

## Tool manufacturing design

(course title)

### **COURSE SYLLABUS ABSTRACT**

#### 1-36 01 03 – Machine-building process equipment

(speciality code and name)

	STUDY MODE
	full-time
Year	4
Semester	8
Lectures, hours	36
Practical classes (seminars), hours	24
Pass/fail, semester	8
Contact hours	60
Independent study, hours	48
Total course duration in hours / credit units	108/3

#### 1. Course outline

Main motion drives. Formula of the drive structure. Connecting group transmissions. Feed drives. Kinematic calculation of the drive. Spindle assemblies. Stepless drives. Load-bearing system of the machine. Traction devices. Machine control systems.

#### 2. Course learning outcomes

Upon completion of the course, students will be expected to  
know: Main motion drives. Formula of the drive structure. Connecting group transmissions. Feed drives. Kinematic calculation of the drive. Spindle assemblies. Stepless drives. Load-bearing system of the machine. Traction devices. Machine control systems;  
be able to: outline the options for the equipment arrangement according to the performed technical process; outline and determine the number of transport and lifting technical systems and the scheme of their interaction with process equipment; determine the number of process equipment and the area occupied by it; Determine the number of vehicles determine the number of workers in the workshop and in the area, the flow line; develop the layout of the production line, section, workshop taking into account the rational organizational structure; develop the construction part of the workshop layout design (cross section of the workshop span); develop a project of auxiliary departments of the workshop;  
possess: the basis for designing tool production; methods of conducting patent research, protecting intellectual property, scientific and technical approach to solving engineering problems, creating and introducing innovations.

#### 3. Competencies

SK-10 – Know the main tasks and sequence of designing tool areas and workshops, methods of calculating and quantity of equipment, rules of its location, design of auxiliary divisions of tool shop.

#### 4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: protection of practical classes, test.