

**Academic discipline:  
" Algorithms and data structures "**

<b>Code and name of specialty</b>	1-40 01 01 Information Technology Software
<b>Training course</b>	1/2
<b>Semester of training</b>	2/3
<b>Number of class hours:</b>	106
<b>Lectures</b>	58
<b>Seminar classes</b>	-
<b>Practical classes</b>	-
<b>Laboratory classes</b>	48
<b>Form of current assessment (credit/differential credit/exam)</b>	credit/exam
<b>Number of credits</b>	7
<b>Competencies to be formed</b>	To use the principles of design and analysis of algorithms and data structures, skills of substantiating the correctness of algorithms for their practical implementation, as well as theoretical and experimental evaluation of their time complexity
<b>Summary of the content of the academic discipline:</b>	
The course "Algorithms and data structures" is focused on the study of structures and classification of algorithms according to specified characteristics. The course of the discipline provides for the formation of an idea about the diversity of computer data structures, about the influence of selected data structures on processing functions and the effectiveness of software tools. The course of the discipline includes the concepts of problem dimension and complexity of algorithms, basic techniques for developing effective algorithms, basic data structures and complexity of basic operations for them, types of search trees, as well as basic graph search algorithms and their complexity.	