

ENGINEERING NETWORKS AND EQUIPMENT

COURSE SYLLABUS ABSTRACT

of education institution speciality

Specialty 7-07-0732-01-1 "Construction of buildings and structures" specialization "Industrial and civil engineering"

	STUDY MODE
	full-time
Year	3
Semester	5,6
Lectures, hours	50
Practical classes (seminars), hours	50
Course paper, semester	6
Exam, semester	5
Contact hours	100
Independent study, hours	116
Total course duration in hours / credit units	216/6

1. Course outline. The purpose of the discipline is the formation of knowledge, skills and professional competencies based on scientific, theoretical and practical knowledge on the design of engineering networks of buildings and structures, the development and consolidation of academic and socio-personal competencies.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know: the conditions for the formation of the microclimate of premises, the determination of its parameters; the device of heating systems, heat supply, ventilation and air conditioning, gas supply systems; principles and methods of calculation of heating and ventilation systems of buildings; the composition of construction work performed before and during the laying of engineering systems; water supply and sanitation networks, the design of the main structures of water supply and sanitation systems; methods of calculation of internal water supply and sewerage systems; purpose and characteristics of modern engineering equipment and devices used in heating, heat supply, ventilation and air conditioning systems, gas supply systems;

be able to: calculate the thermal balance of buildings' premises; perform calculations and analysis of the heat and humidity regime of building enclosing structures; make decisions on the design of heating and ventilation systems of residential buildings; perform thermal calculation of water heating systems and calculation of natural exhaust ventilation systems; trace thermal and ventilation networks, indoor plumbing and sewerage networks of residential buildings; select equipment and devices for water supply systems, sewerage, heat and gas supply, ventilation systems of buildings; determine the estimated costs of water consumption and sanitation of residential buildings and industrial enterprises.

possess: knowledge of engineering equipment of buildings and structures; knowledge of current regulations on the subject; the General principles of design of engineering systems and networks; the main directions of improvement of engineering systems and networks; modern and advanced appliances, facilities and materials used in engineering systems and networks; methods of installation and operation of engineering systems and networks.

3. Competencies

Apply the laws of fluid and gas mechanics, principles of equipment operation, methods of obtaining, converting, transferring and using heat, as well as the principles of operation and design features of heating apparatuses and devices, principles of operation of water supply and drainage of buildings and structures..

4. Requirements and forms of midcourse evaluation and summative assessment.

- intermediate: protection of individual tasks.
- current: exam (oral form).