

# DESCRIPTIVE GEOMETRY, ENGINEERING AND MACHINE GRAPHICS

## COURSE SYLLABUS ABSTRACT of higher education institution speciality

### SPECIALTY 1 - 70 03 01 "ROADS"

	Form of higher education		
	Full-time	Part-time	Part-time (shortened program)
Year	1,2	1,2	1
Semester	1,2,3	1,2,3	1
Lectures, hours	34	6	-
Practical (seminar) classes, hours	84	22	6
Laboratory classes, hours	16	6	6
In-class test (semester, hours)	-	1,2,3(12)	1(4)
Exam, semester	1	1	-
Pass/fail, semester	2,3	2,3	1
Contact house	134	46	16
Independent study, hours	194	312	308
Total course duration in house / credit units	324/9		

#### 1. Course outline

Introduction. Straight. Plane. Surfaces. Intersection of geometric shapes. Methods for transforming projections. Metric tasks. Projections with numerical marks.

Types, sections, sections. Classification of threads, threaded connections. Assembly drawing. Detailing. Making working drawings of parts. Sizing rules. Drawings of metal structures. Drawings of reinforced concrete structures. Construction of excavation boundaries, canal and road profiles. Landscaping and landscaping plan.

#### 2. Course learning outcomes

- **know** the methods of projection in the given systems of projection planes of a point, a straight line, a plane and a surface; signs of parallelism and perpendicularity of straight lines, a straight line and a plane, two planes; surfaces and how to set them on the drawing; basic principles for constructing the intersection of geometric shapes and their natural sizes; algorithm for constructing the boundaries of earthworks; GOST ESKD and SPDS; rules for the implementation of construction drawings; the basics of working in AutoCAD.

- **be able** to perform basic images; solve positional, metric and complex problems; perform construction drawings; read engineering drawings; use standards and reference books; use PC to make drawings.

- **possess** the methods of presenting details, the skills of reading construction drawings; methods of using computer technology to build drawings; rules for the preparation of construction documents.

#### 3. Competencies

Own the basics of descriptive geometry, methods of machine-building projection drawing, execution and reading of construction drawings, development and execution of design and construction documentation.

#### 4. Requirements and forms of midcourse evaluation and summative assessment.

The module-rating system of knowledge assessment is used. Intermediate control of progress is carried out on the basis of the implementation and protection of a number of graphic individual tasks with scoring. The current certification is carried out in the form of an exam (1 semester) and a pass (2.3 semester).