

POWER CONVERSION EQUIPMENT

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0713-04 Automation of technological processes and productions
Profiling Automated electric drives

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3	3	2
Semester	5	5	4
Lectures, hours	34	8	8
Practical classes (seminars), hours	16	4	4
Laboratory classes, hours	34	8	8
Course paper, semester	5	5	5
Exam, semester	5	5	4
Contact hours	84	20	20
Independent study, hours	96	160	160
Total course duration in hours / credit units	180/5		

1. Course outline

The purpose of the academic discipline is to form students' ideas about the principles of constructing various types of semiconductor electrical energy converters; electromagnetic processes in various semiconductor electrical energy converters; mastering methods for calculating parameters and selecting elements of power circuits of various types of semiconductor electrical energy converters.

2. Course learning outcomes

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

- principle of operation, main parameters and characteristics of the elemental base of power converter equipment;
- principles of construction, operation and design relationships of semiconductor electrical energy converters;

– engineering methods for calculating various types of semiconductor electrical energy converters.

be able to:

- conduct experimental studies of the characteristics of semiconductor electrical energy converters;
- carry out calculations and selection of power elements of semiconductor electrical energy converters;
- carry out modeling of semiconductor electrical energy converter circuits using computer technology.

to possess a skill:

- performing calculations of semiconductor electrical energy converters;
- application of modern semiconductor electrical energy converters.

3. Competencies

Possess engineering methods for calculating semiconductor electrical energy converters and be able to apply them.

4. Requirements and forms of midcourse evaluation and summative assessment

Current certification provides for assessment of the performance of control work, assessment of the performance and defense of laboratory work.

To assess the quality of students' assimilation of educational material, intermediate certification is carried out in the form of an exam.