

**Thematic plan of seminar-type classes
in the subject "Pharmaceutical ecology"
for students admitted in 2024
according to the educational program
33.05.01 Pharmacy,
focus (profile) Pharmacy,
(specialty),
full-time education
for the 2025-2026 academic year**

No.	Thematic blocks	Hours (academic) ¹
4 semester		
1	History of ecology.	2
2	The organism as a living integral 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, role and significance.	2
4	Main habitats (aquatic, terrestrial-air, soil, living organisms) and environmental factors.	2
5	Adaptations of organisms to the environment and living conditions.	2
6	Population and population interactions.	2
7	Biocenosis as a multi-species biological system.	2
8	Ecological systems. Ecosystem homeostasis.	2
9	Ecological systems. Biological productivity and ecosystem dynamics.	2
10	The biosphere and man's place in it.	2
11	Biosocial nature of man and ecology.	2
12	Population characteristics of humans.	2
13	Agricultural ecosystems (agroecosystems).	2
14	Industrial-urban ecosystems. Part 1.	2
15	Industrial-urban ecosystems. Part 2.	2
16	The influence of natural and environmental factors on human health.	2
17	Man and the environment.	2
5 semester		
18	Ecology of nutrition. Xenobiotics in food products. Part 1	2
19	Ecology of nutrition. Xenobiotics in food products. Part 2	2
20	Characteristics of biologically active additives (BAA), analysis of individual ingredients of BAA. Part 1	2
21	Characteristics of biologically active additives (BAA), safety assessment and application. Part 2	2
22	Determination of organoleptic properties of water.	2
23	Sampling of wastewater and determination of physical and chemical properties of water. Part 1	2
24	Sampling of wastewater and determination of physical and chemical properties of water. Part 2	2

25	Sampling of atmospheric air, determination of organoleptic and physicochemical properties and gaseous air pollutants.	2
26	Radioactive contamination of the ground layer of the atmosphere, soil, water systems. Radiation doses. Units of measurement of radioactivity. Impact on the environment and the human body.	2
27	Chemical and pharmaceutical enterprises as sources of environmental pollution.	2
28	Soil Pollution. The Problem of Waste Utilization. Part 1	2
29	Soil Pollution. The Problem of Waste Disposal. Part 2	2
30	Rules for the disposal of waste from medicines, medical products and medical equipment.	2
31	Environmental Monitoring. Environmental Risk, Assessment and Management. Part 1	2
32	Environmental Monitoring. Environmental Risk, Assessment and Management. Part 2	2
33	Industrial environmental control program, procedure and deadlines for submitting a report on the organization and results of industrial environmental control.	2
34	"Nature management and environmental protection". Excursion "Diversity of spore and gymnosperm plants of the Botanical Garden of VGSPU Volgograd, protection and introduction".	2
35	"Nature management and environmental protection". Environmental problems of the Volgograd region, methods of solution - round table.	2
Total		70

¹ - one thematic block includes several lessons, the duration of one lesson is 45 minutes, with a break between lessons of at least 5 minutes

Considered at a meeting of the Department of General Hygiene and Ecology of the N.P. Grigorenko Institute of Public Health, minutes of May 23, 2025, No. 10.

Head of Department



N.I. Latyshevskaya