

# Fundamentals of algorithmization and programming

(course title)

## COURSE SYLLABUS ABSTRACT

1-53 01 02 - «Automated information processing systems»

(speciality code and name)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	<b>1</b>	<b>1-2</b>	<b>1</b>
Semester	1,2	1,2	1
Lectures, hours	68	10	4
Laboratory classes, hours	50	12	6
Practical classes (seminars), hours			
Course paper, semester	2	3	2
Exam, semester	1,2	1,2	
In-class test (semester, hours)		1,2 (4 h.)	1 (2 h.)
Contact hours	118	26	12
Independent study, hours	170	262	276
Total course duration in hours / credit units	288/8		

1 The purpose of the discipline is the formation of students' basic knowledge of programming, instilling in students the skills of setting, preparing and solving problems at a high level, preparation as a fundamental basis for studying additional disciplines.

### 2. Course learning outcomes

Upon completion of the course, students will be expected to

#### **know:**

- basics of algorithmization
- basic constructions of high-level languages;
- terminology;
- principles of software creation;
- software development technologies;
- basic data structures;
- basic concepts of object-oriented programming;

#### **be able to:**

- create algorithms;
- use the basic constructions of high-level languages;
- to implement algorithms in the form of programs in a high-level language;

#### **possess:**

- methods and tools for creating software;
- skills of independent development, debugging, testing and documentation of the program.

### 3. Competencies

Codes of generated competencies	Names of competencies being formed
YK-2	Solve standard tasks of professional activity based on the use of information and communication technologies
БІІК -6	Apply the main methods of algorithmization, methods and means of obtaining, storing, processing information in solving professional problems

### 4. Requirements and forms of midcourse evaluation and summative assessment

To assess the level of knowledge of students, the following diagnostic tools are used:

- oral and written questioning during laboratory classes;
- preparation of reports on laboratory work with their oral defense;
- carrying out control works (test tasks) on separate topics;
- Interview during individual and group consultations;
- defense of term paper;
- exam.