	LC Program and target principles of the formation of environmental	4

	management systems within the framework of regional management	
	PW Fundamentals of economics and organization of nature management	2
	IW 1. Assessment of eco-safety of the territorial natural and social complex	12
	2. Features of the functioning of the enterprise's environmental services	12
	LC Ecological management in the management system of balanced development of territories	4
4	PW Economic losses as a complex indicator that reflects the peculiarities of the interaction of production with the environment and affects the main characteristics of production activity	2
	IW Ecological management in the management system of balanced development of territories	7
Total	LC	16
	PW	8
	IW	96

**Individual educational and research task:** an essay on a topic chosen from IW.

#### Teaching methods:

- 1) verbal: 1.1 traditional: lectures, explanations, stories, etc.;
- 1.2 interactive (non-traditional): discussions, etc.;
- 2) visual: method of illustrations, method of demonstrations
- 3) practical: 3.1 traditional: practical classes;
- 3.2 interactive (non-traditional): discussions.

#### Evaluation system and requirements:

##### Current performance

**1** The current performance of applicants for the performance of educational types of work in training sessions and for the performance of independent work tasks is evaluated using a four-point rating scale with subsequent transfer to a 100-point scale. During the evaluation of current performance, all types of work provided for by the educational program are taken into account.

**1.1** Lecture classes are evaluated by determining the quality of performance of specified tasks.

**1.2** Practical classes are evaluated by the quality of performance of a control or individual task, performance and design of practical work.

**2** Evaluation of the current academic performance of students of higher education is carried out at each practical session on a four-point scale ("5", "4", "3", "2") and is entered in the journal of academic performance.

– "excellent": the winner mastered the theoretical material flawlessly, demonstrates in-depth knowledge of the relevant topic or academic discipline, the main provisions;

– "good": the applicant has mastered the theoretical material well, has the main aspects from primary sources and recommended literature, presents it in a reasoned manner; has practical skills, expresses his thoughts on certain problems, but certain inaccuracies and errors are assumed in the logic of the presentation of theoretical content or in the analysis of practical ones;

– "satisfactory": the applicant has basically mastered the theoretical knowledge of the educational topic or discipline, orients himself in primary sources and recommended literature, but answers unconvincingly, confuses concepts, answers additional questions uncertainly, does not have stable knowledge; when answering questions of a practical

nature, reveals inaccuracy in knowledge, does not know how to evaluate facts and phenomena, connect them with the future profession;

– "unsatisfactory": the applicant has not mastered the educational material of the topic (discipline), does not know scientific facts, definitions, hardly orients himself in primary sources and recommended literature, lacks scientific thinking, practical skills are not formed.

**3** The final score for the current activity is recognized as the arithmetic mean sum of points for each lesson, for individual work, current test works according to the formula:

$$K^{nomoch} = \frac{K1 + K2 + \dots + Kn}{n},$$

де  $K^{nomoch}$  – final assessment of success based on the results of current control;

$K1, K2, \dots, Kn$  – evaluation of the success of the current control measure;

$n$  – the number of measures of current control.

Estimates are converted into points according to the calculation scale (table 1).

**Table 1** – Recalculation of the average grade for the current activity into a multi-point scale

4- points scale	100- points scale	4- points scale	100- points scale	4- points scale	100- points scale	4- points scale	100- points scale
5	100	4,45	89	3,90	78	3,35	67
4,95	99	4,4	88	3,85	77	3,3	66
4,9	98	4,35	87	3,80	76	3,25	65
4,85	97	4,3	86	3,75	75	3,2	64
4,8	96	4,25	85	3,7	74	3,15	63
4,75	95	4,20	84	3,65	73	3,1	62
4,7	94	4,15	83	3,60	72	3,05	61
4,65	93	4,10	82	3,55	71	3	60
4,6	92	4,05	81	3,5	70	from 1,78 to 2,99	from 35 to 59
						reassembly	
4,55	91	4,00	80	3,45	69	from 0 to 1,77	from 0 to 34
4,5	90	3,95	79	3,4	68	repeated study	

### Final assessment

**1** The exam is held after studying all topics of the discipline and is completed by students of higher education during the examination session after the end of all classroom classes

**2** Students of higher education who have completed all types of work prescribed by the curriculum in the discipline are admitted to the exam:

– were present at all classroom classes (lectures, seminars, practical);

– completed all missed classes on time;

– scored the minimum number of points for the current academic performance (at least 36 points, corresponding to the national scale "3");

If the current success in the discipline is lower than 36 points, the higher education applicant has the opportunity to increase his current point to the minimum before the beginning of the examination session.

**3** Assessment of the knowledge of applicants when taking the exam is carried out on a 100-point scale.

Assessment of the knowledge of applicants through testing is carried out according to the following scale:

- "Excellent": at least 90% of correct answers;
- Very good": from 82% to 89% of correct answers;
- "Good": from 74% to 81% of correct answers;
- "Satisfactory": from 67% to 73% of correct answers;
- "Satisfactory enough": from 60% to 66% of correct answers;
- "Unsatisfactory": less than 60% of correct answers.

