

ENVIRONMENTAL PROTECTION: INTEGRATED TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT

Department of Technology and Design of Wood Products

Educational and Research Institute of Forestry and
Landscape-Park Management

Lecturer:	Olena O. Pinchevska
Semester:	3
Degree level:	Master's
ECTS Credits:	3
Form of assessment:	Exam
Contact hours:	30 (15 hours of lectures, 15 hours of practical classes)
Self-study:	60 hours

General Course Description

The academic discipline “*Environmental Protection: Integrated Technologies for Sustainable Development*” is aimed at training master’s students capable of ensuring environmental and industrial safety through the implementation of integrated nature-based technologies in the forestry and wood- processing sectors. The course develops a systemic understanding of the interconnection between technological processes, occupational safety, and the environmental impact of production activities. Special attention is given to the application of Best Available Techniques (BAT), environmental monitoring, environmental risk management, corporate social responsibility, and the principles of sustainable development in accordance with European standards. The course combines lectures with active learning methods such as debates, brainstorming sessions, group work, and real case analysis, fostering the development of critical thinking, communication skills, and teamwork.

Objectives: study of the theoretical foundations of environmental safety and sustainable development; analysis of the environmental impact of technological processes in wood-

processing production; familiarization with modern technologies for emission control, ventilation, and waste management; mastering methods of environmental monitoring and environmental impact assessment; study of environmental risk management methods; development of teamwork, argumentation, and managerial decision-making skills; formation of environmental responsibility and professional ethics.

Lecture Topics

1. Fundamentals of Environmental Safety and the Concept of Sustainable Development.
2. Modern Environmental Protection Technologies in the Wood-Processing Industry.
3. Best Available Techniques (BAT): Principles and Implementation.
4. Environmental Risk Management at Enterprises.
5. Environmental Monitoring and Environmental Impact Assessment.
6. Sustainable Development, Corporate Social Responsibility, and Occupational Safety.
7. Legal and Ethical Aspects of Environmental Safety.

Practical Class Topics

1. Practical classes are conducted in the form of debates, brainstorming sessions, and group work.
2. Debate: Environmental Safety vs. Economic Efficiency of Production.
3. Brainstorming: Identification of Environmental Risks at a Wood-Processing Enterprise.
4. Group Work: Development of an Integrated Environmental Protection System.
5. Debate: Implementation of BAT – Challenges and Benefits for Business.
6. Brainstorming: Enterprise Sustainable Development Strategies.
7. Group Project: Presentation of a Solution for Minimizing Environmental Risks.