

# **BASES OF ENVIRONMENTAL AND ENERGY SUSTAINABILITY OF PRODUCTION**

(name of the discipline)

## **ANNOTATION**

### **TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION**

Specialty 1– 36 01 04 Equipment and technologies for highly efficient material processing processes

	STUDY MODE
	Full-time
Course	2
Semester	3
Lecture, hours	34
Laboratory classes, hours	16
Test, semester	3
Classroom hours for the academic discipline	50
Independent work, hours	58
Total course duration in hours / credit units	108/3

#### 1. Brief content of the discipline

The discipline "Fundamentals of environmental and energy sustainability of production" is aimed at the formation of environmental and energy ideas of sustainable development among future professionals, the assimilation of theoretical knowledge and practical skills to reduce the impact on the environment when using modern cleaner technologies.

#### 2. Learning outcomes

- know: patterns of functioning of natural ecosystems and the biosphere; features of the interaction between production and the environment; environmental problems resulting from production (environmental pollution and depletion of natural resources); methods of environmental management in order to reduce the anthropogenic impact and organize sustainable production; the main directions of the state policy in the field of energy saving; methods of production, transport and consumption of thermal and electrical energy, as well as the main ways to improve their efficiency; environmental and economic problems of energy and the main ways to solve them;
- be able to: assess the level, consequences of environmental pollution and depletion of natural resources; predict the consequences of anthropogenic load on the environment; justify the choice of methods to reduce environmental impact; use legal documents in the field of environmental protection; implement a systematic approach to the organization of energy efficiency, evaluate technological processes and devices in terms of their energy efficiency; use metering, control and regulation of thermal and electrical energy; to introduce modern information technologies into practice, to form and use databases of energy-efficient technological processes, units and devices; use and promote the main methods of energy saving and energy efficiency;
- own: analysis of environmental quality criteria; methods for determining the state of the environment; methods for determining energy saving and energy efficiency of production.

#### 3. Formed competencies

BOD-7 - Be able to apply the basic rules of safety, industrial sanitation, fire safety and methods for protecting production personnel, the public and the environment from the possible consequences of accidents, natural disasters, man-made disasters.

#### 4. Requirements and forms of current and intermediate certification:

- test;
- protection of laboratory works.