

AUTOMATIC CONTROL THEORY

COURSE SYLLABUS ABSTRACT

6-05-0713-04 Automation of technological processes and production
(speciality code and name)

Automated electric drives
(concentration)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3	3
Semester	6	7	5
Lectures, hours	34	8	8
Practical classes (seminars), hours	16	4	4
Course paper, semester	6	7	6
Exam, semester	6	7	5
Contact hours	50	12	12
Independent study, hours	58	96	96
Total course duration in hours / credit units	108/3		

1. Course outline

The aim of the academic discipline is to provide students with the skills to independently apply the basic principles of automatic control theory to solve specific problems of research and design of automatic control systems.

2. Course learning outcomes

Upon completion of the course, students will be expected to know:

- principles of constructing closed ACS;
- mathematical models of ACS;
- dynamic characteristics of ACS;
- the concept of stability and quality of control processes;
- modern methods of analysis and synthesis of ACS using a computer

be able to:

- build functional diagrams of ACS;
- calculate mathematical models of ACS;
- determine the stability of ACS;
- synthesize ACS

to possess a skill of:

- working with mathematical software Mathcad;
- obtaining and analyzing the dynamic characteristics and stability of ACS;
- analysis and synthesis of ACS.

3. Competencies

Master the basics of research activities, search, analyze and synthesize information.

Be able to develop and improve in professional activities.

Show initiative and adapt to changes in professional activities.

Evaluate automatic control parameters, ensure comprehensive automation of technological processes in the industry.

4. Requirements and forms of midcourse evaluation and summative assessment

Current control involves assessment of the completion and defense of individual assignments. Intermediate certification is conducted in the form of an exam.