ENGINEERING NETWORKS AND EQUIPMENT

ANNOTATION
TO THE CURRICULUM OF A HIGHER EDUCATION INSTITUTION

Specialty 1-70 02 01 «Industrial and civil engineering»
Specialization 1-70 02 01 01 Technology and organization of construction production,
1-70 02 01 03 Technical operation of buildings and structures

	Form of higher education		
	Full-time (day)	Correspondence	Correspondence abbreviated
Course	**3,4**	**2**	**4**
Term	5,6,7	3	7,8
Lectures, hours	62	2	8
Practical (seminar) classes, hours	30		8
Laboratory classes, hours			
Classroom control work (semester, hours)			
Term paper, semester	7	3	8
Course project, semester			
Credit, semester			
Exam, semester	5,6		7,8
Classroom hours for the academic discipline	92	2	16
Independent work, hours	82		158
Total hours of academic discipline / credits	174/4	30/1	174/4

1. Summary of the academic discipline
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. Learning outcomes
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.
to 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. Formed competencies
PC-10 PC-11 PC-12 PC-13 PC-14 PC-15 PC-16 PC-18 PC-19 PC-20 pc-21 pc-22 pc-24 pc-25 pc-26 PC-27 PC-28
4. Requirements and forms of current and interim certification.
When using the modular rating system of knowledge assessment, the final assessment is determined in accordance with the tables:
Exam

Evaluation	10	9	8	7	6	5	4	3	2	1	0
Scores	100 -94	93-87	86-80	79-72	71-65	64-58	57-51	50-41	40-17	16-1	0

When using the modular rating system of knowledge assessment, the final assessment of the course project (work) is the sum of points for its implementation and protection and is set in accordance with the scale:

Evaluation	10	9	8	7	6	5	4	3	2	1
Scores	100-94	93-87	86-80	79-72	71-65	64-58	57-51	50-41	40-17	16-1