**4**The final grade for the academic discipline is defined as a weighted average grade that takes into account the overall grade for the current academic performance and the grade for passing the exam.

**5** The calculation of the overall final grade for the study of an academic discipline is carried out according to the formula:

$$PK^{ek3} = 0,6 \cdot K^{nomoy} + 0,4 \cdot E,$$

where  $PK^{ek3}$  – final assessment of success in disciplines, the form of final control for which is an exam;

$K^{nomoy}$  – final assessment of success based on the results of current control (on a 100-point scale);

$E$  - evaluation based on the results of the exam (on a 100-point scale).

0,6; 0,4 – coefficients of the ratio of points for current success and passing the exam.

**6** Additional points are awarded to winners for individual independent work and participation in scientific events.

**6.1** Additional points are added to the sum of points scored by the student of higher education for the current educational activity (for disciplines for which the final form of control is a credit), or to the final grade for a discipline for which the final form of control is an exam.

**6.2** The number of additional points awarded for different types of individual tasks depends on their volume and significance:

- prize places in the discipline at the international / all-Ukrainian competition of scientific student works - 20 points;
- prize places in the discipline at the All-Ukrainian Olympiads - 20 points;
- participation in the international / all-Ukrainian competition of scientific student works - 15 points
- participation in international / all-Ukrainian scientific conferences of students and young scientists - 12 points;
- participation in all-Ukrainian Olympiads in the discipline - 10 points
- participation in Olympiads and scientific conferences of the Khnadu in the discipline - 5 points;
- performance of individual scientific and research (educational and research) tasks of increased complexity - 5 points.

**6.3** The number of additional points cannot exceed 20 points.

**7** The total final grade for studying an academic discipline cannot exceed 100 points. The overall final grade for the study of the academic discipline is determined according to the scale given in Table 2.

**Table 2** – The scale for evaluating the knowledge of students based on the results of the final control of the academic discipline

Score in points	Evaluation on a national scale		Evaluation according to the scale of the European credit transfer-accumulation system	
			estimation	Criteria
	examination	test		
90-100	Perfectly	Enrolled	A	The theoretical content of the course has been mastered in its entirety, without gaps, the necessary practical skills for working with the mastered material have been formed, all educational tasks provided for in the training program have been completed, the quality of their performance has been assessed with a number of points close to the maximum
80–89	Fine	Enrolled	B	The theoretical content of the course has been mastered in its entirety, without gaps, the necessary practical skills for working with the mastered material have mainly been formed, all educational tasks provided for by the training program have been completed, the quality of most of them has been assessed with a number of points close to the maximum
75-79			C	The theoretical content of the course has been mastered in its entirety, without gaps, some practical skills of working with the mastered material have not been formed enough, all educational tasks provided for by the training program have been completed, the quality of none of them has been assessed with a minimum number of points, some types of tasks have been completed with errors
67-74	Satisfactorily		D	The theoretical content of the course is partially mastered, but the gaps are not of a significant nature, the necessary practical skills for working with the mastered material are basically formed, most of the educational tasks provided by the training program have been completed, some of the completed tasks may contain errors
60–66			E	The theoretical content of the course has been partially mastered, some practical work skills have not been formed, many educational tasks provided by the training program have not been completed, or the quality of some of them has been assessed with a number of points close to the minimum.

Score in points	Evaluation on a national scale		Evaluation according to the scale of the European credit transfer-accumulation system	
			estimation	Criteria
	examination	test		
<b>35–59</b>	<b>Unsatisfactorily</b>	<b>Not counted</b>	<b>FX</b>	The theoretical content of the course has been partially mastered, the necessary practical work skills have not been formed, most of the prescribed training programs of educational tasks have not been completed, or the quality of their implementation has been assessed with a number of points close to the minimum; with additional independent work on the course material, it is possible to improve the quality of the performance of educational tasks (with the possibility of retaking)
<b>0–34</b>	<b>Unacceptable</b>		<b>F</b>	The theoretical content of the course has not been mastered, the necessary practical work skills have not been formed, all completed educational tasks contain gross errors, additional independent work on the course material will not lead to any significant improvement in the quality of the performance of educational tasks (with a mandatory repeat course).

