Thematic lesson plan of the seminar type
in the discipline " Pharmaceutical ecology"
for students in basic vocational education
specialist 's program
specialty 33.05.01 Pharmacy,
focus (profile) Pharmacy,
Full-time form of education
for 2023-2024 academic year

№	Thematic blocks	Hours (academic.	
		VII sem.	VIII csem.
1	History of development of ecology. Part 1.	1	
	History of development of ecology. Part 2.	2	
2	The organizm as a living holistic system. Levels of biological organization as objects of study in ecology. Trophic levels: concept and ecological functions.	2	
3	Physical and chemical environmental factors in the life of organisms, their role and significance. Part 1.	2	
	Physical and chemical environmental factors in the life of organisms, their role and significance. Part 2.	2	
4	Basic habitats (aquatic, terrestrial-air, soil, living organisms) and environmental factors. Part 1.	2	
	Basic habitats (aquatic, terrestrial-air, soil, living organisms) and environmental factors. Part 2.	2	
5	Adaptations of organisms to the environment and living conditions. Part 1.	2	
	Adaptations of organisms to the environment and living conditions. Part 2.	2	
6	Population and interaction of populations. Part 1.	2	
	Population and interaction of populations. Part 2.	2	
7	Biocenosis as a multispecies biological system. Part 1.	2	
	Biocenosis as a multispecies biological system. Part 2.	2	
8	Ecological systems. Ecosystem homeostasis.	2	
	Ecological systems. Biological productivity and ecosystem dynamics.	2	
9	The biosphere and man's place in it. Part 1.	2	
	The biosphere and man's place in it. Part 2.	2	
10	Biosocial nature of man and ecology.	2	
11	Population characteristics of a person. Part 1.	2	
	Population characteristics of a person. Part 2.	2	
12	Agricultural ecosystems (agroecosystems).	2	
13	Industrial-urban ecosystems. Part 1.	2	
	Industrial-urban ecosystems. Part 2.	2	
14	Influence of natural and ecological factors on human health.	2	
15	Man and the environment. Part 1.	2	
	Man and the environment. Part 2.	2	
16	Food ecology. Xenobiotics in food. Part 1.	2	
	Food ecology. Xenobiotics in food. Part 2.	2	
17	Characterization of biologically active additives (BAA), analysis of individual ingredients of dietary supplements, determination of safety and application. Part	2	

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	Characterization of biologically active additives (BAA), analysis of individual ingredients of dietary supplements, determination of safety and application. Part 2.	2	
18	Waste water sampling and determination of physical and chemical properties of water. Part 1.		2
	Waste water sampling and determination of physical and chemical properties of water. Part 2.		2
19	Determination of the organoleptic properties of water. Part 1.		2
	Determination of the organoleptic properties of water. Part 2.		2
20	Sampling of atmospheric air, determination of organoleptic and physico-chemical properties and gaseous air pollutants. Part 1.		2
	Sampling of atmospheric air, determination of organoleptic and physico-chemical properties and gaseous air pollutants. Part 2.		2
21	Radioactive contamination of the surface layer of the atmosphere, soil, water systems. doses of radiation. Units of measurement of radioactivity. Impact on the environment and the human body. Part 1.		2
	Radioactive contamination of the surface layer of the atmosphere, soil, water systems. doses of radiation. Units of measurement of radioactivity. Impact on the environment and the human body. Part 2.		2
22	Chemical and pharmaceutical enterprises as sources of environmental pollution. Part 1.		2
	Chemical and pharmaceutical enterprises as sources of environmental pollution. Part 2.		2
23	Soil pollution. The problem of waste disposal. Part 1.		2
	Soil pollution. The problem of waste disposal. Part 2.		2
24	Rules for the disposal of waste of medicines, medical devices and medical equipment. Part 1.		2
	Rules for the disposal of waste of medicines, medical devices and medical equipment. Part 2.		2
25	Placement and storage of waste of chemical and pharmaceutical enterprises.		2
26	Quality management system, intralaboratory quality control of the results of physical and chemical analysis, reliability of test results - Modern aspects. Part 1.		2
	Quality management system, intralaboratory quality control of the results of physical and chemical analysis, reliability of test results - Modern aspects. Part 2.		2
27	Monitoring of the state of the environment. Ecological risk, assessment and management. Part 1.		2
	Monitoring of the state of the environment. Ecological risk, assessment and management. Part 2.		2
	Monitoring of the state of the environment. Ecological risk, assessment and management. Part 3.		2
28	The program of production environmental control, the procedure and deadlines for submitting a report on the organization and the results of the implementation of industrial environmental control. Part 1.		2
	The program of production environmental control, the procedure and deadlines for submitting a report on the organization and the results of the implementation of industrial environmental control. Part 2.		2
29	Ecological resources of medicinal plants of the northwestern Caspian region (on the model of the Volgograd region): characteristics, use, protection and reproduction. Part 1.		2

	Ecological resources of medicinal plants of the northwestern Caspian region (on the model of the Volgograd region): characteristics, use, protection and reproduction. Part 2.		2
30	Excursion		2
31	Environmental problems of the Volgograd region, methods of solution - a round table. Part 1.		2
	Environmental problems of the Volgograd region, methods of solution - a round table. Part 2.		2
	Итого	59	54

Considered at the meeting of the department of General hygiene and ecology IPH may, 24, 2023, protocol No 9.

Head of the Department N.I. Latyshevskaya