COMPUTATIONAL MATHEMATICS AND COMPUTER ALGEBRA

ANNOTATION
TO THE SYLLABUS OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 1-53 01 02 Automated Systems of Information Processing

	Form of higher education		
	Full-time	Correspondence	Correspondence
Course	2	2	2
Semester	3	4	3
Lectures, hours	34	8	8
Laboratory classes, hours	16	4	4
Test, semester	3	4	3
Class hours for the academic discipline	50	12	12
Independent work, hours	58	96	96
Total hours per academic discipline / credit units	108/3		

1.   The purpose of teaching the discipline is to teach students the existing methods of numerical solution of mathematical problems and implementation of the methods in computer algebra systems.
2.   As a result of mastering the discipline, the student must
know:
- areas of application of computational mathematics;
- Tendencies of modern computing systems construction;
-instruments for realization of numerical methods;
be able to:
-practically implement numerical methods for solving linear, nonlinear, integral equations, partial differential equations;
-process experimental data by numerical methods;
-Interpolate various functions;
differentiate and integrate functions given analytically;
implement methods in a computer algebra system;
own:
basic methods of approximate calculations and be able to apply them in professional activities;
programming skills of computational tasks with the use of modern software;
Skills of application of computer algebra system for solving computational tasks.

3.   Formable competencies: BPC-18- Apply computational and analytical methods to solve applied problems.

1.   Requirements and forms of current and intermediate attestation.

The following forms are used for diagnostics of competences: - oral, - written, - oral-written, - technical.