Computer-aided engineering systems
(course title)

COURSE SYLLABUS ABSTRACT

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

	STUDY MODE	
	full-time	part-time (shortened program)
Year	3	3
Semester	6	6
Lectures, hours	50	12
Laboratory classes, hours	34	8
Exam, semester	6	6
Contact hours	84	20
Independent study, hours	36	100
Total course duration in hours / credit units	120/3	

1. Course outline

Principles of modeling elastic maintenance systems. Machining vibrations. Self-oscillation during cutting. Analysis of the results of static calculation of the spindle assembly. Analysis of the results of dynamic calculation of the spindle assembly. Simulation of the supply drive dina-miki. ESCS of gears and reducers. Composition and tasks of automated control systems of the enterprise in mechanical engineering.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know**:** principles of construction and operation of process equipment CAD; capabilities of computer-aided design and control tools during production and operation of process equipment; principles of computer-aided design of typical process equipment units;

be able to**:** generate design models for computer-aided design of technical equipment; assess accuracy and adequacy of design models of process equipment; use standard packages of computer programs in the automated design of technological equipment; organize their work in the CAD of technological equipment with participation in a collective project;

possess: method of computer-aided design of technological equipment using standard packages of computer programs; methods of using process equipment CAD hardware.

3. Competencies

SK-4 – Be able to generate design models for computer-aided design of process equipment and use standard computer software packages.

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: laboratory protection, exam.