CONSTRUCTION OF HIGHWAYS

(course title)

COURSE SYLLABUS ABSTRACT
of higher education institution
speciality

Specialty 1-70 03 01 Highways

	Study mode		
	Full-time	Full-time	Full-time
Year	**3,4**	**5,6**	**5**
Semester	6,7,8	9,10,11	9,10
Lectures, hours	114	24	16
Practical classes (seminar), hours	50	18	12
In-class test (semester, hours)	-	9 (2)	-
Course project, semester	6,7	10,11	9,10
Exam, semester	6,7,8	9,10,11	9,10
Contact hours	164	42	28
Independent study, hours	199	321	335
Total course duration in hours / credit units	363/9		

1. Summary of the discipline: the purpose of the discipline is to form students' professional knowledge on technologies of construction, reconstruction
and repair of the roadbed and pavement of all existing categories of highways based on the use of modern materials, advanced construction methods and productive machines and complexes.
2. As a result of studying the discipline, the graduate must
- to know: modern methods of production of road construction works, the sequence of technological operations during construction in various natural and geophysical conditions of the roadbed, all types of road clothing and artificial structures on highways; technology of work of road industry manufacturing enterprises and the organization of the production process on them; methodology for determining labor costs for performing technological operations and completing production units for the construction of a highway; the basic rules for the placement of machines, mechanisms and labor on the road, ensuring high quality of work, maximum productivity of machines and mechanisms and high quality of work.
-be able to: develop technological maps for the production of works taking into account modern methods and methods of production; calculate the required resources; organize the production process, carry out operational quality control. perform
the calculation of volumes and requirements of materials for the construction of pavement.
- possess: practical skills in the application of materials and technologies for the construction and reconstruction of highways; methods of quality control of works during the construction and reconstruction of highways; terminology adopted in the practice of road construction; methods of calculating physical and mechanical parameters of soils and road-building materials; methods of geodetic support for the production of works; regulatory and technical literature.
3. Formed competencies:
AK-1 To 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 relate to the use of technical devices, information management and computer work.AK-8 Have oral and written communication skills.CJIK-2 Be capable of social interaction.CJIK-3 Has the ability to interpersonal communication.CJIK-4 Be able to work in a team.PC-2 To develop technical specifications for the projected object, taking into account the results of research and development work.PC-3 To provide development, comparison and selection of the most optimal variant of the highway with the feasibility study. PC -5 Know the construction of mathematical models of spatial calculations of transport structures, apply methods of construction mechanics and mechanics for calculations, including the use of numerical methods and automated calculations. PC -6 Perform structural calculations of elements of highways and transport structures, taking into account regulatory documents. PC -7 Assess the reliability and durability of road structures. PC -9 To develop technical documentation for the projected transport facility. PC -14 To develop technologies of general construction works in the construction of highways and transport structures on them with a choice of machines and mechanisms. PC -23 To identify the causes of damage to elements of structures, keep their records, develop proposals for their prevention. PC -26 Understand the essence and social significance of his profession, the place and interrelation of disciplines that define a specific area of his activity in a holistic system of knowledge.PC-31 Interact with specialists of related professions.PC-33. Prepare reports, materials for presentations and represent at them. PC-41 To search, systematize and analyze information on the prospects for the development of the industry, innovative technologies, projects and solutions..PC-43 Work with scientific, technical and patent literature.PC-47 Use measuring instruments, know their main characteristics and rules for using measuring instruments
4. When studying the discipline, a modular rating system of knowledge assessment is used. To assess the level of knowledge of students in the 6th, 7th, 8th semester, the following means are used: protection of an individual assignment; student's speech (presentation) on a prepared abstract; intermediate control of academic performance; current certification (exam).