

## FUNDAMENTALS OF INFORMATION TECHNOLOGY

Annotation to the curriculum of a higher education institution

Specialties: 1-36 80 02 – Innovative technologies in mechanical engineering; 1-38 80 01 Instrumentation; 1-37 80 01 Transport; 1-40 80 02 – System analysis, management and information processing; 1-43 80 01 – Electric power and electrical engineering; 1-70 80 01 – Construction of buildings and structures; 1-25 80 01 – Economics.

Specialty areas: Mechanical engineering and mechanical engineering, Transport, mining and construction engineering. Welding technologies, Non-destructive testing techniques and technologies, Design of wheeled vehicles, Technical operation of vehicles, System analysis, management and information processing. Electric power and electrical engineering, Construction of highways, Economic development of the organization of industry and transport.

Specializations \_\_\_\_\_

	Form of education			
	Technical specialties		Economic specialties	
	Full-time (day)	Correspondence	Full-time (day)	Correspondence
Course	1	1	1	1
Semester	1	2	1	1
Lectures, hours	36	8	36	10
Laboratory classes, hours	36	8	36	8
Credit, semester	1	2	1	1
Classroom hours in the academic discipline	72	16	72	18
Independent work	36	92	36	90
Total hours of academic discipline / credits	108/3	108/3	108/3	108/3

1. Summary of the academic discipline

2. Learning outcomes - know: trends in the development of information technologies; fundamentals of network technologies and Internet services; graphic and tabular processors, databases, presentation preparation tools and mathematical calculations; basic methods of mathematical modeling and optimization. - be able to: use modern information technologies in scientific research; perform formulation and programming tasks in their subject area; - possess: information technologies for working in the environment of MathCad and MatLab packages; methods of minimizing functions, conditional optimization, solving variational problems.

3. Formed competencies: For: 1-36 80 02 – CC-5 To have the skills of using modern information technologies to solve research and innovation tasks; 1-37 80 01 - CC-2 To have the skills of using modern information technologies to solve research and innovation tasks; 1-43 80 01 – CC-4 To have the skills the use of modern information technologies to solve research and innovation tasks; 1-70 80 01 – UK-4 Have the skills to use modern information technologies to solve research and innovation problems; 1-38 80 01 - UK-3 Have the skills to use modern information technologies to solve research and innovation problems; 1-25 80 01 - UK-8 Have the skills to use modern information technologies to solve scientific- research and innovation tasks; 1-40 80 02 – UK-2 Solve research and scientific tasks based on the use of information and communication technologies.

4. Requirements and forms of current and interim certification.

The current control is determined by the protection of laboratory work and the current certification – candidate differentiated credit.