

DESIGN OF HIGHWAYS

COURSE SYLLABUS ABSTRACT

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

Profile Automobile road

	STUDY MODE	
	Full-time	part-time (shortened program)
Year	3, 4	3, 4
Semester	5, 6, 7, 8	5, 6, 7, 8
Lectures, hours	136	32
Practical classes (seminars), hours	136	32
Course project, semester	5, 6, 7	5, 6, 7
Exam, semester	5, 6, 7	5, 6, 7
Offset, semester	8	8
Contact hours	272	64
Independent study, hours	160	368
Total course duration in hours / credit units	432/12	

1. Course outline

The purpose of the discipline is to form students' knowledge about the methods of designing highways, taking into account the national economic significance of these structures, natural conditions, requirements for efficient and safe operation of road transport.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know: - principles and methods of substantiation of geometric elements of highways; - principles of assigning parameters and solving issues of surface and underground drainage; - methods of designing "roadbed - road clothing" systems, depending on the composition and intensity of traffic, climatic construction area; - strength criteria and methods for calculating non-rigid and rigid road coverings for the effect of transport loads and weather and climatic factors; - methodology of designing transport interchanges,

be able to: - design the plan, longitudinal and transverse profile of highways; - design intersections of highways and transport interchanges; - to justify the parameters of culverts; - to design and calculate road clothes for the effect of transport loads; - to perform calculations of road clothes for strength during reconstruction and major repairs; - to optimize the structures of road clothes taking into account technical and economic indicators,

to possess a skill: - calculation of the elements of the route plan and the design line, design of ditches; - design of the turn-off; - determination of the volume of earthworks; - designing intersections and junctions of highways, transport interchanges; - calculation of non-rigid and rigid road clothes.

3. Competencies

- be capable of self-development and improvement in professional activities;
- use the main road-building machines when choosing technological solutions for the construction and repair of transport structures.

4. Requirements and forms of midcourse evaluation and summative assessment

Protection of practical work in orally - current certification.

Written examination - intermediate certification.