

**Syllabus
of the educational component
Management of environmental innovations**

Title:	Management of environmental innovations
Level of higher education:	second (educational and professional)
Course webpage in Moodle:	https://dl2022.khadi-kh.com/course/view.php?id=2616
The scope of the educational component	4 credits (120 hours)
Final control form	Test
Consultations:	on schedule
Name of the Department:	Department of Ecology
Teaching language:	English
Course leader:	Maryna Barun, PhD,
Contact phone number:	+38050-973-95-58
E-mail:	masha.barun@gmail.com

Summary of the educational component: The goal is to form a system of knowledge among applicants for managing environmental innovations, the use of economic and environmental tools to assess the feasibility of introducing an innovative component into the production process, mastering the ability to determine the resource provision of the environmental innovation market, assess the multidirectional interests of environmental innovation market actors and optimize the cost of promoting environmentally friendly goods on the market.

Subject: theoretical and methodological foundations, methodological provisions of scientific directions of environmental innovations at the present stage.

The main tasks of studying the discipline are:

substantiation and presentation of unified theoretical and methodological foundations of innovative management in environmental activities;

study of the genesis of the theory of innovation; formation of directions for the development of the market of environmental innovations and management methods.

Prerequisites for studying the educational component:

The presence of OS "Bachelor" in a related specialty, or the presence of OS "Bachelor" in an unrelated specialty (after passing an additional entrance test).

Competences acquired by the applicant:

- the ability to solve complex problems and problems in the field of ecology, environmental protection and balanced environmental management in the implementation of professional activities or in the learning process, which involves research and / or innovation, and is characterized by complexity and uncertainty of conditions and requirements;
- the ability to use modern methods of environmental protection, the principles of integrated protection of natural ecosystems and human society from environmentally hazardous natural and man-made processes (phenomena);
- skills in the use of devices and modern equipment for assessing environmental safety in certain areas;
- skills in obtaining, storing, processing, and disseminating professional and scientific and technical information;
- the ability to justify one's own point of view in the field of ecology, environmental protection and balanced nature management;
- skills in the use of nature protection technologies that allow to minimize man-made impact on natural systems;

- the ability to carry out ecological control of the state of the natural environment;
- knowledge of modern innovative principles of ecologically oriented modernization of production processes;
- the ability to independently develop environmental projects by creatively applying existing and generating new ideas.

Learning outcomes in accordance with the educational program:

- be able to plan, organize and conduct comprehensive environmental studies;
- demonstrate awareness of the latest principles and methods of environmental protection;
- be able to carry out the system analysis procedure based on a 6-stage approach;

Thematic plan

№ of theme	Name of topics (LC, PW, IW)	Quantity of hours	
		full-time	correspondence
1	LC Ecological and innovative activity as an integral part of ecologically oriented development.	2	1
	PW Determination of the level of environmental friendliness of goods and services.	4	1
	IR Certification of products according to ISO 9001, ISO 14001, ISO 14024, ISO 14030, EMAS.	11	14
2	LC Socio-economic prerequisites for the creation and development of the market for environmental innovations.	2	1
	PW Determining the level of motivation regarding the environmental friendliness of goods of various types.	2	1
	IR Information support of the process of formation of greening of production activities.	11	14
3	LC Market for environmentally friendly goods and services.	2	1
	PW Market for environmentally friendly goods and services.	2	-
	IR Environmental innovation market	11	14
4	LC Marketing of environmental innovations and environmental advertising.	2	1
	PW Marketing tools for determining market segments of environmental innovations.	2	1
	IR Motivational mechanisms for the development of ecologically oriented innovation.	11	14
5	LC International Green Business Development Strategy.	2	1
	PW -	-	-
	IR Environmental certification and standardization.	11	14
6	LC Environmental leasing: essence, structure, directions of development and environmental consulting.	2	1
	PW -	-	-
	IR Environmental innovations in the context of sustainable development.	11	14
7	LC Eco-labeling	2	1
	PW Comparison of the effects of subsidizing the prices of	2	-

	environmentally friendly goods at different stages of their promotion in the market.		
	IR Management of ecologically oriented innovations.	11	14
8	LC Ecological and economic rating of the enterprise and its image.	2	1
	PW Determination of economic efficiency of greening the enterprise.	4	1
	IR Management of ecological and economic innovation activity at the enterprise	11	14
Total	LC	16	8
	PW	16	4
	IR	88	108

Teaching methods:

- 1) verbal: traditional: lectures, explanations, etc.;
- 2) visual: the method of illustrations, the method of demonstrations;
- 3) practical: practical classes;

Evaluation system and requirements:

Current performance

1 The current success 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 the current academic performance, all types of work provided by the educational program are taken into account.

