

Fundamentals of Information Technology

(name of the discipline)

ANNOTATION TO THE EDUCATIONAL PROGRAM OF A HIGHER EDUCATION INSTITUTION

7-06-0732-01 Construction. Specialization. Industrial and Civil Construction.

	Form of education	
	full-time (day)	correspondence
Course	1	1
Semester	1	1
Lectures, hours	26	6
Laboratory classes, hours	24	6
Credit, semester	1	1
Classroom hours in the academic discipline (including hours for supervised independent work)	50 (10)	12
Independent work	22	60
Total hours of academic discipline / credits	72/2	72/2

1. The short content of the academic discipline: modern information technologies. Programming technologies, basic software for information processing, network technologies and the Internet, information protection, mathematical modeling and numerical methods, optimization methods and decision support systems, application of information technologies in a specific subject area.

2. Learning outcomes:

- to know: trends in the development of information technologies; the basics of network technologies and Internet services; graphic and spreadsheet processors, databases, tools for preparing presentations and mathematical calculations; the basic methods of mathematical modeling and optimization.

- to be able to: use modern information technologies in scientific research; perform the formulation and programming of tasks in their subject area;

- have the skill: information technologies for working in the environment of packages MathCad and MatLab; methods of minimizing functions, conditional optimization, solving variational problems.

3. Formed competencies: to solve research and innovation tasks based on the use of information and communication technologies.

4. Requirements and forms of current and intermediate certification.

The current control is determined by the protection of laboratory works and the intermediate certification – the candidate differentiated test.