

**DISCIPLINE DESCRIPTION**  
**" Fundamentals of Algorithmization and Programming"**

1	Specialized module	Fundamentals of Algorithmization and Programming
2	Specialty	1-28 01 02; E-Marketing
3	Course of Study	1
4	Semester	1, 2
5	Credit units	3
6	Degree, title, full name of lecturers	Senior lecturer Bondarenko A.
7	Objectives	The discipline "Fundamentals of Algorithmization and Programming" is the first discipline in the field of programming studied by students of the specialty "Electronic Marketing". The discipline is considered basic while studying of a number of subsequent disciplines of the specialty related to information technology. The objective of the discipline is to train a specialist with basic knowledge and practical skills in the field of algorithms and programming basics.
8	Prerequisites	Algorithm, programming
9	Syllabus	<p>Theoretical foundations of algorithms and structured programming; means of presenting algorithms; programming techniques in the selected high-level procedural programming language.</p> <p>As a result of studying the discipline, students should:</p> <p><i>know :</i></p> <ul style="list-style-type: none"> <li>- the basics of algorithmization;</li> <li>- the basics of structured programming;</li> <li>- means of presenting algorithms;</li> <li>- high-level procedure-oriented algorithmic programming language;</li> <li>- general understanding of object-oriented programming;</li> </ul> <p><i>be able to :</i></p> <ul style="list-style-type: none"> <li>- perform task algorithmization;</li> <li>- program in a procedure-oriented algorithmic programming language;</li> <li>- debug and test programs;</li> <li>- use the available software;</li> <li>- to analyze the input and output data of the tasks being solved and the forms of their presentation.</li> </ul>
10	References	1. Голицына О., Попов И. Основы алгоритмизации и программирования. – СПб, 2003.

		<p>2. Павловская Т.А. Процедурное и объектно-ориентированное программирование. СПб.: 2019.</p> <p>3. Кнут Д.Э. Искусство программирования: Учеб. пособие. Т. 1. Основные алгоритмы. – М.: Вильямс, 2000.</p> <p>4. Кнут Д.Э. Искусство программирования: Учеб. пособие. Т. 3. Сортировка и поиск. – М.: Вильямс, 2000.</p> <p>5. Кормен Т., Лейзерсон Ч., Ривест Р. Алгоритмы: Построение и анализ. – СПб, 2003.</p>
11	Teaching Methods	explanatory-illustrative, reproductive, partial-research, comparative, problematic, dialogue-heuristic, research, generalizing, analytical.
12	Tuition Language	Russian