

**Thematic Plan of Lecture Classes for the course “Pharmaceutical Ecology”  
for students admitted in 2024 in the educational program 33.05.01  
Pharmacy, specialization (profile): Pharmacy (Specialist Degree Program),  
full-time mode of study for the 2026–2027 Academic Year**

| No                | Lecture Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Hours<br>(academic) |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Semester 4</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |
| 1.                | <b>Pharmaceutical ecology as a science and its relationship to general ecology.</b> <sup>1</sup> Subject and content of ecology, pharmaceutical ecology, and environmental protection. History of formation and development. Habitat. Environmental factors and classification. The theory of the biosphere. Contemporary environmental issues. Environmental issues specific to the Volgograd region. The importance of environmental education in the work of a pharmacist. <sup>2</sup>                                                                                                            | 2                   |
| 2.                | <b>Ecology of nutrition: xenobiotics in food products, food additives, biologically active food supplements</b> <sup>1</sup> Food quality and safety. Xenobiotics in food; classification of xenobiotics ingested through the diet. Food additives: definition, classification, and modern approaches to standardization. Biologically active food supplements: concept, main classifications, and regulation of their circulation ·                                                                                                                                                                  | 2                   |
| 3.                | <b>Chemical and pharmaceutical enterprises as sources of environmental pollution. Environmental problems of labor in pharmaceutical enterprises.</b> <sup>1</sup> Characteristics of the main industrial poisons in the chemical and pharmaceutical industry. Harmful effects of chemicals on workers in pharmaceutical enterprises. Prevention of harmful effects of chemicals. Environmental characteristics of the main technological processes <sup>in</sup> the chemical and pharmaceutical industry. Environmental problems in the production of drugs. Environmental monitoring in production. | 2                   |

Reviewed and approved at the meeting of the Department of General Hygiene and Ecology of the N.P. Grigorenko Institute of Public Health, Minutes No.10, dated May 29<sup>th</sup>, 2026.

Head of the Department



N.I. Latyshevskaya