

## **RECONSTRUCTION OF HIGHWAYS AND AIRFIELDS**

(course title)

### **COURSE SYLLABUS ABSTRACT of higher education institution speciality**

**Specialty 1-70 03 01 Highways**

	Study mode		
	Full-time	Part-time	Part-time (shortened program)
Year	5	6	4
Semester	9	11	8
Lectures, hours	16	6	6
Practical classes (seminar), hours	32	4	4
Credit, semester	9	11	8
Contact hours	48	10	10
Independent study, hours	48	86	86
Total course duration in hours / credit units	96/3		

1. Summary of the discipline: principles of assignment of works to restore the operational condition of highways, classification and composition of works during the reconstruction of highways, roadbed, artificial structures, road clothes a.b., road clothes with cement concrete coating. Innovative developments, technologies, materials, machinery and equipment used in the reconstruction of highways. Environmental protection during the reconstruction of highways

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

**know:** - basic principles of reconstruction of highways and its individual elements; - regulatory documents defining the processes of surveys, design, construction and reconstruction on highways.

**be able to:** - to set and solve the tasks of conducting surveys before the construction of the highway, carrying out design work on the basis of the obtained materials of surveys of the highway and its elements; - it is justified to choose the initial data for the calculation and design of the elements of the highway, based on the regulatory requirements for a linear object and requirements of the design assignment;

**own:** - methods of feasibility study of the effectiveness of work on the reconstruction of highways; - methods of identifying sections of roads and streets in need of priority reconstruction, conducting field work during surveys for the reconstruction of highways and the development of design materials; - design methods, technology of work during the reconstruction of highways that meets the requirements of standards and regulatory documents while ensuring proper quality, the level of mechanization and automation of production; - ways of organizing technological processes of reconstruction of highways and airfields.

3. Formed competencies

AK-1 Be able to apply basic scientific and theoretical 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, management, information and computer work; AK-8 Have oral and written communication skills; SLK-2 Be capable of social interaction; SLK-3 Have the ability to interpersonal communication; SLK-4 Be able to work in a team; PK-1 To analyze and evaluate engineering-geological and hydrological conditions of construction of transport facilities; to take into account the influence of these conditions on the choice of design and technological solutions; PC-2 To develop technical specifications for the projected object, taking into account the results of research and development work; PK-17 to carry out constant technical supervision of the condition of the operated transport facilities; PK-19 To determine the load capacity of transport facilities; PC-20 To know and improve methods of diagnostics, repair and reconstruction of highways; PC-21 To implement in practice modern approaches to the organization of the efficiency of the functioning of transport facilities; PK-22 Monitor compliance with labor protection standards, safety regulations during repair and reconstruction of transport facilities, fire safety; PK-23 To identify the causes of damage to elements of structures, keep records of them, develop proposals for their prevention; PC-24 To provide training of personnel working on repair work, safety rules and to carry out timely verification of knowledge; PC-40 Define innovation goals and ways to achieve them; PC-42 Develop business plans for the creation of new equipment, technology; PC-47 Possess innovative technologies for the maintenance and repair of highways.

4. The current certification of students is carried out to determine the compliance of the results of their educational activities with the requirements of educational standards, educational program documentation of educational programs of higher education. The forms of the current certification of students are credit. The current certification

is carried out orally or orally in writing. The form of intermediate certification is a control work, which is carried out in writing.