

**The name of the academic discipline:****«Discrete mathematics»**

<b>Code and name of specialty</b>	1-40 01 01 Software Engineering
<b>Training course</b>	1
<b>Semester of training</b>	1
<b>Number of class hours:</b>	50
<b>Lectures</b>	26
<b>Seminar classes</b>	-
<b>Practical classes</b>	24
<b>Laboratory classes</b>	-
<b>Form of current assessment (credit/differential credit/exam)</b>	ЭКЗАМЕН
<b>Number of credits</b>	1
<b>Competencies to be formed</b>	Mastering the academic discipline «Discrete mathematics» should ensure the formation of universal and specialized competencies: to solve standard tasks of professional activity based on the use of information and communication technologies; to apply the basic methods of discrete mathematics, as well as other related fields of mathematics for the analysis of economic processes and contacts.

**Summary of the academic discipline:**

The academic discipline «Discrete mathematics» is the mathematical basis of modern information technologies, is considered as a language and mathematical tools for building and analyzing models in the field of designing automated control systems, information processing and designing computer equipment and electronic devices. The knowledge and skills acquired during the course of discrete mathematics are general professional, form the basic level of knowledge for the development of other special academic disciplines. Great importance in the study of this academic discipline is given to the theory of sets, contacts and graphs, in terms of which most problems related to discrete objects are formulated.

The academic discipline introduces students to such discrete objects as sets, combinatorial functions, graphs, finite state machines and algorithms. These objects define the basis of enumerative combinatorics, discrete optimization, cryptography, theory of algorithms and are basic for many applied areas.