NUMERICAL METHODS FOR SOLVING PROBLEMS

(name of the discipline)

ANNOTATION
TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty _1-70 02 01 «Industrial and civil construction»

	Form of higher education		
	Full-time (daytime)	Correspondence	Correspondence abbreviated
Course	1	2	2
Semester	2	3	3
Lectures, hours	16	6	6
Laboratory classes, hours	34	6	6
Test (report), semester	2	3	3
Classroom hours per academic discipline	50	12	12
Independent work, hours	58	96	96
Total hours per academic discipline /credit units	108/3		

1. Brief content of the discipline: numerical solution of systems of linear algebraic equations, systems of nonlinear equations, equations of the form $f(x)=0$, least squares approximation of functions, approximate calculation of integrals, solution of ordinary differential equations, harmonic analysis.

2. As a result of mastering the academic discipline, the student must:

know – the strategy for applying numerical methods, numerical methods for solving basic mathematical problems (integration, differentiation, systems of equations), the structure and capabilities of software of modern decision support systems and automation of engineering calculations;

be able to – choose the best numerical methods for solving the assigned problems, determine the mathematical characteristics of the original information and evaluate the accuracy of the resulting numerical solution, solve applied problems is one of modern decision support systems and automation of engineering calculations;

possess: numerical methods of problem solving, skills of working with software tools of modern decision support systems and automation of engineering calculations.

3. Competencies.

BPC-2. Apply software tools to solve engineering problems.

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

Current assessment: PLW - protection of laboratory work; ICP - intermediate control of progress. Intermediate assessment: test.