MATHEMATICAL MODELING OF TRANSPORT AND PRODUCTION FACILITIES
(course title)

INTERNSHIP COURSE SYLLABUS
ABSTRACT

7-06-0714-02 Innovative technologies in mechanical engineering
(speciality code and name)

Profiling Computer engineering of transport and technological machines
(concentration)

Advanced higher education

	STUDY MODE	
	full-time	part-time
Year	**1**	**1**
Semester	1	1
Lectures, hours	16	4
Laboratory classes, hours	16	4
Contact hours	32	8
Independent study, hours	76	100
Total course duration in hours / credit units	108/3	

1. Internship course outline (aims and objectives)
The discipline contains materials intended for the formation of students' knowledge, skills and mathematical modeling skills as a means of studying processes or phenomena occurring in the production, design and operation of lifting, construction and road vehicles
2. Course learning outcomes
Upon completion of the course, students will be expected to
know:
– methods of mathematical modeling;
– methods of modeling physical processes occurring during the operation of lifting, construction and road machines;
– methods of mathematical modeling of loads and work processes;
– methods for determining static and dynamic loads acting on the machine and its aggregates, performing strength calculations of machine elements;
be able to:
– develop dynamic models of simulated objects;
perform traction, kinematic and dynamic calculations of the machine using calculation automation tools;
– methods of mathematical modeling;
– methods of modeling physical processes occurring during the operation of lifting, construction and road machines;
– methods of mathematical modeling of loads and work processes;
– methods for determining static and dynamic loads acting on the machine and its aggregates, performing strength calculations of machine elements;;
3. Competencies
SK-3 Have the skills of mathematical and computer modeling of technical objects
4. Form of midcourse evaluation- exam.