COMPUTATIONAL MATHEMATICS AND COMPUTER ALGEBRA

ANNOTATION

TO THE SYLLABUS OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 6-05-0612-03 "Information Management Systems"

	Form of higher education	
	Full-time	Correspondence
Course	2	2
Semester	3	4
Lectures, hours	34	8
Laboratory classes, hours	16	4
Test, semester	3	4
Class hours for the academic discipline	50	12
Independent work, hours	94	132
Total hours per academic discipline / credit units	144/4	

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

Mastering this discipline should ensure the formation of the following competencies: - Apply computational and analytical methods to solve applied problems.

4.Requirements and forms of current and intermediate attestation.

Defence of laboratory works – current, oral -written, credit – intermediate, oral -written