INSTALLATION, OPERATION AND REPAIR OF LIFTING AND TRANSPORT MACHINES

(course title)

COURSE SYLLABUS ABSTRACT

6-05-0715-03 – «Cars, tractors, mobile and technological complexes»

(speciality code and name)

«Computer Engineering in Material Handling Machinery»

(concentration)

	STUDY MODE
	full-time
Year	**4**
Semester	7
Lectures, hours	34
Practical classes (seminars), hours	16
Laboratory classes, hours	34
Exam, semester	7
Contact hours	84
Independent study, hours	86
Total course duration in hours / credit units	170/5

1. Course outline. The objective of this academic discipline is to develop specialists who are able to reasonably and effectively apply existing knowledge, skills, and abilities and acquire new ones in the fundamentals of the reliability theory of lifting and transport machines (LTM), the organization of their installation, operation, diagnostics, and repair.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

– fundamentals of machine reliability theory;
– organization of machine diagnostics and repairs;
– machine maintenance and repair technology;
– technical means and advanced installation methods;
– machine operation principles;

be able to:

– determine quantitative values of machine reliability indicators;
– ensure the achievement of their optimal values based on machine load determinations, strength, wear resistance, and lubrication of their parts and assemblies, taking into account adverse operating conditions, and knowledge of the basic principles of their installation, operational manufacturability, and maintainability;
– select rational installation methods and technological means for their implementation, develop process charts and work plans, and ensure their safety;
– organize the operation of machine reliability indicators, ensure technical supervision of their condition and safe operation, and develop optimal technological processes for maintenance and repair;

to possess a skill:

– determining the reliability indicators for lifting and transport equipment;
– achieving optimal reliability indicators;
– performing installation work and the technological means for performing it, developing process maps and work execution plans, and methods for ensuring the safety of their execution;
– organizing the operation of lifting and transport equipment, methods for conducting technical supervision of the condition of lifting and transport equipment, and methods for safe work execution, as well as methods for developing optimal technological processes for maintenance and repair.

3. Competencies: Applying the methodological principles of installing and operating lifting and transport equipment.

4. Requirements and forms of midcourse evaluation and summative assessment: surveys, practical and laboratory work protection, and exams are conducted in an oral form (information and communication technologies may be used).