TECHNOLOGY OF STRUCTURAL MATERIALS
(course title)

COURSE SYLLABUS ABSTRACT

Specialty: 1– 36 01 06 – Equipment and technology of welding production
(speciality code and name)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	1	2	2
Semester	1	4	3
Lectures, hours	34	8	6
Laboratory classes, hours	34	4	8
Exam, semester	1	4	3
In-class test (semester, hours)	-	4 semester (2 hours)	3 semester (2 hours)
Contact hours	68	14	16
Independent study, hours	148	202	200
Total course duration in hours / credit units	216/6	216/6	216/6

1. Summary of the academic discipline

The study of the physical essence of technological methods for obtaining blanks by casting, pressure treatment, welding and their machining by cutting and other methods. Mechanical fundamentals of technological methods of forming blanks and machine parts. Technological capabilities of the methods, their purpose, advantages and disadvantages, scope of application. Schematic diagrams of the operation of technological equipment. Schematic diagrams of tools, devices and accessories, their purpose and application.

As a result of mastering the discipline , the student must

To know:

- the essence of the methods of basic technological methods for obtaining blanks by casting, pressure treatment, powder metallurgy, welding, machining by cutting and other methods;
- technological capabilities of the methods, their purpose, advantages and disadvantages, scope of application;
- the economic feasibility of using various technological methods and methods of shaping and processing parts, workpieces;
- schematic diagrams of the operation of technological equipment (machines, machines, automata, etc.), tools, devices and accessories, their purpose and application.

be able to:

- to choose and justify a rational set of methods for shaping and processing blanks and machine parts;
- develop, based on the material and shape of the part, the technological shape of the workpiece;
- to make up the technological process of processing the obtained material in order to obtain a workpiece or a finished part with the necessary technological and operational properties of the material or product;
- evaluate the technical and economic efficiency of the selected technological process.

own:

- methods of selecting the workpiece of the part, taking into account its purpose, shape, material;
- information about the possibilities of various methods of machining machine parts;
- possess information about the operation schemes of various types of technological equipment in mechanical engineering.

3. Formed competencies

of the SC 1. Master the basics of modern technologies for the production of ferrous and non-ferrous metals and alloys, methods of manufacturing machine parts by casting, pressure treatment, welding, cutting.

4. Requirements and forms of current and interim certification.
The defense of laboratory work is carried out orally.
The exam is conducted in writing in the form of answers to test questions.