

Process equipment parts and mechanisms

(course title)

COURSE SYLLABUS ABSTRACT

1-40 05 01 Information systems and technologies (majors in)

(speciality code and name)

1-40 05 01-01 Information systems and technologies (in designing and producing)

(specialisation code and name)

	STUDY MODE	
	full-time	part-time (shortened program)
Year	2, 3	2, 3
Semester	4, 5	4, 5
Lectures, hours	84	8
Practical classes (seminars), hours	32	8
Course project, semester	5	5
Exam, semester	4	4
Pass/fail, semester	5	5
Contact hours	116	16
Independent study, hours	124	224
Total course duration in hours / credit units	240/6,5	

1. Course outline

Normalization and control of parameters accuracy. Principles for constructing tolerance and fit systems. Classification and basic requirements for machine parts and assemblies. Design principles and methods, development stages. Mechanical transmissions. Friction and shift gears. Worm gears and handed over screw-nut. Shafts and axles. Rolling and sliding bearings. Seals. Threaded connections. Connections of parts of ingenuity. Permanent connections. Regulation of gear and gear accuracy.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know: device, principle of operation, technical characteristics, scope of application of basic mechanisms, typical parts and components of machines; basis of calculation of machine parts and assemblies according to the performance criteria; general principles, methods and stages of design;

be able to: apply methods of analysis of machine-building structures; apply standard methods of calculation of machine parts and assemblies; design machine parts and assemblies according to the specified specifications using reference literature, design automation tools;

possess: skills of analysis of the device and principle of operation of machine mechanisms and components; skills in calculation and design of typical units of machine-building structures.

3. Competencies

AK-1 – Be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems; AK-2 – Own system and comparative analysis; AK-3 – Own research skills; AK-4 – Be able to work independently; AK-5 – Be able to generate new ideas (have creativity); AK-6 – Have a multidisciplinary approach to problem solving; AK-7 – Have skills related to the use of technical devices, information management and computer work; AK-8 – Have oral and written communication skills; AK-9 – Be able to study, improve your qualifications throughout your life; AK-10 – Use the basic laws of natural sciences in your professional activity; AK-11 – Own the main methods, methods and means of obtaining, storing, processing information using computer equipment; AK-14 – Organize your work on a scientific basis, independently evaluate the results of your work; SLK-5 – Be capable of criticism and self-criticism; SLK-6 – Be able to work in a team; PK-21 – Analyze and evaluate the collected data; PK-23 – Prepare reports, materials for presentations; PK-24 – Use global information resources; PK-25 – Own modern infocommunication means.

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: protection of practical classes, academic year project, test, exam.