Introduction to engineering education
(course title)

COURSE SYLLABUS ABSTRACT

1-36 01 03 – Machine-building process equipment
(speciality code and name)

	STUDY MODE
	full-time
Year	1
Semester	1
Lectures, hours	16
Pass/fail, semester	1
Contact hours	16
Independent study, hours	14
Total course duration in hours	30

1. Course outline

Student's educational work within the walls of the university. Overview of the main stages of the development of mechanical engineering. Essence and objects of engineering activity. Methodology and levels of solving the technical problem. Materials, equipment, tools and process tools used in mechanical engineering. Basic concepts about the accuracy of machining and the quality of the surface of parts of technical systems. Environmental, occupational and life safety.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know**:** current state, prospects for the development of technologies and technological equipment on the world market, technical armament of engineering; basics, approaches to modeling and experimental study of material processing processes; physical and chemical phenomena occurring in the interaction zone of the tool and the workpiece being processed; methods of processing materials used in production, mechanisms for forming the quality of treated surfaces, ways to reduce productivity, quality and cost-effectiveness of processing, as well as reduce energy consumption and reduce the load on the environment; the main types of tools, process tools and equipment used in machine building; main types of conjugations, which are accuracy and quality, measuring instruments; concepts of occupational safety, fire safety and electrical safety;

be able to**:** distinguish the main types of cutting tools, equipment and process equipment; distinguish and use the main types of measuring tools; select equipment and tools depending on the type of processing; competently organize independent work; apply the methods of forming surfaces in the design of the processing process; Apply methods to activate the creative process when solving engineering problems;

possess**:** basic design of processing processes; methods of control of processing processes; methods of intellectual property protection, scientific and technical approach to solving engineering problems.

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: test.