

**The name of the academic discipline:
«Fundamentals of algorithmization and programming»**

Code and name of specialty	1-40 01 01 Software Engineering
Training course	1
Semester of training	1/2
Number of class hours:	120
Lectures	56
Seminar classes	-
Practical classes	-
Laboratory classes	64
Form of current assessment (credit/differential credit/exam)	exam/ exam
Number of credits	6
Competencies to be formed	Mastering the academic discipline "Fundamentals of Algorithmization and Programming" should ensure the formation of universal and basic competencies: solve standard tasks of professional activity based on the use of information and communication technologies; apply the main methods of algorithmization, methods and means of obtaining, storing, processing information in solving professional problems, apply the basic aspects of various programming paradigms and practical skills for their use at all stages of development in modern integrated tool environments.

Summary of the academic discipline:

"Fundamentals of Algorithmization and Programming" is an academic discipline that includes the following sections: Algorithm and its properties. General information about structured programming. Purpose and composition of the programming system. Classification of programming languages. Basic elements of the language. Program structure. Simple data types. Operations. Expressions. Operators. Complex data types. Arrays. Strings. structures. Addresses and pointers. Search and sorting tasks. subroutines. Files. Dynamic data structures. Basic principles of object-oriented programming: encapsulation, inheritance, polymorphism. The concept of an object, class, method, property.