DISCRETE MATHEMATICS AND MATHEMATICAL MODELING

COURSE SYLLABUS ABSTRACT
of higher education institution

Specialty: 6-05-0714-02 Mechanical engineering technology, metal-cutting machines and tools, profiling – Mechanical engineering technology

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	2	2	2
Semester	3	3	3
Lectures, hours	16	4	4
Laboratory classes, hours	16	4	4
Course paper, semester	3	3	3
Contact hours	32	8	8
Independent study, hours	112	136	136
Total course duration in hours / credit units	144/4	144/4	144/4

Specialty: 6-06-0713-04 Automation of technological processes, profiling – Automation of technological processes and production in mechanical engineering.

	STUDY MODE
	Full-time
Year	2
Semester	3
Lectures, hours	16
Laboratory classes, hours	16
Course paper, semester	3
Contact hours	32
Independent study, hours	112
Total course duration in hours / credit units	144/4

1. Course outline
Elements of mathematical logic, griffon theory, set theory, types of mathematical models, methods of linear and dynamic programming.
2. Course learning outcomes
Upon completion of the course, students will be expected to
know: basic concepts, definitions and methods of set theory, mathematical logic, graph theory, methods of linear and dynamic programming, basic methods of setting, solving and studying mathematical models of applied problems.
be able to: build mathematical models; compare and compare mathematical models; choose the appropriate mathematical method and algorithm for solving the problem;
possess: mathematical tools of the discipline in solving practical problems that may arise in professional activities.
3. Competencies.
 to know the elements of mathematical logic, the theory of griffins, the theory of sets, the types of mathematical models, the methods of linear and dynamic programming, the application of these methods to optimize technological processes.

4. Requirements and forms of midcourse evaluation and summative assessment
 Intermediate certification: CW – control work; ICP – intermediate control of progress. Current certification: test. The development of this academic discipline will ensure the formation of the required competence of SK-1.2.