Circuit Engineering

(course title)

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0713-04 “Automation of technological processes and production”

(speciality code and name)

Profiling "Automated electric drives"

(concentration)

	STUDY MODE
	full-time
Year	2
Semester	4
Lectures, hours	16
Practical classes (seminars), hours	16
Pass/fail, semester	4
Contact hours	32
Independent study, hours	76
Total course duration in hours / credit units	108

1. Course outline

The purpose of the educational discipline “Circuit Engineering” is to teach students the issues of circuitry implementation of the main components of digital and analog electronics.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- principle of operation and technical parameters of basic logical elements;
- circuitry implementation of basic logical functions and functional units of combinational type;
- principle of operation and technical parameters of integrated triggers and electronic storage devices;
- circuit implementation of registers, counters;
- operating principle and implementation of analogy integrated circuits.

be able to:

- implement circuit solutions based on discrete circuit elements;
- implement circuit solutions based on analogy and digital microcircuits.

to possess a skill:

- selection of the element base of electronic devices;
- reading and developing electrical diagrams;
- diagnosing and troubleshooting electronic devices.

3. Competencies

Know the design, nomenclature, operating principles of electronic and electrical devices for use in automated electric drive systems. Be able to select electronic and electrical devices for automated electric drive systems

4. Requirements and forms of midcourse evaluation and summative assessment

Current certification involves assessing the performance and defense of practical work. To assess the quality of students’ assimilation of educational material, intermediate certification is carried out in the form of a test.