BASIS OF SCIENTIFIC RESEARCH, INVENTION AND INNOVATIVE ACTIVITY IN ENGINEERING

(name of the discipline)

ANNOTATION

TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 1-36 01 01 "Technology of mechanical engineering"

	Form of higher education		
	Full-time (daytime)	**Correspondence (full)**	**Correspondence (abbreviated)**
Well	four	5	4
Semester	7	9	7
Lectures	68	4	10
Workshops	16	2	4
offset	7	9	7
Total classroom hours by discipline	84	6	14
Independent work	46	124	116
Total hours per academic discipline / credit units	130/3	130/3	130/3

one. Brief content of the discipline

The discipline "Fundamentals of scientific research, invention and innovation in mechanical engineering" contains general ideas about research methods and processes for processing scientific research.

2. Learning outcomes

A student who has studied the discipline should ***know:***

- goals and objectives of fundamental applied research;
- methods for estimating measurement errors;
- methods for planning experiments and processing their results;
- methodological foundations of experimental work;
- methods of analysis of technical objects (TO) and technologies;
- methods for improving efficiency, modernizing existing and creating new maintenance and technologies;

be able to:

- plan and process the results of experiments;
- conduct research on new technologies, equipment, projects and solutions, evaluate their innovative potential;

own:

- - draw up application materials for the invention;
- - determine the competitiveness of products;
- - define the goals of innovation and ways to achieve them;
- - apply methods of analysis and organization of innovations.

3. Formed competencies:

BOD-11 To learn the basics of the theory of errors, correlation and regression analysis, planning of experiments, process optimization, analysis of technological processes, operational properties of parts and tools, methods of representation and innovation in mechanical engineering.

4. Requirements and forms of current and intermediate certification

Current and intermediate certification is carried out in oral, written and oral-written form through reports on practical exercises with their oral defense, written test.