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

2 Evaluation of the current academic performance of students of higher education is carried out after each lecture 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 deep 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 control works according to the formula:

$$K^{current} = \frac{K1+K2+...+Kn}{n},$$

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

$K1, K2, ..., Kn$ – assessment of the success of the current control measure;

n – number of ongoing control measures.

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- score scale	100- score scale	4- score scale	100- score scale	4- score scale	100- score scale	4- score scale	100- score 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	reassembly	

Final assessment

1 A student of higher education receives a credit in the last lesson in the discipline based on the results of the current assessment. The average score for the current activity is converted into points on a 100-point scale, according to the conversion table (table 1). Applicants for higher education who have a current grade point average in the discipline lower than "3" (60 points) can increase their current grade by taking tests in the discipline in the last session.

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.

2 The condition for obtaining credit is:

- making up for all missed classes;
- the average current grade in the discipline is not lower than "3" (60 points).

4 The learning result is evaluated (select is required):

- on a two-point scale (passed/failed) according to table 2;

Table 2 – Scale for transferring points to the national evaluation system

On a 100-point scale	On a national scale
from 60 points to 100 points	counted
less than 60 points	not counted

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, 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), "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), "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).
- 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. Екологічний маркетинг: навч. посіб. / О. В. Прокопенко. - К. : Знання, 2012. - 320 с.
2. Бондар О. І. На шляху розвитку сталого споживання та виробництва в Україні /О. І. Бондар, Т. П. Галушкіна// Методичний посібник – Настанова щодо застосування зелених закупівель в державному та приватному секторах економіки. – Київ, 2013. Режим доступу: https://www.zhivaplaneta.org.ua/upload/GREEN_OUT_PreviewFinal3.pdf
3. Стін Бруун-Нільсен. Гармонізація системи державних закупівель в Україні зі стандартами ЄС / Стін Бруун-Нільсен // Звіт щодо посібника із «зелених» закупівель. – липень, 2016. Режим доступу: https://kipdf.com/-_5ac870df1723ddab84f10855.html
4. Напрями та завдання інноваційної політики у промисловості у контексті формування національної інноваційної системи України. Аналітична записка. Національний інститут стратегічних досліджень. URL: <http://www.niss.gov.ua/catalogue/11/>
5. Потапенко В.Г. Трансформація системи природокористування України на засадах «зеленої» економіки: теорія, методологія, практика: дис. на здоб. наук. ступ. д-ра екон. наук. К.: Міжнародний науково-техн. ун-т ім. академіка Ю. Бугая, 2014. 444 с.
6. Проривні технології в економіці і бізнесі (досвід ЄС та практика України у світлі III, IV і V промислових революцій) [Електронний ресурс] : навч. посіб. / Л. Г. 104 Мельник, Б. Л. Ковальов, Ю. М. Завдов'єва та ін.; за ред. Л. Г. Мельника та Б. Л. Ковальова. – Суми : СумДУ, 2020. – 180с. <https://essuir.sumdu.edu.ua/handle/123456789/79621>

7. Андрюшко А.К. Дослідження сучасного стану та розвитку інноваційної активності підприємств України / А.К. Андрюшко // Ефективна Економіка. — 2013. — №3 [Електронний ресурс]. — Режим доступу: <http://www.economy.nauka.com.ua>
8. Шкарупа О.В. Методологічні засади державного регулювання екологічної модернізації національної економіки : дисертація ... д-ра екон. наук, спец.: 08.00.03 - економіка та управління національним господарством / О. В. Шкарупа ; наук. консультант Л.Г. Мельник. — Суми : СумДУ, 2018. — 485 с.
9. Барун М.В. Інвестиційні детермінанти мотиваційної ідеології впровадження ресурсозберігаючих проектів у промислове виробництво / Н.М. Андреева, М.В. Барун: Монографія / за заг. ред. доктора екон. наук, проф. І. М. Сотник. — Суми : Університетська книга, 2016. — 368 с.

Additional sources:

1. дистанційний курс: <https://dl2022.khadi.kharkov.ua/course/view.php?id=2616>
2. Гришко Л. Екологічно чисті продукти в Україні: попит перевищує пропозицію [Електронний ресурс]. — Режим доступу: <http://www.dw-world.de/dw/article/0,,5583047,00.html>
3. *Вертелецький Д.Б.* Екологічне страхування в Україні: <http://uainsur.com/public/03/08/15/6>.
4. *Гусар В.У.* Роль і завдання страхових організацій у системі екологічного страхування в Україні: <http://uainsur.com/public/03/08/17/9>.
5. Web-site Consumers Internationals (www. consumersinter national. org / word) <http://www.kneu.dp.ua/moodle-new/course/view.php?id=609&lang=ru>

Developer(s)

the syllabus of the academic discipline,

PhD, Associate Professor of the Department of Ecology _____ Maryna BARUN

Head of the Department _____ Nataliia VNUKOVA