DISCRETE MATHEMATICS
(name of discipline)
ANNOTATION
TO THE WORKING PROGRAM OF THE DISCIPLINE

Specialty 1-53 01 02 "Automated Systems of Information Processing".

	Form of higher education		
	Full-time	Correspondence	Part-time shortened
Course	1	2	1
Semester	2	3	1
Lectures, hours	34	8	8
Laboratory, hours	16	4	4
Test, semester	2	3	1
Classroom hours on the study course (including controlled self-study)	50	12	12
Independent work, hours	58	96	96
Total hours for the discipline / credit units	108/3,0		

1 Summary of the content of the discipline.
Mastering of the basic concepts and methods of combinatorics, theory of Boolean functions, sets, relations, graphs, complexity; mastering of the mathematical apparatus of discrete mathematics for solving problems of discrete structures from the subject area of the engineer, as well as the terminological base necessary for independent study of special mathematical literature; acquisition of practical skills of formation and solutions of applied problems using methods of discrete mathematics; development of logical thinking.

2. Learning outcomes.
As a result of studying the discipline the student should:
know: logical operations; basic methods of set theory and combinatorics; Boolean functions; elements of formal grammar and language theory; basic concepts and results of graph theory; basics of algorithm theory, the concept of complexity classes P and NP; elements of coding theory;
Be able to: translate sentences into formal language of statement logic; solve basic combinatorial problems; investigate Boolean function systems for completeness; investigate simple graphs for isomorphism, define connectivity, bipartite and planarity of graphs; define code separability, build an optimal code
Know: skills of composition and decomposition analysis of information complexes and processes; formal language of statement logic; concepts of alphabetic and equal-dimensional coding; skills of decoding uniqueness problem solving; methods of algorithm and calculation complexity definition.

3. Competencies to be formed.
Learning of this discipline should provide formation of the following competences: UK-12: Possess the skills of creative analytical thinking. BPC-3: Apply practical skills of formalization and solution of applied problems in the field of infocommunication technologies using the methods of discrete mathematics.

4. Requirements and forms of current and intermediate attestation.
Defence of laboratory works, defence of controlled self-study, intermediate control of progress, credit.