"MATHEMATICAL MODELING OF TECHNICAL OBJECTS AND PROCESSES USING COMPUTER TECHNOLOGY"
(name of the discipline)

ANNOTATION
TO THE WORK PROGRAM OF THE DISCIPLINE

Field of study: 1-36 80 02 – "Innovative technologies in mechanical engineering"
Profile: Mechanical engineering and Machine science
Welding technologies
Transport, mining and construction engineering
Qualification: Master's degree

	Form of higher education	
	Full-time (full-time)	Correspondence
Course	1	1
Semester	1	1
Lectures, hours	18	4
Practical (seminar) classes, hours	18	4
Exam, semester	1	1
Classroom hours in the academic discipline	36	8
Independent work, hours	54	82
Total hours of academic discipline / credits	90 / 3,0	

1. The purpose of the discipline

The purpose of the discipline is to present to students a range of issues related to the construction of empirical mathematical models of technical objects and systems.

2. Planned results of studying the discipline

As a result of mastering the academic discipline , students must
know:
- the basic principles of statistical methods for constructing empirical models;
- model quality criteria and measures to ensure them;
- methodological foundations of the experiment;

be able to:
- evaluate the accuracy of experimental data;
- plan experimental studies, identify factors and output variables of empirical models;
- use the least squares criterion and methods of planning factor experiments to build models;
- evaluate the quality of empirical models.

own:
- computer tools for processing and analyzing research results.

3. Requirements for mastering the academic discipline

Mastering this discipline should ensure the formation of the following competencies:

UK-2: possess in-depth fundamental and applied knowledge and skills in the field of innovative engineering technologies;

UPC-1: master the basic methods of mathematical modeling of technical objects and processes of manufacturing machine parts using computer technology, be able to select these methods to solve specific problems.

4. Educational technologies

When conducting classes, the following forms and methods of educational technologies are used: traditional; multimedia.