SYSTEM MODELING

(course title)

ANNOTATION

TO THE CURRICULUM OF THE DISCIPLINE

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

Specialization: Automated Information Processing Systems

	The form of higher education		
	Full-time (full-time)	Correspondence*	Correspondence shortened*
Course	4	4	4
Semester	7	8	6
Lectures, hours	32	8	8
Laboratory, hours	16	4	4
Course Project, Semester	8	9	7
Test, Semester	7	8	6
Classroom hours in the educational discipline	48	12	12
Independent work, hours	60	96	96
Total hours of the discipline / credit units	108/3	108/3	108/3

1. Summary of the content of the discipline

The purpose of teaching this academic discipline is to provide students with knowledge in the field of problem formulation, development of mathematical models, construction of modeling algorithms, selection of languages and modeling systems or software development for modeling systems, planning computational experiments, as well as statistical modeling methods in the research and design of automated information processing and management systems.

2. Learning outcomes

As a result of mastering the academic discipline, the student must

to know:

- types of mathematical models and principles of their construction;
- modern methods and tools for modeling complex systems;
- methods of formalization and algorithmization of complex systems;
- methods of implementing models using modern computer technology;
- mathematical models and schemes of modeling algorithms of queuing systems;
- methods for implementing mathematical models using general-purpose and standard languages

be able to:

-model deterministic and stochastic systems;
- simulate queuing systems;
- perform the planning of a scientific experiment;
- perform the construction of regression models of systems based on experimental data;

have the skill to:

- use modern methods of system simulation;
- fundamentals of algorithmization and programming of simulation models;
- modern simulation software;
- modern technologies of simulation modeling.

3. Emerging competencies

To solve practical problems of automation of modeling of the analyzed processes and characteristics of systems of various classes

4. Requirements and forms of current and intermediate attestation

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