#### Course policy:

- the course involves working in a team, the environment in the classroom is friendly, creative, open to constructive criticism;
- mastering the discipline involves mandatory attendance of lectures and practical classes, as well as independent work;
- independent work involves the study of individual topics of the academic discipline, which are presented in accordance with the program for independent study, or were considered briefly;
- all tasks provided by the program must be completed within the set time;
- if the student of higher education is absent from classes for a good reason, he presents the completed tasks during independent preparation and consultation of the teacher;
- while studying the course, students of higher education must adhere to the rules of academic integrity set forth in the following documents: "Rules of academic integrity of participants in the educational process of the Khnadu" ([https://www.khadi.kharkov.ua/fileadmin/P\\_Standart/pologeniya/stvnz\\_67\\_01\\_dobroch\\_1.pdf](https://www.khadi.kharkov.ua/fileadmin/P_Standart/pologeniya/stvnz_67_01_dobroch_1.pdf)), "Academic Integrity. Checking the text of academic, scientific and qualification papers for plagiarism" ([https://www.khadi.kharkov.ua/fileadmin/P\\_Standart/pologeniya/stvnz\\_85\\_1\\_01.pdf](https://www.khadi.kharkov.ua/fileadmin/P_Standart/pologeniya/stvnz_85_1_01.pdf)), "Moral and ethical code of participants in the educational process of the Khnadu" ([https://www.khadi.kharkov.ua/fileadmin/P\\_Standart/pologeniya/stvnz\\_67\\_01\\_MEK\\_1.pdf](https://www.khadi.kharkov.ua/fileadmin/P_Standart/pologeniya/stvnz_67_01_MEK_1.pdf)).
- in case of detection of plagiarism, the applicant receives 0 points for the task and must repeat the tasks provided for in the syllabus;
- writing off during tests and exams is prohibited (including using mobile devices). Mobile devices are allowed to be used only during online testing.

### Recommended Books:

1. Lukianova O. M. Ekolohichnyi menedzhment: Konspekt leksii. – Kharkiv: UkrDUZT, 2022. – 66 s.  
Лук'янова О. М. Екологічний менеджмент: Конспект лекцій. – Харків: УкрДУЗТ, 2022. – 66 с.
2. Kuzmenko O. B. Osnovy ekolohichnoho menedzhmentu : [navchalnyi posibnyk] / O. B. Kuzmenko, V. I. Andrieiev – Mykolaiv : Vyd-vo ChDU im. Petra Mohyly, 2019. – 160 s.  
Кузьменко О. Б. Основи екологічного менеджменту : [навчальний посібник] / О. Б. Кузьменко, В. І. Андрєєв – Миколаїв : Вид-во ЧДУ ім. Петра Могили, 2019. – 160 с.
3. Shlapak N. S. Ekolohichnyi menedzhment : pidruchnyk / N. S. Shlapak, V. S. Voloshyn, T. V. Serkutan. – Mariupol : PDTU, 2019. – 205 s.  
Шлапак Н. С. Екологічний менеджмент : підручник / Н. С. Шлапак, В. С. Волошин, Т. В. Серкутан. – Маріуполь : ПДТУ, 2019. – 205 с.
4. Halushkina T. P., Hranovska L. M., Kyselova R. A. Ekolohichnyi menedzhment ta audyt: navchalnyi posibnyk. Kherson: Oldi-Plus, 2019. 455 s.5.  
Галушкіна Т. П., Грановська Л. М., Кисельова Р. А. Екологічний менеджмент та аудит: навчальний посібник. Херсон: Олді-Плюс, 2019. 455 с.

### Додаткові джерела:

1. Distance course:<http://dl.khadi.kharkov.ua/course/view.php?id=2129>
2. <http://lib.kart.edu.ua/bitstream/123456789/9817/1/.pdf>
3. [https://stud.com.ua/45682/ekologiya/ekologichniy\\_menedzhment\\_i\\_audit](https://stud.com.ua/45682/ekologiya/ekologichniy_menedzhment_i_audit)
4. DSTU ISO 14001-97. Systemy upravleniya okruzhaiushchei sredoi. Sostav y opysanye elementov, rukovodiashchye ukazaniya po ykh pryumeneniyu.  
ДСТУ ISO 14001-97. Системи управління навколишнього середовища. Склад і опис елементів, керівні вказівки по їх застосуванню. URL: [https://dnaop.com/html/41053/doc-%D0%94%D0%A1%D0%A2%D0%A3\\_ISO\\_14001-97](https://dnaop.com/html/41053/doc-%D0%94%D0%A1%D0%A2%D0%A3_ISO_14001-97)
5. DSTU ISO 14001: 2015. Systemy ekolohichnoho upravlinnia. Vymohy ta nastanovy shchodo zastosuvannia.  
ДСТУ ISO 14001: 2015. Системи екологічного управління. Вимоги та настанови щодо застосування. URL: [http://quality.nuph.edu.ua/wpcontent/uploads/2018/10/%D0%94%D0%A1%D0%A2%D0%A3-ISO\\_14001-2015-.pdf](http://quality.nuph.edu.ua/wpcontent/uploads/2018/10/%D0%94%D0%A1%D0%A2%D0%A3-ISO_14001-2015-.pdf)

Developer(s)the syllabus  
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