

# HYDRAULICS, HYDROLOGY AND HYDROMETRY WATERCOURSES

(course title)

## COURSE SYLLABUS ABSTRACT

of higher education institution

Specialty 7-07-0732-01 «Construction of buildings and structures»

Concentration «Road of Construction»

|                                               | STUDY MODE |                                  |
|-----------------------------------------------|------------|----------------------------------|
|                                               | full-time  | part-time<br>(shortened program) |
| Year                                          | 3          | 3                                |
| Semester                                      | 5          | 5                                |
| Lectures, hours                               | 34         | 8                                |
| Practical classes (seminars), hours           | 16         | 4                                |
| Laboratory classes, hours                     | 16         | 4                                |
| Exam, semester                                | 5          | 5                                |
| Contact hours                                 | 66         | 16                               |
| Independent study, hours                      | 42         | 92                               |
| Total course duration in hours / credit units | 108/3      |                                  |

1. The aim of the course is to give students deep knowledge in the field of fundamental laws operating in both stationary and moving fluids. To obtain the necessary information in the field of formation of watercourses for their use in calculating the volumes and costs of surface runoff. The objectives of the course are to prepare future specialists in the road industry to navigate scientific and technical information and use it to solve specific problems.

### 2. Course learning outcomes

Upon completion of the course, students will be expected to

know: - basic laws of hydrostatics and hydrodynamics; - patterns of uniform water movement in canals; - basic information on groundwater movement; - factors affecting the volume of surface runoff;

be able to: - determine the pressure and force of pressure of a resting liquid on engineering structures; - perform a hydraulic calculation of a simple pipeline; - perform a channel calculation for uniform water movement in it; - select a hydrometric section and determine the main characteristics of the watercourse; - calculate the flow rate for the designed culvert.

have the skill: - solve the main problems in the field of hydraulics and hydrology.; - measure the main hydraulic characteristics of open flows

### 3. Competencies

As a result of mastering the discipline, the student must develop the following competencies:

Apply the basic rules and methods for performing geodetic measurements in construction

4. Requirements and forms of current and midterm assessment. Current: individual assignments.

Midterm assessment: oral exam