

TECHNOLOGICAL PROCESS OPTIMIZATION METHODS

(course title)

COURSE SYLLABUS ABSTRACT

1-36 01 01 - «Engineering technology»

(speciality code and name)

	Form of higher education		
	Full-time	extramural	extramural abbreviated
Year	4	4	4
Semester	7	7	7
Lectures, hours	16	2	4
Practical (seminar) classes	-	2	-
Laboratory classes, hours	16	2	4
Exam, semester	7	7	7
Contact hours	32	6	8
Independent study, hours	76	102	100
Total course duration in hours / credit units	108/3	108/3	108/3

1 The purpose of the discipline "Technological process optimization methods" is to increase the level of specialized competence in solving problems of optimization of various technological processes.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- elements of mathematical logic, graph theory, set theory, types of mathematical models, methods of linear and dynamic programming, the use of these methods for modeling technological problems.

- types of computer-aided design systems (CAD), elements of system engineering, methods of algorithmization of technological tasks, modeling methods for design engineering, types of CAD software;

be able to:

- to model the most productive technological routes in the GPS;

- to simulate the optimal equipment of the machining center;

- to optimize the total tolerance field; - to simulate the optimal trajectory of the cutting tool;

- to optimize cutting modes;

possess:

- modern methods for optimizing technological processes.

3. Competencies

Codes of generated competencies	Names of competencies being formed
SK-1.2	Know the elements of mathematical logic, graph theory, set theory, types of mathematical models, methods of linear and dynamic programming, the use of these methods to optimize technological processes.
SK-1.3	To know the types of computer-aided design systems (CAD), elements of system engineering, methods of algorithmization of technological tasks, modeling methods in design engineering, types of CAD software.

4. Requirements and forms of current and intermediate certification. To assess the level of knowledge of students, the following diagnostic tools are used:

- Written reports on laboratory work with their oral defense;

- control polls;

- Interview during individual and group consultations;

- Submitting an account.