

HYDRAULICS, HYDROLOGY, HYDROMETRY WATERCOURSES

ANNOTATION TO THE CURRICULUM OF A HIGHER EDUCATION INSTITUTION

Specialty 1-70 03 01 Highways

	Form of higher education		
	Full-time (day)	Correspondence	Correspondence abbreviated
Course	2	3	2
Term	4	5	3
Lectures, hours	34	8	10
Practical (seminar) classes, hours	16	4	-
Laboratory classes, hours	18	6	6
Credit, semester	4	5	3
Classroom hours for the academic discipline	68	18	16
Independent work, hours	32	82	84
Total hours of academic discipline / credits	100/3		

1. Summary of the academic discipline

The purpose of the discipline is to provide students with in-depth knowledge of the basic laws operating in both a stationary and a moving fluid. To obtain the necessary information in the field of formation of watercourses for their use in calculating the volume and flow of surface runoff.

2. As a result of mastering the academic discipline, the student must

To know:

- basic laws of hydrostatics and hydrodynamics; - regularities of uniform movement of water in channels; - basic information on the movement of groundwater; - factors affecting the volume of surface runoff;

be able to:

- determine the pressure and pressure force of the resting fluid on engineering structures; - perform hydraulic calculation of a simple pipeline; - perform the calculation of the channel for the uniform movement of water in it; - select a hydrometric target and determine the main characteristics of the watercourse; - calculate the flow rate for the projected culvert.

possess:

- the basic terminology of the discipline studied is perfect; - skills in solving basic problems in the field of hydraulics and hydrology; - methods of measuring the main hydraulic characteristics of open flows.

3. Formed competencies:

AK - 1 Ability to apply basic scientific and technical knowledge to solve theoretical and practical problems;

AK - 2 Possess a systematic and comparative analysis;

AK - 3 Possess research skills;

AK - 4 Be able to work independently;

AK - 7 Have skills related to the use of technical devices, information management and computer operation;

AK - 8 Have oral and written communication skills;

SLK - 2 Be ready for social interaction;

SLK - 3 Have the ability to interpersonal communication;

SLK - 4 Be able to work in a team;

SLK - 5 Be capable of criticism and self - criticism;

PC - 1 To analyze and evaluate the engineering and hydrological conditions of the construction of transport facilities; to take into account the influence of these conditions on the choice of design and technological solutions.

4. Requirements and forms of current and interim certification.

To assess the level of knowledge of students, the following diagnostic tools are used:

- protection of completed laboratory work;
- intermediate control works;
- final standings.